

ANNUAL REPORT

2017 – 18



THE RUBBER BOARD
MINISTRY OF COMMERCE & INDUSTRY
GOVERNMENT OF INDIA
KOTTAYAM – 686 002

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PART - I**INTRODUCTION**

India occupies the sixth position in global ranking in terms of production of natural rubber (NR), by accounting for 5.3% of the total world production of 13.54 million tonnes during 2017 and holds the second place in NR productivity. India continued to be the second largest consumer of NR, by accounting for 8.2% of the global consumption of 13.23 million tonnes during 2017.

Performance of Natural Rubber Sector during 2017–18**Production**

India produced 694,000 tonnes of NR during the year 2017-18 compared to 691,000 tonnes during 2016-17, recording a marginal growth of 0.4%. The country continued to sustain the production level because of several measures taken by the Board to increase production and productivity. The Rubber Production Incentive Scheme (RPIS) launched by Government of Kerala for ensuring a revenue of ₹ 150 per kg to growers was continued. The share of tapped area in the tappable area increased to 78% in 2017-18 from 76% in 2016-17. The extent of tapped area increased from 445,000 ha in 2016-17 to 479,000 ha in 2017-18. The average yield, measured in terms of production per hectare of tapped area during 2017-18, declined marginally to 1,449 kg/ha as against 1,553 kg/ha in the previous year. Relatively low NR prices, shortage of skilled labourers and unfavourable weather led to minimising tapping days and reducing application of essential inputs. Hence, the NR production upto the projected level could not be achieved. Production of NR comprised 69% Ribbed Smoked Sheet (RSS), 17% Technically Specified Rubber (TSR), 11% latex concentrates and 3% other forms.

Consumption

The domestic consumption of NR was 11,12,210 tonnes during 2017–18, higher by 6.5% from 10,44,075 tonnes consumed during 2016–17. Tyre sector recorded a growth of 9.2% in NR consumption supported by imposition of Antidumping Duty (ADD) on pneumatic radial tyres used in buses

and lorries/trucks from China, vide Notification No. 45/2017-Customs (ADD) dated 18 September 2017 of the Department of Revenue. General rubber goods sector recorded only a marginal growth of 1.0% in NR consumption in 2017-18. Consumption of NR constituted of 46% RSS, 44% TSR, 7% latex concentrates and 3% other forms.

Import

The shortfall in production led to increase in imports during 2017. The country imported 469,760 tonnes of NR during 2017-18 as reported by the Directorate General of Commercial Intelligence and Statistics (DGCI&S), Kolkata, against 426,188 tonnes during 2016-17. Around 71% of the import was through duty paid channel and 81% in the form of block rubber. Among the source countries, Indonesia dominated with a share of 58% in the total NR imported.

Export

Relatively lower prices in overseas markets kept exports of NR unattractive throughout the year. Exports came down to 5,072 tonnes during 2017-18 from 20,920 tonnes a year ago. Export was mainly in the form of latex concentrates (61%) and block rubber (29%) and the main destinations were Iran, China and Italy.

Stock of NR

Estimated stock of NR with growers, processors, traders, and manufacturers at the end of March 2018 was 292,000 tonnes, notably higher from 264,000 tonnes held at the same time a year ago.



NR Prices

Average price for domestic RSS 4 grade in 2017-18 was ₹129.80 per kg compared to ₹ 135.46 per kg in 2016-17. During 2017-18, the average price of international RSS 3 was ₹ 116.78 per kg but it was ₹ 131.78 per kg during 2016-17. Domestic RSS 4 price peaked at ₹ 148.50 per kg on 5 April 2017 while international price of RSS 3 peaked at ₹ 154.10 per kg on the same day. Monthly average price of

domestic RSS 4 ruled above international RSS 3 price during 2017-18 except in April and May. Towards the end of 2017-18, international rubber prices showed improvement on account of short supply, firming up of US Dollar against Asian currencies, increase in futures market etc.

The trends of monthly average prices of RSS 4 in domestic market and RSS 3 in international market during 2017 – 18 are shown in Chart 1.

Chart – 1 Monthly average price of NR -2017-18

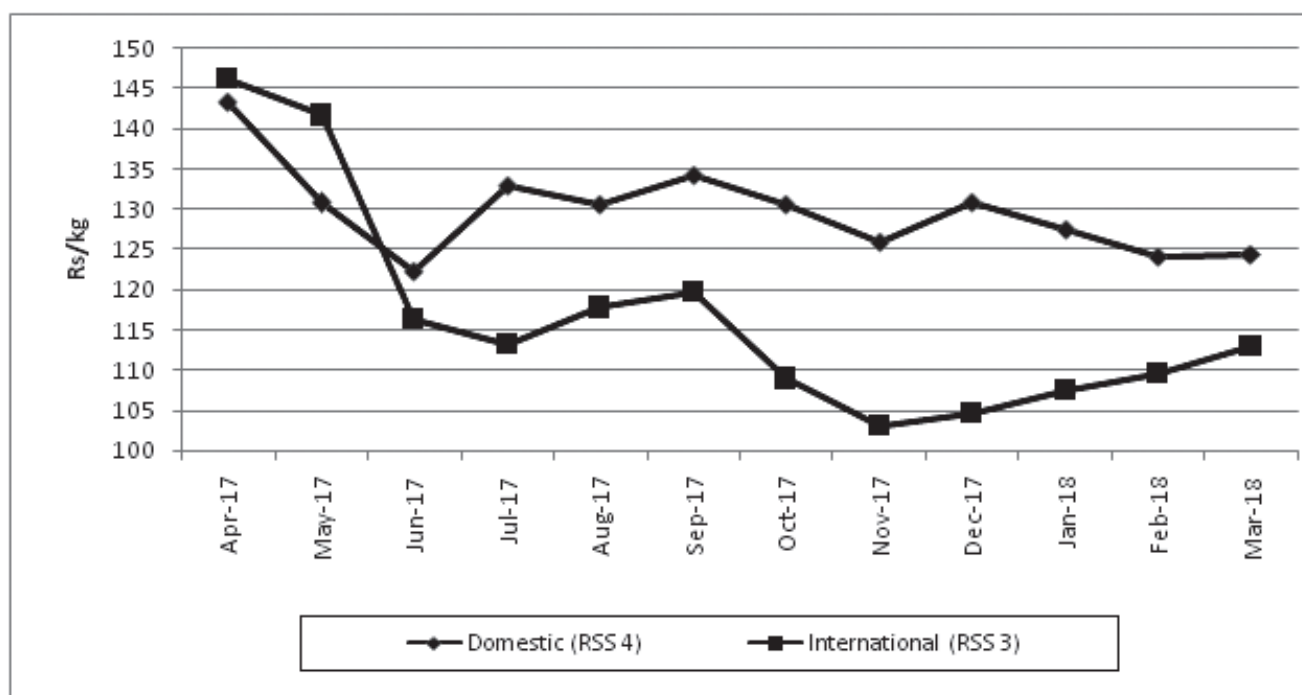


Table 1 summarizes key indicators of the Indian NR sector.

Table 1: Performance of NR Sector in India

Year	Production		Consumption		Imports (Tonnes)	Exports (Tonnes)	Closing stock (Tonnes)	Average price (₹/kg)	
	Quantity (Tonnes)	Growth (%)	Quantity (Tonnes)	Growth (%)				RSS 4 Kottayam	RSS 3 Bangkok
2015-16	562,000	-12.9	994,415	-2.6	458,374	865	224,000	113.06	96.36
2016-17	691,000	23.0	10,44,075	5.0	426,188	20,920	264,000	135.49	131.78
2017-18	694,000	0.4	11,12,210	6.5	469,760	5,072	292,000	129.80	116.78

Performance of Synthetic Rubber and Reclaimed Rubber Sectors

Production

Synthetic rubber (SR) production increased to 331,221 tonnes during 2017-18 from 222,744 tonnes during 2016-17, registering a substantial growth of 48.7% against a growth of 11.5% during 2016-17. Shares of styrene butadiene rubber (SBR) and poly-butadiene rubber (PBR) were 63.4% and 34.3 % respectively. Reclaimed rubber (RR) production in 2017-18 was 131,575 tonnes.

Consumption

SR consumption increased to 633,975 tonnes during 2017-18 registering a growth of 5.9% against 598,580 tonnes during 2016-17. The automotive tyre sector consumed 437,754 tonnes as against 417,728 tonnes during 2016-17, with a growth of 4.8%. Consumption of RR in 2017-18 was 130,510 tonnes. The ratio of consumption of NR and SR was 64:36.

Table 2: Consumption of NR and SR in different sectors (tonnes)

	2017-18 p	2016-17	Growth (%)
NR Total	11,12,210	10,44,075	6.5
Auto-tyre sector	7,72,162	7,07,355	9.2
General rubber goods sector	3,40,048	336,740	1.0
SR Total	6,33,975	5,98,580	5.9
Auto-tyre sector	4,37,754	4,17,728	4.8
General rubber goods sector	1,96,221	1,80,852	8.5
NR & SR Total	17,46,185	16,42,655	6.3
Auto-tyre sector	12,09,916	11,25,063	7.5
General rubber goods sector	5,36,269	5,17,592	3.6

p: provisional

Table 3: Trends in Production, Consumption, Import, Export and Average Price of Natural Rubber in India

	Production (tonnes)		Consumption (tonnes)		Import (tonnes)		Export (tonnes)		Average price of RSS-4 at Kottayam (₹/100 kg)	
	2016-17	2017-18p	2016-17	2017-18p	2016-17	2017-18p	2016-17	2017-18p	2016-17	2017-18p
April	39000	48000	80815	89000	34550	24289	91	2240	13,062	14,339
May	46000	50000	81765	88700	35445	37256	98	1247	13,076	13,073
June	50000	45000	80955	86680	37336	33437	44	134	13,375	12,238
July	52000	58000	83400	89500	41258	35560	42	301	14,177	13,300
Aug.	58000	58000	82725	88400	48853	44787	28	262	13,850	13,063
Sep.	60000	61000	81600	86680	52974	49844	222	24	12,142	13,424
Oct.	62000	62000	82650	89000	44601	38048	125	479	11,692	13,060
Nov.	65000	64000	77880	96500	40831	33964	640	284	12,214	12,587
Dec.	70000	78000	85250	99600	25076	36136	2232	20	13,370	13,082
Jan.	72000	73000	84875	99350	24279	42018	6329	29	14,666	12,746
Feb.	62000	52000	84320	95800	15690	45722	6212	33	15,942	12,413
Mar.	55000	45000	88180	103000	25541	48699	4857	19	15,024	12,438
2017-18	691000	694000	994415	1112210	426434	469760	20920	5072	13,549	12,980

p - provisional



Table 4: Production and Consumption of Synthetic Rubber and Reclaimed Rubber in India in 2017-18 (tonnes)

Month	Synthetic Rubber		Reclaimed Rubber	
	Production	Consumption	Production	Consumption
April 2017	15794	47875	10530	10020
May	24645	49520	10300	10375
June	24602	50500	10290	9960
July	22660	51385	10275	10440
August	23780	52275	10450	10315
September	31270	52240	10900	10810
October	30200	50475	10745	10925
November	30255	54850	11400	11475
December	33020	56860	11980	11800
January 2018	30280	56500	11850	11700
February	30265	53295	10850	10700
March	34450	58200	11680	11660
Year Total	331221	633975	131575	130510

Global Natural Rubber Scenario in 2017

Production

According to the International Rubber Study Group (IRSG), world NR production during 2017 was 13.54 million tonnes as against 12.60 million tonnes produced in 2016, registering a growth of 7.4%. During 2017, production increased in all producing countries. India continued to be the sixth largest producer in

2017 with a share of 5.3% of world production. India held the second position in productivity in 2017, with Vietnam occupying the first position.

World SR production increased to 15.05 million tonnes as against 14.85 million tonnes produced in 2016 registering a growth of 1.4%.

Table 5: Country-wise production of NR (000 tonnes)

Country	2017	2016	% Growth
Thailand	4429	4347	1.9
Indonesia	3629	3358	8.1
Vietnam	1087	1035	5.0
China	798	774	3.1
Malaysia	740	674	9.8
India	713	624	14.3
Other Countries	2143	1792	19.6
World Total	13539	12604	7.4

Source: NR trends and Statistics (May 2018) of Association of NR producing countries (ANRPC) for country-wise figures and Rubber Statistical Bulletin (April-June 2018) of IRSG for world total.

Consumption

World consumption increased to 13.23 million tonnes in 2017 recording a growth of 4.4% compared to 12.67 million tonnes in 2016. India continued to be the second largest consumer with a share of 8.2% of consumption. SR consumption increased to 15.19 million tonnes from 14.83 million

tonnes during 2016, recording a growth of 2.4%. NR and SR consumption ratio was 47:53 whereas it had been 46:54 during 2016. According to International Rubber Study Group (IRSG), the supply-demand balance of NR showed an excess of 314,000 tonnes in 2017.

Table 6: Country-wise consumption of NR ('000 tonnes)

Country	2017	2016	% Growth
China	5301	4982	6.4
India	1082	1033	4.7
U.S.A.	965	932	3.5
Thailand	685	650	5.4
Japan	679	676	0.4
Indonesia	608	583	4.3
Malaysia	489	486	0.6
Brazil	413	412	0.2
Republic of Korea	384	381	0.8
Other countries	2619	2535	3.3
World Total	13225	12670	4.4

Source: Rubber Statistical Bulletin (April-June 2018) of International Rubber Study Group



PART – II

CONSTITUTION AND FUNCTIONS

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, NR plantation sector achieved impressive growth over the years. Simultaneously, the Board took up research activities in rubber and established Rubber Research Institute of India (RRII) in 1955 for ensuring biological and technological improvement of NR in the country. Rubber Training Institute (RTI) established in 2000 acts as the link between research and extension activities for technology transfer.

The Rubber (Amendment) Act, 2009 notified in the Gazette on 22 January 2010 is the latest amendment to the Act.

The constitution of the Board as per section 4(3) of the Act, is 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 rubber producing interests;
- c) Eight members to represent the State of Kerala, six of whom shall represent rubber producing interests, three of such six being persons representing 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) Rubber Production Commissioner (ex-officio).

The list of members of the Board as on 31 March 2018 is furnished in Part – XI of this report.

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

- (1) to promote by such measures as it thinks fit the development of 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 into, or exported from India;*
 - e) the collection of statistics from owners of estates, dealers and manufacturers;
 - f) Securing better working conditions and 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.

Shri. A. Ajith Kumar IAS, served as the Executive Director with additional charge of the Chairman of the Rubber Board up to 24 November 2017. Subsequently, Dr. M.K. Shanmuga Sundraran IAS, Development Commissioner of MEPZ Special Economic Zone assumed the charge of the Executive Director and Chairman of the Board.

Executive Director of the Board exercises administrative control over all the departments and offices of the Board. Total number of officers and staff in the Board as on 31 March 2018 was 1462 consisting of 290 Group 'A' officers, 595 Group 'B' officers, 576 Group 'C' staff and one Group 'D' staff.

ORGANISATIONAL SET UP

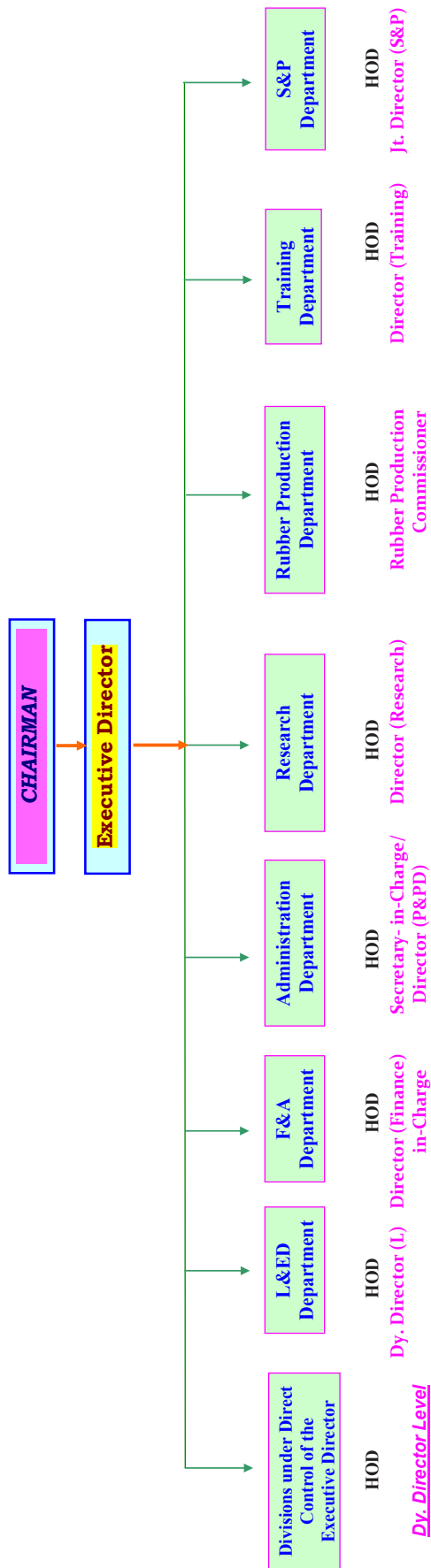
Activities of the Rubber Board are carried out through seven departments, namely Administration, Rubber Production, Rubber Research, Training, Finance & Accounts, Licensing & Excise Duty, Statistics & Planning and two divisions namely Engineering & Processing and Market Promotion; headed respectively by Secretary, Rubber Production Commissioner, Director (Research), Director (Training), Director (Finance), Deputy Director (Licensing), Joint Director (Statistics & Planning) and Director (P&PD) and Deputy Director (Marketing). Publicity & Public Relations Division, Internal Audit Division, Planning Division and Vigilance Division are functioning directly under Executive Director.

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



PRESENT ORGANISATIONAL CHART – THE RUBBER BOARD

(Under Ministry of Commerce and Industry, Government of India)



Major functions	Major functions	Major functions	Major functions	Major functions	Major functions	Major functions
<u>Divisions</u> Publicity & Public Relations Division Vigilance Division Internal Audit Division Planning Division Engineering & Processing Division Market Promotion Division	Licensing - Dealers - Processors - Manufacturers Cess Arrears collection Revenue Intelligence	Centralized Depts. Accounts Funds Allocation & Management Cost Accounts	Board Secretariat Establishment (O & M, Personnel, Entitlement, and General Admn.) Labour Welfare Section Hindi (OL) Section Legal Section EDP Division HO Canteen Security Services	Crop Improvement Crop Management Crop Physiology Crop Protection ACRT (Advanced Centre for Rubber Technology) Central Quality Control Lab Economic Research Central Experiment Station Regnl. Research stations NE Research complex Hevea Breeding Sub-Station Pilot Plants: PCRFR/RVNRL Mobile Soil Testing Lab/ Satellite Lab/Regional Labs Statistics & EDP Instrumentation Library & Transport	Plantation Development - Planting activity - Productivity Enhancement - Planting Materials - Generation & Supply - Farmer Group formation (RPS/SHG) - Price Stabilization Fund - HRD programmes - Extension Activities Regions - Traditional - Non-Traditional (NT) - North East (NE) Region Major Office Set-up - Zonal Offices - Regional Offices - Dist. Devt. Centre - Tappers Training School - NRETC Block Plantation for Tribal Development in NE region	Nature of Training - Domestic - International Types of Training - Plantation Devt. - Industry Devt. - Extension Devt. - HR Development NR Statistics - Sample Surveys - Census of Rubber Plantations NR Forecasting - - Production - Consumption - Imports & - Exports NR Price Statistics

PART - III**ADMINISTRATION**

The Administration Department consists of the following Sections and Divisions:

- 1 Establishment Division
(Board Secretariat, Personnel, Entitlement and General Administration)
- 2 Labour Welfare Division
- 3 Legal Section
- 4 Hindi Section
- 5 Electronic Data Processing Division

1. ESTABLISHMENT DIVISION**a) Board Secretariat**

Main activities of Secretariat include coordinating with Executive Director in convening the meetings of the Board and its sub-committees, preparation of notes on agenda and minutes of the said meetings, monitoring implementation of their decisions and compilation and printing of the Annual Report of the Board.

Constitution of the Rubber Board for the period 2017 – 20

Government of India constituted a new Board for the period 2017–2020 and notified in the Gazette Nos. S.O. 1745 (E) dated 30 May 2017, S.O. 2435(E) dated 1 August 2017 and S.O. 3069(E) dated 18 September 2017.

Meetings of the Rubber Board held during 2017–18

- 174th meeting on 07 July 2017
- 175th meeting on 10 October 2017

Adv. S. Jaya Sooryan, representative of large rubber growers from the state of Kerala was elected as Vice Chairman of the Board. Two Statutory Committees of the Board viz., Executive Committee and Research & Development (R&D) Committee were constituted for a period of one year in 175th Board meeting held on 10 October 2017.

b) Personnel and Administration

The Board implemented several austerity measures to rationalise its establishment expenditure. Creation of new posts / fresh direct recruitments had been suspended from 2015 onwards and no promotions were given against the retirement vacancies from 1 December 2016 onwards. As a result, strength of officers and staff in the Board as on 31 March 2018 was 1462 as against the sanctioned strength of 1649.

Besides, six proceedings / office orders were issued regarding change of status of Departments, merger of offices, etc. Processing & Product Development and Market Promotion Departments were made as Engineering & Processing Division and Market Promotion Division respectively. Merging of Regional Office (RO), Kottayam with RO, Changanassery, centralization of the administrative and finance functions of the Board, delegation of powers to officers-in-charge of new development offices in place of regional offices and abolition of the post of Director (L&ED) were also ordered.

The Board abolished 294 non-essential posts and 34 posts lying vacant for more than 5 years, with the approval of the Department of Commerce. Accordingly, the sanctioned strength of the Board was reduced to 1649 from 1977.

The Board had fixed the seniority and regularized the promotions as per judgment dated 29 May 2015 of Hon'ble High Court of Kerala in respect of technical, ministerial and scientific staff cadres after scrutinizing and reviewing the files of interviews / DPCs from 2012 onwards. Further, the Board initiated action to amend recruitment rules for all the posts based on the DoPT guidelines.

Comments for eleven case files were prepared and furnished to the Ministry and the Standing Counsel of the Board for preparing counter affidavits in cases.



The Board received transfer requests for general transfer 2018, on-line for the first time. Transfer and posting orders were issued for 613 employees in accordance with approved norms.

c) Entitlement

Advances

An amount of ₹ 0.30 lakh was disbursed as computer advance. Re-conveyance deeds were executed and original title deeds returned to 28 employees on completion of recovery/refund of advances.

Retirement benefits

Retirement benefits were disbursed to 89 employees. Family pension was granted to the families of 20 employees who died in harness. As on 31 March 2018, the Board had 1339 pensioners, including 334 family pensioners. Revision of pension and retirement benefits consequent on the implementation of 7th CPC was made in 48 cases and terminal benefits sanctioned to 54 pensioners who were already granted provisional benefits.

Forty - eight employees were confirmed on completion of probation. 284 officials were insured in NE region under personal accident scheme. Besides, the Division issued identity cards for employees/pensioners and letter of authorization to 5 employees under RI squad and granted permission to stay outside 8 km limit to 74 employees.

I. Overall manpower

Number of officers and staff as on 31 March 2018 was 1462, as against the sanctioned strength of 1649.

Table 7: Department-wise and group-wise staff strength as on 31 March 2018

Name of the Department	Group A	Group B	Group C	Group D	Total
Administration	17	44	61		122
Rubber Production	143	350	284	1	778
Research	82	74	156		312
Finance & Accounts	8	56	18		82
Training	6	7	15		28
Statistics & Planning	7	9	4		20
Licensing & Excise Duty	17	41	27		85
Engineering & Processing	8	11	8		27
Market Promotion	2	3	3		8
Total	290	595	576	1	1462

d) General Administration (GA)

The GA Section deals with the issue of office orders and circulars, inward and despatch, stationery, maintenance of assets and vehicles, AMC of electronic devices, running of canteen & telephone exchange, maintenance of utilities, allocation of staff quarters (120), annual stock verification and disposal of unserviceable articles, arranging national pledges and retirement/farewell functions, execution of lease agreements for sub-offices, guest houses, wage settlement for sweepers/sanitary workers, security service and housekeeping for the headquarters. The Section issued 17 Office orders and 48 circulars during the year.

GA Section remitted ₹ 22.59 lakh towards electricity bills, telephone charges, franking/ postage charges, insurance & road tax for vehicles, land rent and building and property taxes. An expenditure of ₹ 16.68 lakh was incurred towards repair & maintenance of vehicles/equipment, AMC charges, printing & stationery, procurement of consumables/ books & periodicals/ electrical & electronic equipment/ furniture, cable, pest control and housekeeping.

The Board spent an amount of ₹ 25.77 lakh towards fuel consumption, taxi charges, air travel expenses and Board meetings. This is in addition to payments for water, gas subsidy, canteen and head office up-keep.

II. Group-wise female employees

Table 8: Group-wise female employees as on 31 March 2018

Group	Total staff strength	No. of female employees	Percentage to total
A	290	95	32.76
B	595	285	47.90
C	576	142	24.65
D	1	Nil	N.A
Total	1462	522	35.70

2. LABOUR WELFARE DIVISION

Section 8(2)(f) of Rubber Act 1947 stipulates that the Board should implement measures to secure better working conditions and provisions for the improvement of amenities and incentives for rubber plantation workers. During 2017-18, the Board disbursed ₹ 165.41 lakh under various labour welfare schemes benefitting 16,815 rubber tappers/ plantation workers, as furnished below:

1. Educational stipend

This provides for stipend to children of rubber plantation workers undergoing different courses of studies. The benefits include educational stipend and hostel / boarding fee to a maximum period of eight months in an academic year. During 2017-18, ₹ 59.89 lakh was disbursed to 1,934 beneficiaries.

Table 9: Educational assistance

Name of the Course	Annual Stipend	Hostel/Boarding fees
Class XI & XII	₹ 1,200	₹ 500
Degree Course	₹ 1,400	₹ 500
Post Graduate Course	₹ 1,700	₹ 600
<i>Professional/Technical Courses</i>		
Certificate Course	₹ 1,700	₹ 500
Diploma Course	₹ 3,250	₹ 500
Degree Course	₹ 6,250	₹ 700
Post Graduate Course	₹ 6,500	₹ 700
Ph D/ Post Doctoral Course	₹ 6,750	₹ 700

2) Merit Award: This provides two types of assistance.

i) Merit award for academic excellence

Assistance ranging from ₹ 1,250 to ₹ 5,500 was provided to children of rubber plantation workers who excelled in their studies.

Table 10: Merit award for different academic streams

Name of Course	Minimum Marks/Grade	Maximum amount (₹)
SSLC or equivalent	80%/ A for all subjects	1,250
Class XII or equivalent	60%/ B for all subjects	1,500
Degree Courses	60%	2,500
Post Graduate Courses	60%	3,500
<u>Professional/Technical Courses</u>		
Certificate Courses	60%	2,000
Diploma Courses	60%	2,500
Degree Courses	60%	4,500
Post Graduate Courses	60%	5,500



ii) *Cash award for achievements in sports/games and arts*

Cash awards were given to children of rubber plantation workers, in the age group of 10 to 23 years and studying in Class V and above, for exceptional achievements in sports/games and arts.

<u>Achievement in sports/games/arts</u>	<u>Quantum of award</u>
1 st place at District (School)/ University level	₹ 4,000
2 nd place at District (School)/ University level	₹ 3,500
1 st place at State (School)/ University level	₹ 5,000
2 nd place at State (School)/ University level	₹ 4,500
1 st place at National (School)/ Universities	₹ 6,000
2 nd place at National (School)/ Universities	₹ 5,500

An amount of ₹ 3.25 lakh was disbursed to 179 beneficiaries as merit award.

3. Medical Attendance

The objective is to provide financial relief to tappers who undergo treatments for diseases. Expenses under allopathic/ayurvedic systems upto ₹ 2,500 per tapper per annum in the unorganized sector were reimbursed. Compensation was paid for absence from work due to illness upto a maximum of 20 days @ ₹ 50/- per day from the said amount. In addition, expenses up to ₹ 20,000 were reimbursed for

major diseases involving high expenditure, as onetime payment during a Plan period (five years). An amount of ₹ 8.66 lakh was disbursed to 172 beneficiaries during 2017–18.

4. Housing Subsidy

Assistance is provided to workers / tappers in organized sector and tappers in unorganized sector, for construction of house on own land.

Table 11: Housing subsidy for rubber plantation workers

Category	Rate of Assistance (₹)
Tapper in small holdings or tapper/ general worker/ non-supervisory worker /worker of factory in large holdings	18,000
Worker in GPC / tapper in Tapper Bank under RPS	19,000
Tapper belonging to SC/ ST category in small holdings and woman tapper in small holdings	21,000
Tapper in Northeastern (NE) region	20,000 / 21,000

The Board disbursed ₹ 61.91 lakh to 326 beneficiaries during 2017–18.

5. Sanitary Subsidy in Northeastern Region

Financial assistance was provided to workers in small holdings and large holdings in Northeast region, for construction of sanitary facilities in their own land. The amount of subsidy is 75% of the cost of construction or ₹ 7500/- whichever is less. An amount of ₹ 2.67 lakh was disbursed to 36 beneficiaries.

6. Empowerment of Women Tappers/workers

Financial assistance was provided to women tappers in the unorganized sector and to the women workers working in Group Processing Centres. Assistances were provided under two heads:

a) *Assistance for marriage*

Assistance was provided to woman tapper/ woman worker in GPC/woman tapper in tapper bank for her first marriage and for two of their daughters for their first marriage.

This scheme provides assistance to woman tapper/woman worker in GPC for the expenses incurred in connection with confinement and delivery. The assistance is ₹ 7000 per delivery and is limited to the first two deliveries in her lifetime. During 2017-18, ₹ 1.50 lakh was disbursed to 15 beneficiaries.

Table 12: Quantum of assistance provided to woman for marriage

category	Amount (₹)
Woman tapper/woman worker in GPC	10,000
Daughter of woman tapper/ woman worker in GPC/ woman tapper in tapper bank (Limited to two daughters)	10,000
Woman tapper in tapper bank	12,500
Daughter of widowed, divorced, single woman tapper	12,500

Assistance in connection with confinement and delivery

7. Worker's Group Insurance-cum-Deposit Scheme (GIS)

This provides coverage for deaths in accidents and temporary/ total disabilities due to accidents, for tappers in unorganized sector. This is operated with the contributions both from tappers and from the Board. Part of the contribution is deposited in the names of members to encourage savings. A tapper has to contribute ₹ 250 every year and the Board, in turn, ₹ 250 per tapper. From the total contribution of ₹ 500, ₹ 38 is spent on insurance as premium (which includes ₹ 28 from tapper's contribution and ₹ 10 from the Board) and the balance of ₹ 462 is invested for maximum benefit. Each phase of the scheme will

run for 10 years and the total deposit will be released in the end. Under GIS (eight phases), ₹ 1.82 lakh was contributed for 728 tappers.

8. Group Life Insurance cum Terminal Benefit Scheme (GLITBS)

This was launched in collaboration with LIC of India in August 2011. The benefits included death cover (for both natural and due to accidents) and compensation for disabilities due to accidents, terminal benefit to members and scholarship to children of the members from IX to XII class (15% of the total group). Each tapper has to contribute a minimum amount of ₹ 300 per annum and the Board in turn will contribute ₹ 400 per tapper. From this, ₹487.64 will be invested for terminal benefit, ₹ 112.36 will be paid as insurance premium and the balance ₹100 for Janasree Beema Yojana. During the year, an amount of ₹ 24.32 lakh was contributed for 6,079 tappers under GLITBS Phase I to IV. The insurance company paid compensation of ₹ 4.53 lakh for 48 tappers and disbursed scholarships amounting to ₹11.63 lakh to 969 children of the tappers during 2017-18.

9. Personal Accident Insurance Scheme (PAIS)

PAIS was introduced for tappers/workers in unorganized sector with coverage of Rupees one lakh. PAIS is managed by National Insurance Company (NIC). The premium amount of ₹ 18.88 (₹16 + 18% GST) per tapper was remitted by the Board, which amounted to ₹ 1.39 lakh for 7,346 during the year 2017 – 18.

Table 13: Performance of labour welfare schemes during 2017-18

Name of sub-component	Number of beneficiaries	Financial Assistance (₹ in lakh)
Educational stipend	1,934	59.89
Merit Award	179	3.25
Medical Attendance	172	8.66
Housing Subsidy	326	61.91
Sanitary Subsidy	36	2.67
Empowerment of Women Tappers	15	1.50
Insurance cum Terminal Deposit (Board's share)	6,079	24.32
Group Insurance cum Deposit (Board's share)	728	1.82
PAIS (NIC)	7,346	1.39
Total	16,815	165.41



3. LEGAL SECTION

Legal Section rendered legal advice and support for cases referred from all departments and scrutinized draft documents like MOU, agreements, lease deeds, indemnity bonds etc. to be executed by the Board. During the year, 27 new cases were filed in various courts namely, Supreme Court, High Courts of Kerala & Guwahati, and consumer courts. Steps were taken through lawyers to defend the interests of the Board and support was provided to Ministry in matters wherein the Central Government is made party to the petitions.

Detailed comments (para-wise) and instructions were given to the standing counsels and the Central Government pleaders in pending cases. The Section represented the Board before quasi judicial forums like labour court and provided assistance in matters posted before district legal services authorities and arbitrators.

4. HINDI SECTION

The Rubber Board is a notified office under Rule 10(4) of Official Languages Rule, 1976.

1. Official Language Implementation Committee

Four meetings (93rd to 96th) of the Official Language Implementation Committee (OLIC) were held. Annual programme issued by the Department of Official Language and quarterly progress reports received from various offices were reviewed in the meetings. Agenda was prepared in paperless manner as instructed by the Department of Official Language. OLICs were formed in various subordinate offices and ensured their regular meetings.

2. Hindi Fortnight / Hindi Day Celebrations

Hindi Fortnight was celebrated from 14 to 30 September 2017 at Head Office, RRIL, RTI and Engineering and Processing Division of the Board. Competitions in eleven items were conducted, in which 140 employees participated. Besides, reading competition was also started this year. Hindi Day was celebrated in 43 subordinate offices of the Board. Various competitions were conducted for the employees of the Board and prizes / certificates distributed to the winners. Eminent personalities in the locality attended as guests and judges.

3. Rubber Samachar / Rubber Statistical News

Due to financial constraints, the Board decided to publish the Hindi bulletin "Rubber Samachar" on-line and brought out one issue in 2017-18. Write-ups of officers/employees and their family members and other items such as prize winning essays were featured. The scheme of honorarium was continued for contributing Hindi articles for "Rubber Samachar". Besides, bilingual monthly "Rubber Statistical News" was also published through the Board's website.

4. Hindi Teaching Scheme

Since there is no centre for Hindi Teaching Scheme (Typewriting / Stenography) at Kottayam, Hindi Section organized Hindi typewriting classes at Head Office. Cash awards and personal pay were given to the winners.

5. Hindi Workshop

Conducted one-day Hindi Workshops in 33 offices and 434 officials attended. Thirteen officials attended Joint Hindi workshop organized by Kottayam TOLIC. Two weekly Hindi workshops were conducted at Board's Head Office and RRIL, in which 55 officials were trained in Official Language Policy and Noting/Drafting in Hindi. Spoken Hindi training was also organized at Head Office.

6. Town Official Language Implementation Committee (TOLIC)

Executive Director of the Board acts as Chairman of Kottayam TOLIC. Assistant Director (OL) of the Board serves as Member Secretary. Two meetings were held in which Shri. N. Rajagopal, Secretary-in-charge chaired. Two meetings of TOLIC Core Committee, one day Joint Hindi workshop and Joint Hindi Week Celebrations were conducted. Officials of member organizations of the TOLIC and employees of the Board participated.

7. Quarterly Progress Reports

The Quarterly Progress reports regarding progressive use of Hindi were received from various sub-ordinate offices of the Board regularly, and were reviewed, compiled and forwarded to the Ministry and to Regional Implementation Office, Kochi.

8. Other Activities

The Board encouraged officials to do original noting in Hindi by providing literature on “Noting and Drafting in Hindi”, and continuing the incentive scheme. 34 officials of the Board participated in the scheme and received cash awards.

The Board introduced a Hindi session in the meetings of the Heads of the Departments to promote use of Hindi with a Hindi song and speech. Writing *Aaj Ka Shabda* at HO and subordinate offices was continued. Conducted OL inspections in 33 offices.

Hindi video CD library and CDs of famous Hindi classics were available for officials of the Board. Hindi daily the “*Milap*” and Hindi journals “*Vanitha*” monthly and “*India Today*” weekly were subscribed for Head office, Rubber Training Institute and Rubber Research Institute with the aim of intensifying the progressive use of Hindi in the Board’s offices.

9. General

As per Section 3(3) of the Official Language Act, documents such as office orders, circulars, memoranda etc. were translated into Hindi. Necessary guidelines were provided to officers regarding implementation of OL Policy. Translation, proof reading and printing of different bilingual forms were undertaken. Provided bilingual facility to most of the computers. A clause has been added in the quotation notice for ensuring purchase of bilingual computers. Guidelines were provided to staff/ officers for doing Hindi work on computers utilizing in-built

Unicode facility. Trilingual facility (Malayalam, Hindi & English) of the Board’s website is regularly updated.

Translated Annual Report and Annual Accounts of the Board and various reports/ replies to questions for presenting to Parliamentary Committees/Ministry. Trilingual EPABX welcome system and Trilingual price information system were continued.

The Board received the trophy for securing second highest points in various competitions conducted during Joint Hindi Week celebration of Kottayam TOLIC.

5. ELECTRONIC DATA PROCESSING DIVISION

Electronic Data Processing (EDP) Division functioning under the Administration Department takes care of application of information and communication technologies (ICT). In addition, it undertakes data processing jobs such as GPF and pension contribution, payroll, processing of subscription to publications and maintaining Intranet/ official e-mail services, ICT infrastructure, etc.

The EDP Division modified and re-installed e-Governance applications for labour welfare schemes, and digital licences as per Rubber Rules amendment. Revamped the Board’s website was revamped as required by the Ministry/IBEF. Development of two mobile applications is in progress. The Cup Lump Incentive Scheme of the Board and Rubber Production Incentive Scheme of the Govt. of Kerala were computerised.



PART – IV

RUBBER PRODUCTION

Introduction

Rubber Production (RP) Department headed by Rubber Production Commissioner is responsible for planning, formulation and implementation of schemes for improvement and expansion of rubber cultivation and production. Extension/advisory service, supplies of inputs, demonstration and training for small growers etc. are also undertaken by the RP Department. It has a well-structured field establishment which renders free advisory and extension services to rubber growers on all aspects of rubber cultivation, production, processing and marketing. There are three zonal Offices, 44 regional offices and 156 field stations located at rubber growing centers. The department implements schemes related to cultivation and production, most schemes related to processing and the schemes for promoting and assisting smallholders' Self Help Groups (SHGs).

The strategy for rubber production keeps in view the following requirements:

- Optimisation of production from existing plantations through replanting with improved cultivars and better management
- Expansion of cultivation in traditional areas, identification of suitable non-traditional areas and extension of cultivation to such areas
- Reduction of cost to withstand challenges from competing crops, synthetic substitutes and cheap imports
- Upgradation of quality of produce to meet the increasing demands of consuming industry
- Formation and working of smallholders' self help groups to ensure community participation to create infrastructure to facilitate organised production, processing and marketing chains for maximum returns.

The approach also takes care of the needs of resource poor farmers to get an opportunity not only to derive benefits offered under various schemes but to contribute to the decision making process.

Other establishments under RP Department are nurseries, demonstration and training centers and Tapper Skill development Schools (TSS).

Rubber Plantation Development & Extension (RPD&E)

Objectives

- To increase NR production through productivity enhancement of existing plantations.
- Increase NR production by expansion of area in traditional as well as in selected suitable areas of Non-Traditional (NT) and North east (NE) Regions and replanting of senile plantations.
- To optimize resources for maximisation of returns of growers with focus on sustainability through farmer clusters under Rubber Producers' Societies (RPS), SHGs and RPS companies, and to increase global competitiveness with production of quality rubber in line with consumer requirements.

Features of RPD&E

- Main beneficiaries of the scheme are smallholders in NR sector. (Planting subsidy is limited to 1 ha for growers owning total 2 ha of rubber in the traditional region. In NT regions including NE region, subsidy is limited to 2 ha for growers owning up to 5 ha).
- Specific interventions in favour of SC,ST and other vulnerable groups
- Gender balance components specifically directed at women welfare
- Special interventions in North East (NE) region, Non-Traditional (NT) and other backward areas.

Sub components of RPD&E

Two sub-components of the Rubber Plantation Development & Extension are :

- I *Rubber Plantation Development & Extension in Traditional & Non Traditional Area other than North east – RPDETNT*
- II *Rubber Plantation Development & Extension in North east (RPDENE)*

Activities

- Planting subsidy including committed/ pending payments.
- Plantation development
- Quality planting material generation
- Productivity enhancement
- Advisory & extension Services
- Farmer skill upgradation & group empowerment
- Model extension centres
- Women empowerment
- Farm mechanisation
- Assistance for contract farming

Sub-component-wise activities of Rubber Production (RP) Department are described below:

I. Rubber Plantation Development and Extension in Traditional & Non Traditional Area other than North east – RPDETNT

1.0 Plantation Development

RP Department has been taking effort to expand rubber cultivation in traditional and non-traditional areas including North Eastern Region as well as to replant plantations as a long term production enhancement measure. The Board is promoting planting activity by providing technical guidance and financial support. New applications for planting subsidy were not collected during 2017-18 due to paucity of fund. Permits already issued during previous plan were processed and payment distributed.

A comprehensive survey was also conducted to ascertain area planted during 2017-18 and the estimated area planted (New planting and Replanting) was 6,155 ha.

Table 14: Permits issued for rubber plantings during 2017-18

No. of permits issued	471
RP permits issued	165.10 ha
NP permits issued	210.66 ha
Total permits issued	375.76 ha

2.0 Tribal and SC Plantation Projects in States Other than NE

This project was implemented with the support of concerned state Governments. Existing immature plantations raised during 12th Plan were managed as per MOU signed between the Board and state Governments.

Table 15: Statewise ongoing Tribal and SC projects maintained during 2017-18

States	Area in ha	No of beneficiaries
Kerala (ST)	390.18	1,179
Kerala (SC)	27.48	55
Andhra Pradesh (ST)	53.52	52
Odisha (ST)	494.00	553
Total	965.18	1,839

3.0 Committed payments

Payments against liabilities on pending bills and subsequent installments of subsidy were made with the available fund. An amount of ₹ 83,25,718 was paid.

4.0 Planting material generation

Quality of planting material is one of the key determining factors influencing production of natural rubber. The Board maintains one central nursery and five regional nurseries in Kerala for

- ensuring quality control,
- checking unscrupulous trade practices, and
- demonstration & training

Board's nurseries have been producing good quality green budded stumps, brown budded stumps, polybag plants root trainer plants and bud wood following good nursery practices. Total quantity of planting materials produced by Board's nurseries is 6 to 8 lakh annually, which is only around 10% of the total planting material requirement in the country.

4.1 Nurseries in Kerala – Planting material production – 2017-18

Rubber Board is distributing root trainer plants at reasonable rates through its central nursery at Karickattoor and regional nurseries at Kadackamon, Kanthikulam, Manjeri, Ulickal and Alakode. During 2017-18, these nurseries together produced 5.3 lakh planting materials.

Table 16 : Planting material production in Board's nurseries in Kerala

Type of planting material	Quantity (No)
Brown budded stumps	22,905
Polybag plants	24,589
Root trainer plants	4,82,308
Total Production	5,29,802
Bud wood (Metres)	88,627



4.2 Nursery registration & certification of planting material for Quality assurance in private sector

After the suspension of approval of private rubber nurseries in 1986, planting material generation and trading became a profit oriented business without much attention on quality. There have been widespread concerns on spurious planting materials. Therefore a scheme for registration of private nurseries and certification of planting materials was launched in 2016 to ensure quality of planting materials. The Board invited applications for this and during this year, 95 private nurseries were registered, and 4,61,480 number of planting materials was certified.

4.3 Training in Nurseries for stakeholders

The Central Nursery of the Board at Karikkattoor is a centre for Visit and Training for growers. During the year, the Board organized eight programmes on nursery management for 41 participants including growers, officials and also trainees of the programme Recognition of Prior Learning (RPL).

4.4 Facilitating Research activities of RRIL

Rubber Board nurseries facilitated experiments undertaken by RRIL. New clones evolved and released by RRIL were multiplied and distributed to stakeholders.

5.0 Productivity enhancement

After increase in productivity for more than four decades, there has been a declining trend especially for the last 6-7 years. Some of the farmers stopped tapping, since they felt that prices were not remunerative. Scientific and cost effective short term techniques have been promoted for reducing cost of production and increasing productivity.

5.1. Strategies

A special drive was taken up focusing on productivity enhancement and cost reduction. Supply of inputs for rainguarding and spraying through RPS under "Critical input supply scheme", awareness/capacity building programme for promotion of rainguarding practices, rectification of tapping defects, encouraging adoption of Low Frequency Tapping (LFT), Controlled Upward Tapping (CUT) in suitable holdings and Good Agricultural Practices (GAP) were the thrust areas. This programme was designed with a participatory group approach.

5.2 Critical input supply

The objectives of the scheme are:

- To control the market price of inputs
- To motivate the growers for the adoption of GAP

Adoption of rainguarding and disease management is a proven short term measure for productivity enhancement. Small growers are generally averse to these practices owing to high cost of inputs, apprehension on benefits in the scenario of low rubber price and difficulty in timely adoption due to scarcity of workers. For promoting adoption, Board distributed inputs through 391 RPS utilizing a revolving fund.

5.3 Awareness creation and capacity building programmes

During the last couple of years, RP department focused mainly on extension oriented activities to boost domestic production to narrow down the production-consumption gap. Among short term practices, *rainguarding with panel protection along with rectification of tapping defects* as a package had an immediate impact on production. Group meeting and on-farm trainings were conducted for adoption of such practices.

Table 17: Critical input supply and number of beneficiaries

Name of inputs	Quantity distributed	Area covered (ha)	No. of beneficiaries
Rainguarding plastic (kg)	68,162	5,680	4,746
Rainguarding compound (kg)	1,60,513	4,586	4,934
Rainguarding shade (No)	59,614	170	182
Copper oxy chloride (kg)	28952	3,619	5,415
Spray oil (Lit)	1,45,519	3,637	5,415
Copper sulphate (kg)	7,579	303	477

a) Rectification of tapping defects

All efforts and investments during immature period can be nullified by unhealthy tapping practices or bad tapping. The effect of bark over consumption, wounding, insufficient tapping depth, wrong tapping angle or direction, etc. are irreversible. Defective tapping causes decline in economic life of the plantation and heavy crop loss which is estimated to be 6% of the total production. On-farm trainings, demonstrations and workshops were conducted aiming at up-skilling of tappers for rectifying the defects.

b) Rainguarding

Rainguarding is inevitable for ensuring regular tapping. This practice gives 20-30 additional tapping days a year by facilitating tapping on rainy days, with upto 15% increase in productivity. Rainguarding materials were supplied and a special drive was conducted for popularizing this practice.

c) Low Frequency Tapping (LFT)

Among Lft systems, weekly ($s_2 d_7$) tapping is the best for reducing cost to nearly 45% compared to alternate daily ($s_2 d_2$) tapping. In addition, LFT ensures prolonged economic life of plantations and reduces incidence of tapping panel dryness.

d) Controlled Upward Tapping (CUT)

Controlled Upward Tapping is for longer exploitation of the virgin bark above the basal panel using modified Gouge knife, which helps to achieve around 50% increase in yield. The Board took special effort to popularize this practice.

e) Other Good Agricultural Practices

Production and productivity can be enhanced by adopting GAP such as disease management, discriminatory fertilizer application, soil protection and water harvesting. These were promoted by supplying inputs, promoting RubSIS (web based fertilizer recommendation) and soil protection and water harvesting under MGNREGS convergence.

Table 18: Awareness Creation and Capacity Building Programmes

Name of training	No. of Programmes	No. of Members
Rainguarding	209	2,990
Low frequency tapping	364	3,124
Controlled upward tapping	252	2,093
Quality upgradation	158	2,035
Plantation management	121	2,220
Ancillary income generation	19	773
Other trainings	199	2,536
RubSIS	45	3,188
Total	1,367	18,959

5.4 Adoption of short term measures / agro practices for production enhancement

Adoption of rainguarding, Controlled Upward Tapping (CUT), weekly tapping ($s_2 d_7$) and other LFT systems increased considerably during 2017-18.

5.4.1 Rectification of tapping defects

A quick analysis on the impact of rectification of tapping defects revealed considerable improvement in production.

5.4.2 Rainguarding

As a result of the special drive, 2.10 lakh ha was rainguarded during 2017-18.

5.4.3 Latex harvesting (LFT/CUT)

Growers adopted weekly tapping on an experimental basis and many other growers upgraded their tapping system to $s_2 d_3/s_2 d_4$. Many growers came forward to adopt CUT also. Constant follow up with necessary advices was also done to avoid dropouts.

Globalization has resulted in higher competition in international markets. To become competitive in the global as well as domestic markets, farmer clusters, which are considered potential drivers of competitiveness, have to be promoted. They can be cooperatives, producer companies, producer groups, self-help groups, etc.

Table 19: Adoption of short term measures

Tapping System	New units (2017-18)		Cumulative	
	No. of units	Area (ha)	No. of units	Area (ha)
$S_2 D_7$	632	590.43	888	709.71
LFT	12,658	9,909.14	27,419	28,794.81
CUT	226	672.18	366	1,216.16



6.0 Cluster Development and Capacitating Market Linkage

6.1 Rubber Producers' Societies (RPS)

Indian rubber plantation sector is dominated by smallholdings, which account for 91% of area and 92% of production. This makes the sector vulnerable to exploitation by middlemen, fluctuations in price and also causes difficulties in accessing technology and information. To overcome these issues, the Board promoted farmer groups called Rubber Producers' Societies (RPS) since 1985. The RPS activities are formation of smaller groups (SHG, RTB, Women Labour Groups), Group Processing Centers (GPCs), women empowerment (micro enterprises), capacity building, input supply etc.

6.1.1 Formation of new RPS

Six new RPS were formed during the year raising the total to 2,459 RPS.

6.1.2 Strengthening of RPS

RPS requires an approval from the Board for participation in schemes. The society approved by the Board should function in accordance with the guidance, advice and regulations given by the Board. Rubber Board nominates the local Extension Officer to the Board of Directors of the RPS for providing advice/directions to the society.

(a) Rejuvenation of RPS

The sector requires cluster based empowerment of small growers to survive challenges in the changed scenario. Participatory extension with a focus on institution building is proved to be the best means to achieve it. Though there are 2,459 RPS, their performance varies considerably; some perform exceptionally well, while others are relatively weak. During the year, 73 defunct RPS were rejuvenated benefiting member growers.

(b) Renewal of registration

RPS should audit their accounts every year, and prepare their activity report for approval of annual general body. Auditing should be done by the auditor nominated by Rubber Board and approved in the AGM. Submission of audited accounts and report approved by the general body to the District Registrar is mandatory for renewal of registration. During 2017-18, 1,319 RPS have renewed registration.

(b) Status up gradation

RPS are classified as category A, B, C and D,

which is based on criteria such as conduct of statutory meetings, status of auditing of accounts, infrastructure facilities, participation in the Board schemes/extension programmes and social welfare activities. Special efforts were taken to upgrade the status of RPS and the outcome was significant during 2017-18.

Table 20: Category-wise status of RPSs

Category	Status as on 31.03.2017	Status as on 31.03.2018
A	231	320
B	835	919
C	862	762
D	524	451
Newly formed	0	7
Total	2,452	2,459

(d) Goods and Service Tax (GST) registration

Entities with annual revenue of more than ₹20 lakh are bound to obtain GST registration. 16 RPS took GST registration.

(e) Conduct of statutory meetings

Board of Directors (BOD) of RPS should meet at least once every month. Annual General Body (AGB) should be convened within 3 months after the completion of the financial year. Quarterly general body (QGB) should also be held.

Table 21: Statutory meetings conducted in 2017 – 18

Type of meeting	No. of RPS	Participants
AGB meetings	1,319	84,318
QGB meetings	282	10,569
BOD meetings	3,590	22,901

6.1.3 Cluster within RPS

(i) Self Help Groups (SHG)

Paucity of skilled human resource is one of the major constraints in plantation sector. Rubber Board has therefore, promoted Self Help Groups (SHG) of marginal and resource poor farmers and women for community participation and inclusive development. Some activities undertaken by SHGs are rainguarding, tapping, processing, plant protection, sheet grading, packing of field coagulum, furniture making, soil sampling, apiculture etc. Eight SHGs were formed during 2017-18. Now, there are 1,778 SHGs under the patronage of RPS.

(ii) Micro activity groups/associations

Major benefit of farmer-group approach is that farmers support each other to learn and adopt. Thus farmer-to-farmer extension is amplified. Extension Officers play the vital role of change agents by mobilizing farmers to experiment on their needs/ solutions and come out with innovations. Promoting advanced technologies through formation and capacity building of farmers' interest groups/ farmer associations will scale up adoption level of Good Agricultural Practices. The Board piloted the formation of Common Interest Groups (CIGs) for promoting rainguarding and (GAP) among marginal farmers and Farmers' Clubs (FC) as the federation of CIGs for their capacity building. Status of activity groups formed as on 31 March 2018 is shown below:

Table 23: Micro groups/associations in 2017-18

Type of activity group	No. of groups formed
Number of CIG formed	943
Number of Farmers' Clubs	310
Number of Labour Groups	294

(iii) Rubber Tapper Bank (RTB)

In order to tackle the issue of paucity of tappers and make the job attractive, Rubber Board is promoting labour banks/ Tapper Banks under RPS. RTB is a group of 10-30 skilled tappers. Tappers registered in RTBs will be provided free training on operations in plantations. In addition to 22 existing, 45 RTBs were formed during the year.

Table 22: Formation of Rubber Tapper Bank during 2016-17 and 2017-18

Year of formation	No. of RTB	Total members (No)	Type of Employment (No. of members)		Total area tapped (ha)	Total number of trees tapped
			Own holding	Others' holding		
2016-17	22	289	--	289	329.14	1,41,021
2017-18	45	800	176	624	784.20	3,13,680
Total	67	1,089	176	913	1,113.34	4,54,701

6.2 Group Processing and Collective marketing

Collective processing and marketing fetch farmers' premium farmgate price through 'collective bargaining' with dealers/processors. It has the advantage of spreading costs over a larger volume but requires common processing, storage and packaging facilities. Group processing centres and sheet/latex/field coagulum collection centres set up by RPS provide the advantages of collective marketing.

(i) Group Processing Centres (GPC)

At present, there are 234 GPC in Traditional and Non Traditional areas, of which 189 were functional during 2017-18. Sheet processing was done in 113 GPCs. 73 GPCs marketed the latex pooled as field latex.

Table 24: Details of Group processing centers

Type of produce	Quantity (MT)	No of growers involved
Higher grade sheets	6,683	34,408
Field Latex	3,571	21,248
Field coagulum	1,590	5,687
Total	11,844	61,343

(ii) Other than GPC (Sheet/Latex/field coagulum collection centers)

Apart from GPC, RPS had set up centers for collecting latex, sheet and field coagulum.

Table 25: Details of Collective Marketing activity during 2017 - 18

Type of produce	No. of centres	Quantity (MT)	No. of growers involved
Sheet	121	3,209	11,433
Field latex	513	8,388	39,592
Field coagulum	258	2,409	16,146
Total	892	13,996	67,171

6.3 General outcome of group processing and collective marketing

Group facilities set up by RPS are quite effective in improving the quality and uniformity of rubber sheets and in reducing individual farmers' drudgery. Individual investments for acquiring



facilities for processing, sheeting and smoking can be avoided through this. RPS having group processing facilities processed latex into good quality sheets, mostly of RSS 1 grade (best quality). RPS also provided facilities to store sheets without quality deterioration with uniformity in shape, colour, etc. essential for acceptance in the international market. The profit from the sale of quality sheets was divided among the members. Proper grading, economies of scale in transportation and higher bargaining power helped members to realise better prices.

RPS was co-evolving with the needs of the community in terms of group processing for better prices, bio-gas plant for environment concerns and activities for employment opportunity for women in SHGs. The SHGs are also given training in related activities in cultivation and maintained as reserve labour force. The RPS also serves as a means to disseminate information on international prices of rubber to the farmers before deciding on the best selling price.

6.4 Input distribution centers

RPS procure estate inputs through Board promoted companies/ directly from the manufacturers/ principal dealers through tender and negotiation. This ensures supply of quality materials at a considerably cheaper rate. Inputs include rainguarding / spraying materials, tapping accessories, formic acid, coagulation pans, sieves, copper sulphate, fertilizer, etc. This year 25,303 growers benefitted through 416 distribution centers.

7.0 Annual Mass Contact Programme (AMC)

Annual campaign meetings are held in association with the RPS in scores of centres during a specific period for creating awareness among growers on a theme of topical importance. Campaigns help create a widespread awareness of the subject leading to quick and extensive adoption.

7.1 Annual Mass Contact Programme 2017

The programme “Total Plantation Excellence” was conducted during the period from 17 April 2017 to 26 May 2017 focusing on GAP that can improve profitability by enhancing productivity and quality and reducing cost. Under AMC 2017, 1055 meetings were conducted, in which 61,253 growers participated.

7.2 Annual Mass Contact Programme 2018

NR production and productivity had been consistently low during the last three years, even though a slight improvement was seen during 2016-17. Large numbers of holdings were left untapped during rainy season. Due to the drastic decline in price, there was a tendency to skip even critical agro-practices, which are key productivity determinants.

AMC 2018 entitled “*Harvesting reforms for sustainability*” focused on production and productivity enhancement by ensuring tapping and adoption of GAP in maximum mature area during 2018-19. In order to ensure adoption of rainguarding through a participatory approach, the annual campaign was launched early, i.e. in February 2018. Meetings were arranged in Kerala, Kanyakumari District in Tamil Nadu and Dakshin Kannada District in Karnataka during the period 19 February to 6 April 2018. Adoption of rainguarding especially in the non-adopters’ holdings was designed through the formation of CIGs, FCs and labour groups under RPS.

Table 26: Details of AMC Programme 2017 – 18

Particulars	Number
Number of meetings	747
Number of participants	32,611
Number of CIG formed	943
Number of Farmers’ Clubs	310
Number of Labour Groups	294
Number of holdings selected for rainguarding	12,660

8.0 Empowerment programmes

Extension officials are expected to provide information about new technologies to improve income and welfare of farmers. Apart from conventional technology transfer to improve productivity, such services are also expected to fulfill new functions – linking smallholder farmers to high-value and export markets, promoting sustainable production techniques and adapting to climate change.

8.1 Individual approach

1) Field visit

Individual discussion during routine field visit in connection with plantation development/advisory helps immensely in building confidence between the extension officer and the farmer which in turn enriches grower participation in extension activities.

2) Office visit

Farmers visit Regional Offices/Field Stations for clarifying doubts, offering participation in schemes and extension initiatives of the Board.

3) Advice over telephone

All Field Stations have telephone and internet connectivity. Local Extension Officer communicates with farmers in his area over telephone for passing on specific advice or information.

4) Advice through Short Message Service

Integration of Information and Communication Technologies in extension will provide much impetus to agricultural sector. SMS facility was effectively used for complementing extension services.

5) WhatsApp messages

WhatsApp is one of the most popular social media which offers many unique advantages of sharing information in multiple forms ranging from text messages to audios, visuals; audio-visual and even web links. Board's extension delivery system used this social media as a potent extension tool.

8.2 Farmer education programmes (Group approach)

Farmers require continuous education to stay updated on developments in technology, science, agri-business management etc. Training helps farmers to incorporate the latest technology into their farm operations.

Table 27: Performance of Individual approach during 2017 – 18

Advisory Services	Number
Inter personal contacts (Field visit)	85,983
Number of growers visited office	74,903
Advice over telephone	86,040
Advisory service through SMS	9,559
WhatsApp messages	37,229

i) Group meetings and seminars

Group meeting/seminar is a useful mass educational forum where the Extension Officer and farmers interact and share ideas. Board conducted a large number of such programmes during 2017-18.

ii) Exposure visits

Exposure visits / training & visit are yet another effort in which farmers visit other farms of demonstration value to see how other farmers manage their plantations, and exchange ideas/share experiences with them.

iii) Sastradarsan

Sastradarsan is a programme being conducted regularly to provide an opportunity for rubber growers, students and other interested groups for familiarizing scientific advancements in rubber cultivation and technology by visiting RRII & RTI.

Table 28: Performance of Farmer education programmes during 2017 – 18

Category	No. of meetings	No. of Participants
Full day seminars	50	3,198
Half day seminars	504	20,339
Group meetings	2,619	53,233
Exposure visits	69	1,076
Sastradarsan	4	54

iv) Rubber magazine, other publications and short films

Video films on the following aspects of rubber plantation management were exhibited and distributed in various grower meetings.

Video Films

1. Unarunna Oorukal (Tribal planting) 2015
2. Rubber Nursery 2016 (Revised)
3. Productivity Enhancement 2016 (Revised)
4. Planting & Maintenance 2016 (Revised)
5. Tapping & Processing 2016 (Revised)
6. Disease and Pest control Measures 2016 (Revised)
7. Once a week Tapping 2016

Subscription for Rubber magazine, the most popular Board's publication, was also mobilized during meetings.

Table 29: Achievements on subscription of publication as on 31 March 2018

Publication/short film	No. of beneficiaries
Annual Subscription (Rubber)	5,259
10 year Subscription (Rubber)	220
Short film (CD) sale	11
Board's other publications	4,509



8.3 Rubber Board Farms

RP Department is maintaining two farms – Nucleus Rubber Estate & Training Centre (NRETC) Andaman and Demonstration cum Nursery Project (DCNP) Rukhi as demonstration cum training centre.

a) NRETC Andamans

Rubber plantation at NRETC in South Andamans was raised in 1962-67 as a part of repatriation of Sri Lankan refugees. The trees are now very old and senile. Due to inherent issues in the locality, maintenance of plantation has become un-economical and the Board has tried to lease out 5,000 trees for contract tapping.

b) DCNP (Demonstration cum Nursery Project) Rukhi

DCNP is established in the land leased out by Dr. Baba Sahib Konkan Krishi Vidya Peedh, Dapoli, Maharashtra. The lease period is over and clearance from the Govt. of Maharashtra is being awaited for continuing the project.

Table 30: Details on production in the farms

Name of Farm	Tapped Area (ha)	No. of trees	Production (kg)
NRETC, Andamans	36.00	7,200	17,660
Rukhi, Maharashtra	3.75	1,502	4,122

9.0 Crisis / Disaster Management

Corynespora Task Force: This was to tackle location specific epidemic - Corynespora leaf disease during 2017-18 in the disease prone areas of Karnataka and Kerala on need basis. Awareness creation among growers in these regions on control measures was the main focus. The Task Force conducted field visits, provided technical support and arranged inputs for spraying at competitive price.

10.0 Skill development programmes for tappers

Training in tapping has been a major activity promoted by the Board to upskill growers/workers. Tapping Skill Development Schools (TSS) attached

to Regional Offices are conducting 30 day courses for new generation tappers. TSS is providing training in scientific harvesting, processing, rainguarding, stimulation and disease management. Tappers Intensive Skill Improvement Programme (TISP) is an on-farm training for 8 days mainly intended for small growers and workers sponsored by them.

Table 31: Performance of the Skill development programmes

Type of training	No. of persons successfully trained	No. of trainees engaged in tapping
TSS	366	325
TISP	1,842	1,319

11.0 Women empowerment

Labour Group formation in collaboration with Kudumbashree Mission

Rubber plantations provide average daily employment to about 0.5 million people, directly in activities ranging from planting to harvesting. Major portion of labour requirement in rubber is for tapping, which has round the year requirement in mature plantations. Formation of labour groups in convergence with Kudumbashree Mission is aimed at utilizing the service of already established Kudumbashree women group, having the identical framework of RTB, for tapping and other plantation management activities through linkage with Rubber Producers' Societies. Labour groups are formed under RPS, with members of Kudumbashree units nominated by Community Development Societies (CDS) who are willing to undertake tapping or presently engaged in tapping.

Training is provided by Rubber Board through fund sharing between the Board and Kudumbashree Mission. During 2017-18, 16 groups were formed under 15 Regional Offices. Trained members had started tapping in own holdings, employed in RPS member growers holdings or offered tapping during the next season. This initiative helped open up employment opportunities to Kudumbashree members and to resolve the issues of labour shortage.

Table 32: Performance of Women Empowerment during 2017 – 18

No. of labour groups	Total no. of members	Status of employment – tapping job (No. of members)			Activity details (as on 31.03.2018)	
		Self	paid	Job offered	Extent (ha)	No. of trees
16	245	97	56	92	59.01	26,043

12.0 Convergence with Central & State Government Programmes

12.1 Rubber Skill Development Council (RSDC)

Rubber Skill Development Council (RSDC) is a Sector Skill Council for rubber set up by All India Rubber Industries Association & Automotive Tyre Manufacturers' Association in collaboration with NSDC with the following vision.

- Reducing skill gaps
- Identifying and fulfilling skill development requirements in the rubber industry
- Providing employment opportunities to the youth
- Creating career path in existing roles and ensuring participation for skilling and re-skilling.

RSDC has been implementing Recognition of Prior Learning (RPL) projects to recognize informal learning under Pradhan Mantri Kaushal Vikas Yojana (PMKVY) which is the flagship scheme of the Ministry of Skill Development & Entrepreneurship (MSDE). RPL recognizes informal learning or learning through work to get equal acceptance as the formal education. Training and assessment fees are completely paid by the Government. Candidates can align existing competencies with the National Skills Qualification Framework (NSQF) for better employment opportunities.

Rubber Board has been approved by NSDC as the Project Implementing Agency (PIA) for conducting programs in RPL in Kerala, Tamil Nadu, Karnataka, Assam and Tripura during 2017-18 with participation of Rubber Skill Development Council (RSDC) on four job roles, viz. Latex Harvest Technician (LHT), Latex Processing Technician (LPT), General Worker - Rubber Plantation (GW) and

General Worker - Rubber Nursery (NW). The project was implemented in collaboration with RTI which was entrusted with course material development, training of trainers, project management and monitoring. Tasks related to mobilization of trainees, enrolment through SDMS, counselling, practical training, pre-assessment and post assessment skill evaluation, certification ceremony and feedback survey were undertaken by RP Department.

12.1.1. Recognition of Prior Learning programmes

During 2017-18, RPL programmes were conducted through 41 Regional offices located in Kerala, Tamil Nadu, Karnataka, Assam and Tripura.

Table 33: State-wise and role-wise RPL programmes

Zone/state	LHT	LPT	GW	NW	TOTAL
Kerala	416	53	44	7	520
Karnataka	40	2	0	0	42
Agartala	85	0	0	0	85
Guwahati	82	0	0	0	82
Grand Total	623	55	44	7	729

12.1.2 Skill Gap Analysis survey

NSDC has decided to conduct a countrywide skill gap assessment. The study is to look at the current and future potential for employment generation and examine three critical components: demand-side parameters, supply-side parameters and support-side parameters.

Accordingly, a skill gap study was conducted by the Board in collaboration with RSDC in three sectors viz., mature areas, immature areas and nurseries, in small and large segments in Kerala and Tamil Nadu. Data were collected from 3342 respondents and forwarded to RSDC for documentation.

Table 34: State-wise gender distribution of participants (No)

Zone/state	Latex Harvest Technician		Latex Processing Technician		General Worker		Nursery Worker		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
Kerala	9,149	2,314	1,078	407	858	362	89	98	14,355
Karnataka	659	100	0	0	0	0	0	0	759
Tamil Nadu	312	127	17	41	0	0	0	0	497
Guwahati	2,200	273	0	0	0	0	0	0	2,473
Agartala	2,142	259*	0	0	0	0	0	0	2,401
TOTAL	14,462	3,073	1,095	448	858	362	89	98	20,485

*Transgender – 1



12.1.3 RPL impact study

This aimed at assessing the effectiveness of RPL programme implemented during 2016-17, Rubber Board conducted 334 batches of RPL programmes for 10,000 trainees in two job roles, viz. Latex Harvesting Technician and Processing Technician in Kerala. The impact study covered 26 Regional Offices in Kerala. Data were collected from 1560 participants and analyzed by Statistics & Planning Department for drawing inferences.

12.2. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

One of the primary objectives of MGNREGA is to provide employment to rural households on demand and, in the process, generate durable assets that lead to sustainable livelihood. MGNREGA is implemented mainly by Grama Panchayats. Labour intensive tasks like creating infrastructure for water harvesting, drought relief and flood control are preferred.

Rubber plantations provide average daily employment to about 0.5 million people, directly in activities ranging from planting to crop harvesting. The planting activities could assist in reducing run-off and soil loss, recharge groundwater, increase vegetative cover and ecosystems through drought proofing.

Convergence with MGNREGS

Rubber plantations can be taken up in convergence of MGNREGA and schemes of Central/ State Governments. Plantation work may be funded from MGNREGA. Converging partner(s) can provide handholding support to cultivators during the initial years of rubber plantation and development, build their capacity for taking up harvest and post-harvest activities, facilitate value addition (forward linkage) and provide a strong marketing network.

12.2.1 Convergence Activities

During 2017-18, two activities were promoted in convergence with MGNREGA which included making of silt pit / edakayyalas / terraces for soil protection and water harvesting and work related to plantation development.

Table 35: Achievement of Convergence activities

Activity	No. of units	Area (ha)
Soil protection & water management	7,411	3,834.43
Plantation Development	341	195.05
Total	7,752	4,029.48

12.2.2 MGNREGS Mission Cell

A Mission Cell was constituted in Rubber Board for NREGA with the following terms of reference.

- Formulation of national plan and state specific schemes for major rubber growing states
- Revision of guidelines for implementation of schemes
- Revision of state specific cost norms

The Mission Cell formulated a national plan and forwarded to the Ministry of Rural Development through the Ministry of Commerce and Industry. The Ministry of Rural Development approved it with the following modifications.:

- Rubber plantation based on current schedule of rates (SOR) can be taken up
- Three states namely, Odisha, Tamil Nadu and Karnataka can be included for rubber plantation
- Nursery can be developed for producing planting materials. Raising nurseries is a permissible activity under MGNREGS; hence the wage component as proposed for different states may be covered under NREGS.
- Replanting can be carried out, but uprooting of old rubber trees is not a permissible activity under NREGA. However, the activity can be taken up from any scheme other than NREGS.

12.3 Convergence programmes with Government of Kerala

Rubber Board took initiative to provide support to growers through dovetailing of projects of Government of Kerala. Major projects undertaken by the Board are:

- Rubber Production Incentive Scheme (RPIS)
- Labour Group formation in collaboration with Kudumbashree
- Intercropping fruits and vegetables in young plantations

12.3.1 Rubber Production Incentive Scheme (RPIS)

In the scenario of low price, Government of Kerala decided to support small and marginal growers by implementing Rubber Production Incentive Scheme (RPIS) from 2015-16 with a financial outlay of ₹ 300 crore. Small farmers, having rubber up to 2.00 ha will get the benefits of this. Under the scheme, if the published price of rubber falls below ₹ 150 per kg, the balance amount will be paid by the government through direct bank transfer. Third phase of the scheme was implemented during 2017-18 with a budgetary allocation of ₹ 500 crore.

Government of Kerala has given a green signal to continue the fourth phase (July 2018 to June 2019) with a budgetary allocation of Rs. 500 crore.

12.3.2 Intercropping fruits and vegetables

Two convergence projects for cultivating fruits and vegetables in young rubber plantations of Kerala were in operation during 2017-18.

- Convergence with Local Self Government Department (LSGD), Government of Kerala promoted project for intercropping fruits, vegetables, tuber crops, ginger and turmeric in young rubber plantations with an assistance of ₹ 7,000 per ha.
- Convergence with Agriculture Development and Farmer's Welfare Department, Kerala undertaking project "formation of vegetable clusters including farmers doing vegetable cultivation in young rubber plantations under "Development of District Clusters", with a financial assistance of ₹ 15,000 per ha.

Table – 36 Details of RPIS scheme implementation during 2017–18

Phase III- July 2017 to June 2018			
Financial outlay (₹ in crore)		Amount transferred to beneficiaries (₹ in crore)	Quantity of rubber (MT)
500		54	80,995
Total registration	Bills confirmed	No. of beneficiaries	No of RPSs involved
15,684	8,44,281	1,88,739	1,873

Clusters/staggered clusters were identified by Rubber Board in consultation with state Agriculture Department and Rubber Producers' Societies.

Table 37: Performance of Convergence programmes with LSGD

No of beneficiary members	70
Total extent intercropped (ha)	20
Quantity of vegetables produced (kg)	2,850
Quantity of fruits produced (kg)	400
Quantity of tuber crops produced (kg)	22,730

Table 38: Performance of Convergence programmes with Govt. of Kerala

No. of clusters formed for intercropping	134
No of members	573
Extent intercropped (ha)	254
Quantity of vegetables produced (kg)	3,23,195



II. Rubber Plantation Development & Extension in Northeast (RPDENE)

Northeastern region, with its unique agro-climatic conditions such as tropical climate in the low elevations and exposure to monsoons, is suitable for economically viable rubber plantations. Greater focus is needed in extending cultivation to new areas in Assam and other NE States. Activities and achievements in Northeastern region are described here.

1.0 Plantation development

1.1 Planting and Subsidy permits issued in 2017-18

Rubber Board did not invite applications for subsidy for areas planted during 2017-18 owing to delay in approving Medium Term Framework (MTF) and paucity of funds. However, details of area under new planting and replanting were collected through survey, and the estimated area planted was 377 ha.

1.2 Tribal development planting in Tripura State

The Board has been implementing a project for tribal development with 40% contribution from the Board, 50% from concerned State Government and 10% from beneficiary by way of labour. The plantations were developed by providing all inputs, scientifically planted and managed with labour by the beneficiaries under Board's supervision, till harvesting. During 2017-18, the existing immature plantations were properly maintained by the Board.

1.3 Committed payments

Payments against carry-forward liabilities (pending bills) and subsequent installments of subsidy were made with available fund. An amount of Rs. 2.91 crore was paid towards this.

2.0 Quality planting material generation

Insufficient supply of quality planting materials, remoteness of planting locations and poor communication facilities are some of the major constraints for rubber development in the NE. Existence of Board's nurseries is a very effective quality and price check mechanism as well as being a genuine source of bud wood for private nurseries.

2.1 Regional Nurseries/Nurseries under DDC and Planting material production

Board established five nurseries in NE region, which are maintained as model for supply of good planting materials as well as for providing training to stakeholders in nursery management. They are:

- Regional Nursery, Tulakona (Agartala)
- DDC, Jenggitchakgre (Meghalaya)
- DDC, Darrangiri (Agia-Assam)
- Regional Nursery, Boko (Guwahati-Assam)
- Regional Nursery, Kathiatoli (Nagaon-Assam)

Table 40: Planting material generation in Board's Nurseries during 2017-18

Particulars	Quantity produced (No)
Brown budded stumps	77,104
Poly bagged Plants	5,603
Total	82,707
Bud wood (meters)	48,508

Table 39: Details of ongoing projects in Tripura under Tribal planting

Name of Project	Year of Planting	Area(ha)	No. of beneficiaries
Ramnagar	2011	16.50	15
Hirapur	2011	35.10	30
Ujanghaniamara	2011	33.60	42
Ujanghaniamara	2014	14.34	12
Twisaplang-I	2015 & 2016	29.65	32
Twisaplang-II	2015 & 2016	31.46	27
Total		160.65	158

2.2 Nursery registration & certification of planting material in Private Sector

The optional programme for registration of nurseries and certification of planting materials was

in operation in NE Region also. 28 nurseries were registered and 645961 numbers of planting materials were certified under this programme.

3.0 Productivity Enhancement

Productivity enhancement measures are to be popularized and encouraged among the small/marginal growers because these are aimed at increasing production from existing plantations in short run, thereby increasing farmers' income.

3.1 Critical input supply

Improvement in yield can be achieved through intensive extension for transfer of technology and ensuring timely adoption of technology using appropriate inputs. Major areas where adoption is low in NE region are:

- Rainguarding;
- Disease control measures against powdery mildew

The above measures can increase productivity from 15-45%. Providing inputs to growers is one way of motivating them to follow appropriate cultural practices. Rainguarding materials (polythene sheet/tapping shades and adhesive) and sulphur dust were supplied to small growers through RPS.

Table 41: Details of critical inputs supplied to small growers during 2017-18

Item	Quantity	No. of beneficiaries
Rainguarding plastic (kg)	572	59
Rainguarding compound (kg)	4,391	212
Rainguarding shade (No)	29,931	154
Sulphur dust (kg)	4,000	150

3.2 Adoption of rainguarding and dusting

Input supply scheme, which is reintroduced in MTF, was implemented during 2017-18 on a limited scale due to paucity of fund.

Table 42: Achievement in adopting rainguarding and dusting during 2017-18

Agro-practice	No. of holdings	Area (ha)
Dusting	150	95
Rainguarding	190	125

3.3 Adoption of production augmenting and cost effective GAP

CUT being the short term production augmenting agro-practice and LFT as the cost effective tapping system were promoted.

Table 43: Achievement in adopting LFT and CUT system during 2017-18

Agro-practice	No. of Growers	Extent (ha)
CUT	10	15.60
LFT	60	33.84

4.0 Processing and Quality Up gradation

In Northeastern region, except three public sector plantations and block plantation units, almost all rubber plantations in the private sector are smallholdings. Small growers in NE region need strong institutional support for establishing facilities for processing and marketing as they lack experience as well as funds.

So far, 99 GPCs were established in RPS sector in Northeastern region with technical and financial support of Rubber Board, aimed at facilitating primary processing into higher grade RSS to ensure better farm gate price. During the year, group processing was done in 69 centers.

Table 44: Achievement of Group Processing Centres during 2017-18

Type of produce	Quantity (MT)	Number of beneficiaries
Higher grade sheet	2,627.68	3,465
Field Latex	1,017.26	865
Field coagulum	2,069.65	973
	5,714.59	5,303

5.0 Skill upgradation and Group empowerment

5.1 Empowerment programmes

In order to keep the farming community updated on the latest information/ technology, various individual and group extension tools for farmer education were used.

5.1.1 Individual approach

Individual extension approach, such as discussion with growers, advice through field visit/ telephone, visiting Board's offices, SMS and WhatsApp messages on rubber plantation development helped immensely in building confidence between the Extension Officer and farmer and resulted in enriched grower participation in extension activities.


Table 45: Performance of Individual extension approach during 2017-18

Advisory Services	Number
Advice during field visit	15,719
Advice during growers' office visit	20,250
Advice over telephone	13,252
Advisory service through SMS	2,615
WhatsApp messages	5,059

5.1.2 Group approach

Group extension tools such as conducting seminars, group meeting and distribution of publications and video films (CD version) were adopted. During the year, 8 Video films and 858 publications were distributed among aspirant growers.

Table 46: Performance of Group extension approach during 2017-18

Category	No. of meetings	Participants (No)
Full day seminars	12	832
Half day seminars	61	1,590
Group meetings	1,156	18,671
Total	1,229	21,093

5.2 Skill upgradation

Skill development is the process of identifying skill gaps, and developing and honing these skills. Various on farm training programmes were conducted for capacitating the stakeholders in plantation sector.

Table 47: Performance of on-farm training programmes during 2017-18

Name of training	No. of events	No. of Members
Rainguarding	100	1,321
Low Frequency Tapping	28	347
Controlled Upward Tapping	58	389
Quality upgradation	95	1,088
Rectification of tapping defects	202	2,334
Plantation management	125	1,937
Total	608	7,416

6.0 Input distribution and collective marketing (other than GPC)

Apart from group processing, RPS had set up centers for input distribution and collection of latex, sheet and field coagulum. 26 RPS distributed 38 items of inputs benefiting 3,515 growers.

Table 48: Details of Collective Marketing activity during 2017 – 18

Type of produce	Number of centres	Quantity (MT)	No. of growers involved
Field latex	5	64.33	78
Sheet	5	87.40	192
Field coagulum	15	20.08	162
Total	25	171.81	432

7.0 Tapping Skill development Schools (TSS) and Tappers' Intensive Skill improvement Programmes (TISP)

There were 4 regular Tapping Skill development Schools in Northeast maintained by the Board at Hahara, Darrangiri (both Guwahati Zone), Amtali and Juri (both Agartala Zone), for training small growers.

Apart from training conducted in TSS, the Board also conducted short term intensive training, viz Tappers' Intensive Skill improvement Programme (TISP) on practical aspects with emphasis on improved methods in tapping, processing and rainguarding.

Table 49: Details of Tappers training programmes during 2017-18

Programme	No. of programmes	No. of participants
TSS	11	122
TISP	127	2,159

8.0 Demonstration Centers

Rubber being a relatively new crop in the NE region, efficient extension support is required to motivate farmers for planting and adopting scientific practices. Demonstration oriented training is the effective extension tool among new entrepreneurs. Training programmes on various aspects of scientific cultivation and harvesting were conducted at the following training centres:

1. Nuclear Rubber Estate and Training Centre, Agartala
2. Rubber Research and Training Centre (RRTC), Hahara
3. District Development Centre (DDC), Darrangiri,
4. District Development Centre (DDC), Jenggitchakgre

During the year, the Board organized 151 training/demonstration programmes in NE region benefitting 2,543 participants. During the reporting year, the Board produced 17.2 MT of rubber from tapped area of 17.21 ha out of 31 ha of planted area.

9.0 Formation and strengthening of RPS/RGS/SHG

9.1 New RPS

The full potential of RPS is yet to be realized not only for enabling the smallholders to reap economies of scale but also for stabilizing smallholder sector. There is the need for strengthening RPS individually and collectively. During 2017-18, 23 new RPS were formed raising their number to 461.

9.2. Revival of RPS activities

Individually, strengthening involved conducting statutory meetings as per bye-law, upgrading performance, rejuvenation of activities and engaging them in extension and capacity building activities on large scale and equipping them in input supply, ancillary income generation, skill development for growers and tappers. Though there are 461 RPS, the level of performance among them varies significantly. When some perform well, others are relatively weak. In this context, revival of activities of defunct/weaker RPS by providing adequate support becomes essential. During the year, the Board rejuvenated 30 defunct RPS.

9.3. Status upgradation

The outcome of activities focused on strengthening of Rubber Producers' Societies (RPS) in terms of ABC categorization is furnished below:

Table 50: Categorization of RPS

<i>Category</i>	<i>Status as on 31.03.2017</i>	<i>Status as on 31.03.2018</i>
A	27	38
B	81	128
C	202	173
Newly formed	Nil	23
D	128	99
Total	438	461

9.4 Statutory meetings

Conduct of statutory meetings as per byelaw is essential for proper and transparent functioning.

Table 51: Details of meetings conducted in various RPS during 2017-18

RPS statutory meetings	<i>Number</i>	<i>Participants</i>
Annual General Body Meetings	51	1,975
Quarterly General Body Meetings	65	1,197
Director Board Meetings	460	3,344

10.0 Annual Mass contact programme and other meetings

10.1 Annual Mass contact programme

The practice of conducting annual mass contact programme in NE region was started in 2010. This programme has great impact in the rubber belt of NE, where rubber is a relatively new crop. This being conducted every year on relevant topics has proved to be very effective not only for transferring technology related to rubber sector but also for creating attitudinal changes among growers. Topic selected for 2017 was *Total Plantation Excellence*. During the year, 109 meetings were conducted with a participation of 6702 growers.

10.2 Other meetings and programmes

Apart from the mass contact programmes, other programmes regarding human resource development were conducted during 2017-18.



Table 52: Details of Training Programmes conducted in various RPS

Training programme cum meeting	No of events	No.of participants
National Institute of Agriculture Marketing (NIAM)	7	241
Indian Institute of Plantation Management (IIPM)	2	42
NIAM (for Tribal women)	1	28
Tapping & processing (Land Resource Department)	5	104
Fertilizer application	14	340
Construction of smoke house	2	22
Grading of sheet rubber	4	62
Tapping & panel protection	45	784
Swatch Bharat	386	6,203
Planting and maintenance	12	54
Account maintenance	18	108
Scientific curing of field coagulum	4	47
Production of quality planting materials	2	12
Other training (National MCX /Tripura Skill Development Mission)	5	150
Farm School	2	36
Total	509	8,233

11.0 Exposure visits and Sastradarsan

Exposure visits enable farmers from different

regions to interact with and learn from each other and to view examples of GAPs adopted by successful farmers. 'Sastradarshan' programme is conducted to create scientific awareness among rubber growers, members of co-operatives, RPSs and other groups interested in rubber production and processing.

Table 53: Details of Sastradarsan programmes and Exposure visits in 2017-18

Programme	No. of Programmes	No of participants
Sastradarsan	3	65
Exposure visits	8	178

12.0 Convergence with MGNREGS

Geographically, two-thirds of NE region is hilly interspersed with valleys and plains and is the rainiest part in the country, receiving an annual precipitation of 2,000 mm. *Jhum (slash-and-burn)* cultivation is still practised by indigenous people causing deforestation and soil erosion. Erosion reduces production not only by decreasing soil fertility but also by reducing water infiltration/water holding capacity and water availability. Hence effective soil protection and water harvesting measures are inevitable in rubber plantations.

Construction of contour bunds and silt pits are the common conservation practices recommended other than contour terracing. Silt pit is the most cost effective practice. As per MGNREGA master circular 2017-2018, "works aimed at improving productivity of lands of households through land development/ providing suitable infrastructure for irrigation (dug wells/ farm ponds) and other water harvesting structures can be undertaken". In convergence with NREGS, silt pits were taken in 2,128 plantations admeasuring an area of 1,439 ha in Tripura state.



Annual Mass Contact Programme on "Harvesting reforms for sustainability"

III. Other activities undertaken by Rubber Production Department

1.0 Insurance scheme for Rubber plantation

Plantations can be insured against natural disasters. In case of rubber, if a few trees in a holding are damaged that particular patch of land cannot be used till replanting. Risks covered by the Insurance Scheme are fire, lightning, riot, strike & malicious damage, bush fire, forest fire, flood, storm, tempest, inundation, land slide, rock slide, earthquake and drought (provided the Block/Taluk concerned is declared as drought affected by the competent authority). The policy also covers the loss or damage caused by road/rail/vehicles and wild animals. Losses due to diseases and insect-pests are excluded from the scope of cover. During 2017-18, ₹ 52.84 lakh was disbursed as compensation to 880 beneficiaries.

Table 54: Details of Compensation paid under plantation insurance in 2017-18

Particulars	Achievement (2017-18)
Compensation paid (₹ in lakh)	52.84
No. of beneficiaries	880

2.0 Various surveys

Rubber Production Department regularly conducts field surveys for collection information on planting, production, sale/ stock, incidence of diseases etc. Sample survey and productivity survey for collecting production, sale and stock of rubber, skill gap analysis (RSDC) and survey for conducting study on impact of Recognition of Prior Learning (RPL) were conducted.

3.0 Labour welfare

Applications for assistance under the welfare schemes were received at Regional Offices. Field inspections and enquiries /processing were carried out.

4.0 Valuation of Rubber Trees

Public/private establishments and individual growers are approaching Rubber Board for valuation of rubber trees and assessment of compensation due to damages/ Government acquisitions. Rubber Board

Table 55: Achievement of labour welfare schemes during 2017 – 18

Scheme	Number of applications	
	Received	sanctioned
Education stipend	2,233	2,019
Merit award	361	329
Medical attendance	251	227
House subsidy	451	339
Sanitary	2	1
Assistance to women workers	263	37
Group Life Insurance cum Terminal Benefit Scheme (GLITBS)	5,025	5,023

has decided to undertake this against proper request and payment of service charges. 70 certificates were issued and an amount of ₹10.48 lakh was collected as service charges.

Production and productivity

Measures taken by Rubber Board for improving production and productivity included promotion of rainguarding, low frequency tapping (LFT), thereby reducing cost of production and extending economic life without reduction in yield; formation of Tapper Banks and labour bank in collaboration with Kerala Kudumbashree Mission under the patronage of RPS to ensure supply of tappers/skilled labourers; supply of inputs for disease management and rainguarding through Board promoted companies; harvesting untapped areas with the help of RPS companies and various farmer education/capacity building programmes. These efforts helped enormously to reduce the share of untapped area to 21.9% and to maintain the domestic NR production with positive growth.

5.0 Plantation Certification

Rubber Board introduced Plantation Certification programme in 2014. Details of rubber holdings of individuals are certified on a voluntary basis. A small fee is collected from rubber growers for issue of the Certificate.

Table 56: Achievement in Plantation Certification programme during 2017-18

Total number of applications	No of applications disposed	Area in ha	Amount collected (₹ in lakh)	Pending for disposal (No.)
10,378	7,311	6,541	18.30	3,067



IV. HIGHLIGHTS OF ACHIEVEMENTS DURING THE YEAR 2017–18

- Thrust area–production and productivity enhancement through extension
- Special drive for bringing untapped area to tapping
- Campaign mode special drive for promoting rainguarding and Good Agricultural Practices through micro activity groups - Common Interest Groups (CIGs) and Farmers' Clubs (FC)
- Promotion of Low Frequency Tapping (LFT) for cost reduction
- Skill Development of tappers in collaboration with RSDC
- Price stabilization in convergence with Government of Kerala (RPIS)- Third Phase
- Nursery registration and certification of planting materials in private sector for quality assurance
- Rubber Tapper Banks for addressing tapper shortage
- Women empowerment- Labour Group Formation in collaboration with Kerala Kudumbashree Mission
- Convergence with Kerala Agricultural Department for integrated farming (scheme for intercropping vegetables and fruits in young rubber plantations)
- Convergence with MGNREGS for plantation development and soil protection & water harvesting
- RPS based activities for quality upgradation and collective marketing of primary produce for better price realization
- Cluster development & empowerment – Formation of RPS, SHG and labour groups and their strengthening
- Input supply at concessional price
- Farmer education & capacity building – on farm training/demonstrations for growers and tappers
- Harnessing ICT for extension- WhatsApp groups, SMS etc.



Rubber Nursery Karikkattoor



Kudumbashree Labour Group

PART – V

RUBBER RESEARCH

Rubber Research Institute of India (RRII), the Research Department of the Board, has its headquarters in Kottayam, Kerala with nine Regional Research Stations (RRS) in Kerala, Tamil Nadu, Karnataka, Maharashtra, Odisha, West Bengal, Tripura, Assam and Meghalaya. Field experiments are conducted in the Central Experiment Station (CES) at Chethackal, Pathanamthitta District, Kerala, in an area of more than 250 ha. Owing to constraints in land availability, many experiments and on-farm evaluation trials for validation of research from the laboratory and research farms of RRII are carried out in growers' fields/ large estates. Each RRS has research farms of nearly 40 to 50 ha, where location-specific research is undertaken including developing high yielding rubber clones and farm practices. Outcome of the research is communicated through research publications. RRII publishes a peer reviewed international scientific journal named '*Rubber Science*'. Besides this, research articles are also contributed to other peer reviewed international and national scientific journals as well as popular magazines, newspapers etc. In addition to this recommendations are given for adoption by growers after these are approved by the Scientific Advisory Committee (SAC) of RRII.

RRII and its regional stations (RRS) are involved in research programmes under the major Plan Scheme "*Strengthening of Rubber Research*". Activities of this scheme are classified under 13 components *viz.* 1) Genetic improvement for developing ideal clones, 2) Advanced Centre for Molecular Biology and Biotechnology, 3) Rubber based farming systems and farm management, 4) Use of remote sensing and geographic information system (GIS) in plantation sector, 5) Development of plant protection protocols, 6) Environmental protection and climate studies, 7) Socio-economic dimensions of the Indian NR sector, 8) Primary processing of rubber and development of specialty rubber compounds for industrial applications, 9) Technical support services, 10) Linkages with centers of excellence, overseas training and 11) RRII Research Fellowship scheme.

In addition, activities in RRS are come under 12) Strengthening of Regional Research Stations (other than NE Region) and 13) Strengthening of Regional Research Stations (NE Region). A summary of the performance and salient achievements of research schemes under various Research and Development components during 2017–18 are furnished in the following sections.

1.0 Genetic improvement of *Hevea brasiliensis*

- A new region specific advisory of rubber clones suited to each of the nine agro climatically distinct zones in the traditional and non-traditional regions in India was formulated for adoption by rubber growers.
- Participatory Clone Evaluation (PCE): Six Central Large scale Trials (LSTs) at CES and RRII Farms and 39 satellite on-farm trials were in progress under five phases of Farmer Participatory Clone Evaluation. Two clones were found promising in the first phase in three locations.
- Site selection for Phase VI of the project, incorporating 20 pipeline ortet clones and 3 checks at CES and simultaneously, On Farm Trials (OFTs) at four locations in Kerala, Tamil Nadu and Karnataka were done. Clones are under multiplication for field planting in 2019.
- Performance of pipeline clones was assessed in the five Large Scale Trials and 30 OFTs established at different locations under the PCE Project Phases I to IV. Gap filling was done in the Phase V trials.
- Yield recording continued in PCE 2008 LST at CES and OFTs at Koottickal estate, Gokul estate Perinthalmanna, Plantation Corporation of Kerala estate Athirappally, Mooply estate and Calicut estate, Mukkom.
- Seven clones *viz.* IRCA 41, IRCA 733, IRCA 347, IRCA 825, USM1, RRISL 203 and RRISL 219 were imported from Côte d'Ivoire, Philippines and Sri Lanka.



- Imported clones in the Clone Museum (2017) were screened for tolerance to *Corynespora* through toxin-bioassay in collaboration with pathologists. One Vietnam clone was found to be highly tolerant to *Corynespora* toxin. Two clones from Vietnam showed better drought tolerance based on physiological parameters for abiotic stress tolerance.
- Hybrid progenies of the Breeding for disease resistance programme showed good test tap yield of upto 63 g/t/10t in Fx 516 x RR11 414 and 34 g/t/10t in RR11 105 x Fx 516.
- Heritability of growth and wood traits including specific gravity, fibre and vessel characteristics in *Hevea* were estimated, using a full-sib progeny population consisting of 11 families of full-sib progenies and their parent clones. Moderate to very high estimates of heritability for fibre traits, girth and specific gravity indicated that considerable genetic gain can be realized for these traits.
- Performance of polyclonal seedlings (Nettana seed garden origin) and check clone RR11 105 was assessed in the 5th year of tapping. Six polyclonal seedlings had more than 120 g/t/t and 24 had yields more than 90 g/t/t with potential for further selection.
- Hybridisation was continued in 2017, using selected parental combinations. Hybrid progenies (100 nos.) from this as well as half-sibs (620 nos.) were planted in nursery for further evaluation.
- Fourteen clones selected from clonal nursery evaluations of ortets and half sib selections were added to the pipeline, making the total number of pipeline clones 281. Pipeline clones in various small scale trials were also evaluated for their response to Ethephon stimulation.
- Identification of Quantitative Trait Loci (QTLs) for important traits, 84 progenies from an inter-specific mapping population were genotyped and QTLs tentatively identified for 3 major diseases, nursery yield, vigour, ATP content of latex and laticifer number.
- One Single Nucleotide Polymorphism (SNP) was tentatively identified as a potential marker for yield based on correlation with test tap yield (collaboration with Genome analysis lab).
- A few physiological and molecular markers were validated to screen various clones, accessions and pipeline clones for higher rubber biosynthetic capacity and drought tolerance potential. Twenty clones introduced from four countries (Vietnam, China, Thailand and Cambodia) were evaluated for drought tolerance traits. One clone each from Vietnam and Thailand showed better performance under stress situations.
- The effect of high temperature on young plants was studied in four popular clones. Among them RR11 430 showed consistently better traits.
- Based on recovery rate, a few clones were identified as better tolerant to drought and cold stress. Many accessions were evaluated for oxidative stress tolerance and the molecular mechanism behind stress tolerance, was established.
- In a multi-location trial with 16 ortets and 7 check clones, a few common ortets were identified from three different regions for tolerance to extreme climatic conditions.
- A growth regulator, known as paclobutrazol (PBZ) was tested for imparting drought tolerance potential in immature plants through better root system development. Proteomic study was continued for the selection of cold and drought tolerant clones.
- Biochemical parameters related to rubber biosynthesis (inorganic phosphorous, sucrose, thiols and ATP contents in latex), oxidative stress indicators (peroxidase, glutathione reductase, thiols in C-serum, proline and protein content) were analyzed in many clones and a few clones shortlisted for high biosynthetic potential.
- Molecular and biochemical basis of ethylene induced latex production was explored in many clones.
- Conservation of 183 Wickham clones, 4,548 wild Amazonian accessions and 5 other species in field gene banks continued.
- Establishment of a separate Germplasm Working Collection comprising all wild germplasm accessions showing potential for improving any useful trait (yield, disease tolerance, laticifer number, girth, etc), is in progress to prevent field attrition, ensure better maintenance and easier access to the promising selections of wild germplasm. 61 accessions were planted this year, bringing the total to 119.

- Establishment of the germplasm arboretum at Teksragre, Tura, Meghalaya was continued; 442 wild and Wickham accessions planted so far are being conserved.
 - Further evaluation of 153 wild accession selections in mature phase and 62 in immature phase continued in 4 locations at CES, RRS Padiyoor, Dapchari and Nagrakatta. One more evaluation trial was opened for regular tapping this year.
 - Evaluation of 1981 IRRDB (International Rubber Research Development Board) wild germplasm identified an additional 14 accessions with potential for yield, 29 for timber and 6 wild accessions for laticifer number during this period, in addition to the earlier selections.
 - Analysis of leaf pubescence segregation pattern in an inter-specific cross is being done to analyse the genetics of its inheritance. Further, continued the evaluation of selected wild accessions in 2 trials at RRS, Dapchari.
 - In a field assessment of 22 selected wild accessions for tolerance to abnormal leaf fall, four wild accessions including two with desirable yield levels, showed less than 18% disease.
 - Utilization of wild selections in hybridization programme with elite clones for genetic improvement since 2009 resulted in 561 hybrids so far (275 Wickham x Amazonian and 286 inter-specific hybrids). 18 more promising recombinant progenies were identified for further evaluation, in addition to 23 clones identified earlier.
 - Ceara rubber (*Manihot glaziovii*)- Seven germplasm accessions from Palakkad region and four plants multiplied through stem cutting collected from Vaikom region are being conserved at RRIL, Kottayam.
- 2.0 Advanced Centre for Molecular Biology and Biotechnology (ACMBB)**
- *In silico* polymorphic SSR loci identified in NBSLRR transcripts (Rgenes) from transcriptome data were validated as polymorphic markers. Out of 41 SSR loci, 19 were found polymorphic between RRIL 105 and *H. benthamiana*. Segregation analysis of these SSRs markers was performed in a mapping population for their incorporation in a linkage map along with DArT markers.
 - Best 40 international rubber clones from almost all rubber growing countries were obtained through clone exchange. Assessment of these clones along with high yielding clones of RRIL was performed using molecular markers to know the extent of genetic diversity existing among these clones compared to RRIL clones. So far 16 SSR markers were used in genotyping of 34 clones.
 - SNP markers developed from latex biosynthesis genes *MVK* (MVK2628A/G), *PMVK* (PMVK1786C/T) *HMGS* (HMGS3059A/G) and *CPT* (cis-pre1438C/T) were used in HRM based genotyping of a mapping population for their integration in linkage map and also to establish correlation between genotyping data with the test tap yield of the progenies. Among these four SNP markers, *HMGS* (HMGS3059A/G) and *CPT* (cis-pre1438C/T) showed correlation with test tap yield of the progeny population.
 - Refinement of the linkage maps was done eliminating single-dose markers and markers showing excessive segregation distortion. Finally good quality 5187 DArT SNPs and 8082 PAV markers for *H. brasiliensis* and *H. benthamiana* respectively were used in linkage mapping for each parent. Linkage maps of both parents *H. brasiliensis* and *H. benthamiana* assembled into 18 linkage groups, which is in agreement with the known number of haploid chromosomes in *Hevea* ($n = 18$). Total length of maps was 6666.2 cm for *H. brasiliensis* and 8779.9 cm for *H. benthamiana*.
 - Three dimensional structure of *Hevea* NACtf regulating stress tolerance was predicted through homology modelling. *Hevea* NACtf showed the presence of five DNA binding residues. The AA motif 'YWKATGTD' present both in Arabidopsis and *Hevea* is the major DNA interaction region having specific role in recognition of DNA sequences. Four non-synonymous SNPs identified in the coding sequences of RRIL 105 and RRIM 600 could not bring any change in these DNA binding motifs.
 - The T-DNA binary vector pCambia1301 containing 35S:NACtf:polyA cassette was constructed with the NACtf cDNA from both RRIL 105 and RRIM 600 and mobilized into *Agrobacterium tumefaciens* strain LBA 4404 for plant transformation.



- A total of 344 root specific transcripts were extracted from root transcriptome data. These 344 sequences were subjected to Open Reading Frames (ORFs) search, which resulted in 38 transcript sequences with full-length ORFs. This study will be useful for identification of better rootstock of rubber.
 - Through root transcriptome analysis, RRII identified the presence of “*Rhizophagus irregularis*” in *Hevea* root - an arbuscular mycorrhizal fungus, which penetrates the cortical cells of the roots of vascular plants. Based on these results and literature evidences, we believe that there may be beneficial interactions between *Hevea* root and *Rhizophagus irregularis* at their earlier stages of development.
 - Genome assembly couldn't be performed due to non-availability of high end server. However, we could do benchmarking for *de novo* assembly of rubber genome using two assemblers on IBM POWER processor to assess the performance of the server after getting remote access to the same. Both benchmarking results helped us to understand the behavior of these assemblers with our whole genome sequencing data and also helped us to roughly estimate the runtime for assembling the reads.
 - Genetic transformation with MnSOD and osmotin genes conferring stress tolerance and hmgr for enhance latex biosynthesis using different explants was carried out to develop transgenic plants. Development of antibiotic marker free transgenics using pNS14 vector based on Cre-Lox technology was also attempted. Putative cell lines integrated with MnSOD and hmgr genes were selected and transferred to proliferation media.
- ### 3.0 Rubber based farming systems and farm management
- Online fertilizer recommendation system for rubber growers called Rubber Soil Information System (RubSIS) was developed and uploaded for entire rubber growing regions of South India. A mobile App was also developed for easy access of fertilizer recommendation by growers. RubSIS was demonstrated in group meetings organized in Rubber Producers' Societies (RPS) with the support of Extension Officers of Rubber Board and feedback was collected from 1,134 rubber growers.
 - RubSIS was translated to Malayalam, Tamil and Kannada. Initiated popularization of RubSIS through posters, leaflets, post cards, SMS, popular articles, call centre, training classes etc and follow up studies of RubSIS on fertilizer skipping and liming.
 - Project for soil fertility mapping of rubber growing soils of Northeast India was formulated, approved and soil sample collection was initiated in different states.
 - Study on assessment of water quality in watersheds dominated by rubber, tea and cardamom plantations showed that water samples of rubber watershed had significantly lower EC, TDS, salinity and hardness, which reveals better quality of groundwater in rubber area.
 - Mean annual soil CO₂ emissions from a typical mature natural rubber plantation ranged from 20.65 to 26.08 tons ha⁻¹.
 - Survey on extent of adoption of agromanagement practices showed that majority of rubber growers practised integrated nutrient management, and preferred mixtures and complex fertilizers to straight fertilizers. For mature rubber, about 25-65% farmers applied fertilizers by taking small pits which is not a recommended practice and needs intervention.
 - Results of cropping system experiments conducted in traditional and NE region were compiled and new planting system recommended. Various techniques were recommended for drought mitigation in young rubber plantations.
 - The experiment on target application of soluble fertilizers into the root zone of young rubber plants (precision farming) and study on the differential effect of flora on growth of rubber and soil properties were initiated. An incubation study was conducted in to the effect of different types of litter/intercrop residues on soil properties.
 - Initial results of Low Frequency Tapping (LFT) at 10 days interval (d10 tapping) is promising both under BO-1 and BO-2 panels in clone RRII 105. Under weekly tapping, clone RRII 430 indicated promising yield in estate sector.
 - Under weekly tapping, initial results indicated promising yield in clone RRII 414 in small growers plot.

- Under d3 frequency, clone RRIL 429 seems to be a high yielder compared to clones RRIL 422 and RRIL 414.
- Experiments on intercropping/cropping systems, nutrient management, soil and water conservation, ground cover management, reducing gestation period and nursery experiment to evolve fertilizer suggestion for root trainer plants are in progress.

4.0 Use of remote sensing and Geographic Information System (GIS) in Rubber plantation sector

- Mapping and estimation of extent of cultivation in Meghalaya, Nagaland, Manipur and Mizoram states and Andaman & Nicobar Islands were accomplished as of 2015.
- Risk of flooding in cultivated areas of Assam was assessed using geo-spatial technique and about 9,729 ha of rubber area cultivated below 100m MSL in Assam identified. Areas below 50m are vulnerable to flooding in Brahmaputra valley.
- RRIL identified around 1.62 lakh ha of mature rubber area in Kerala and Tamil Nadu suitable for skipping chemical fertilizers at least for three years based on geo-spatial overlay analysis of organic carbon and soil depth.
- Studies were conducted to understand the spatial and temporal variation of vegetation structure and composition in rubber plantation ecosystems. High frequency of invasive plant species was observed which may pose threat to the natural flora of rubber growing regions.

5.0 Development of plant protection protocols

- Whole genome sequencing of a virulent *Corynespora* isolate was carried out. The genome size of the *Corynespora* isolate is 42.9MB. Majority of genes detected are part of carbohydrate and amino acid metabolism. The Cas gene in the virulent *Corynespora* isolate has close resemblance to that from China isolate.
- Refinement of the genetic linkage maps was carried out using good Presence Absence Variants (PAVs) and Single Nucleotide Polymorphisms (SNPs) markers which grouped into 18 linkage groups with the total length of the map being 6666.2 and 8779.9 cM for *Hevea brasiliensis* and *H. benthamiana*, respectively.

- Quantitative trait loci (QTLs) for resistance to three diseases caused by *Phytophthora meadii*, *Corynespora cassiicola* and *Colletotrichum acutatum* were identified from the paternal disease resistant parent *H. benthamiana*.
- Validation of QTL markers and fine mapping of the QTL regions for disease resistance was carried out using KASP marker technology.
- *Corynespora* Task Force meetings and disease surveys were conducted in disease prone areas of South Karnataka and North Kerala. The disease incidence in general was low in Kasargod, Kundapura and Mangalore region, however severe disease leading to >80% defoliation was observed in a few locations. Severity was found low in clone RRIL 414. The awareness meetings held in these regions were found effective.
- New generation fungicide, Pyroclostrobin + metiram (0.06%) was found effective for *Corynespora* leaf disease after evaluation in hot-spots in Karnataka.
- The integrated treatments using antagonistic bacteria and reduced chemical concentration (Carbendazim 0.025% + antagonistic bacteria) gave comparable *Corynespora* leaf disease control in nursery
- New talc -based bio-formulation was developed with consortium of three bacteria and phospho fungi. The growth promoting bacteria with 25% fertilizer were developed as tablet and upon evaluation, found promoting growth of rubber seedlings. The survival of organisms and compatibility were found satisfactory.
- Integrated control of powdery mildew leaf disease was initiated using beneficial microbes and half dose of recommended fungicide.
- Studies on yield loss due to ALF recorded 27% and 3% yield reduction in clones RRIL 414 and PB 260 respectively when left unprotected. No reduction in yield was registered for RRIL 429 and RRIL 422 when unprotected. Assessment of combined effect of ALF and powdery mildew diseases in clones RRIL 105, RRIM 600, PB 235 and PB 5/51 indicated 6 %, 54 %, 29 % and 45 % reduction in yield when left unprotected.



- Modified Root Trainer cups designed for raising plants for crown budding in nursery were found promising.
- A new compact tractor was field – tested for its compatibility in attaching High Tree Mist Blower for low volume spraying in rubber plantations and was found suitable and hence the Scientific Advisory Committee (SAC) approved.

6.0 Environmental protection and climate studies

- Attempt was made to analyse the suitability of left wing extremism affected (LWE) states for rubber cultivation using the Climate Tolerance Limits (CTL). Results showed that a total of 10 districts could be selected from the LWE districts within the normal CTL. By relaxing the CTL favourability by 10% from the normal, a total of 26 districts could be identified. Further relaxing it to 20% from the normal, a total of 76 districts within 8 states emerged as suitable for rubber expansion.
- Documented gridded data on Tmax, Tmin and Tmean to prove the already indicated result on prevalence of high temperature conditions during June to September in Northeast India compared to traditional rubber growing region during SW monsoon.
- Characterized the El Nino events from 1950-51 to 2015-16 in terms of initiation, duration, maturity and intensity. SW monsoon rainfall of large spatial extent was influenced significantly ($p < .01$) by Oceanic Nino Index (ONI) of June to September. However, SW monsoon rainfall of small spatial scale is not influenced by ONI.
- Event time line, reports, forecasts and inferences related to the Ockhi cyclone was analysed and noted that wind speed in the range of 74-100 km/hr according to the event time line caused the uprooting of more than 6 lakh rubber trees in vast areas of Kanyakumari district in the early morning hours of 30 November 2017. This was the first such major natural calamity in traditional rubber growing region.
- Analysis of ground water level data from Kottayam and Pathanamthitta districts of Kerala (2007 to 2017) showed that there is a decrease in ground water level in many regions of the districts, including rubber growing regions. But it is unclear if rubber cultivation is in anyway responsible for this.

- Carbon foot - printing of rubber plantation area was estimated at 27 MT CO₂/ha in a life cycle analysis and accounting of emission from primary latex processing unit is in progress.

7.0 Socio-economic dimensions of the Indian NR sector

- Associated with Extension Department of Rubber Board in the preparation of proposals for convergence of MGNREGA and rubber cultivation in different states in India. Associated with assessment of income generation/compensation from NRETC Andaman and compensation to be paid to rubber growers on felling of trees for Kerala, Tamil Nadu, Karnataka and North East region.
- Estimated the Cost of cultivation/ production of natural rubber for the State of Kerala for 2017-18 under different cost scenarios.
- Updated the export, import and balance of trade data of India and ASEAN with regard to rubber and rubber products.

8.0 Primary processing of latex and dry rubber and development of specialty rubber compounds for specific industrial applications

- A novel method for the production of Solid Deproteinised Natural Rubber (DPNR) from latex, without employing centrifugation or creaming has been developed. This is simple, cost efficient and suitable for high volume production of DPNR. Plasticity retention index (PRI) of the raw DPNR is quite high compared to other commercially available DPNR.
- A new, efficient and cost effective process developed for recovery of rubber from skim latex. After treatment with chemical for 24-48 hr, the skim latex is acidified and skim rubber gets coagulated as lump with complete recovery achieved in single step.
- Study on preparation of NR latex: Carbon black master-batch was continued as a collaborative project with tyre industry. Master-batch samples were sent to the collaborator for evaluation of its technological properties. Based on the feedback, new samples were prepared using three different surfactants. Improved technological properties were obtained by the use of new surfactants compared to control.

- Six latex based master-batches of NR - silica were prepared from preserved field latex. Silica filled latex based master-batches and the dry master-batches were treated with 6 per cent silane (TESPT), based on the silica weight and the composites were heat treated and then compounded with other rubber ingredients. Cure characteristics and technological properties of these composites were studied. The latex silica master-batches archived better improvement in technological properties when compared to the dry master-batch silica composites.
- An improved abrasion resistant tyre tread formulation was developed with NR polymeric filler system. In this a blend of NR and polybutadiene rubber carbon black-master batch was used along with polymeric filler.
- The issue of low scorch associated with the revulcanization of devulcanized rubbers was studied. The addition of devulcanised rubber or crumb rubber powder in rubber compounds can lead to reduction in scorch time depending on the amount of the devulcanised rubber in the blend. The low scorch during revulcanization of devulcanized rubbers can be tackled with the aid of PVI, if the devulcanized rubber is revulcanized as such without adding any virgin rubber.
- Successfully completed the NABL surveillance audit of the Technical Consultancy Division and continued the testing and quality control activities of the products from MSME sector.
- A series of NR/PB blend formulations for on the road and off-the road applications were designed with a view to producing cost effective re-treading materials complying with ASRTU (Association of State Road Transport Undertakings) specifications.
- Designed natural rubber latex adhesives with a view to replacing the solvent based rubber adhesives.

9.0 Strengthening of Regional Research Stations (Other than NE)

- At RRS, Dhenkanal, location specific crop improvement research programs continued to screen / evolve clones for dry sub-humid region of Odisha, RRIL 208 (54.0 g/t/t) has been found most suitable for the region.

SCATC 88-13 followed by RRIM 600 and RRIL 105 also performed good both in terms of yield and growth. Elite polyclonal seedlings yielding up to 82.0 g/t/t have been selected. Ortel clones showed promising performance with yield ranging 90.0 g/t/ 10 tap.

- Controlled upward tapping with stimulants (Ethephone) application, resulted in twice to thrice higher yield to normal tapping.
- Polybag nursery of most popular clones including RRIL 400 series and RRIL 208 *etc.* has been raised with aim to laid out an on farm trial.
- From large scale trial 1990A, HP 372 recorded higher mean yield followed by HP 223
- At Hevea Breeding Station, Kadaba, Karnataka from small scale trial, it was observed that clone RRIL 5 recorded significantly higher yield of 72.4 g/t/t compared to RRIL 105 yield (42.51 g/t/t)

10.0 Strengthening of Regional Research Stations (North East Region)

- Under clone evaluation programme, highest annual yield was observed in RRIL 429 (37.7 g/t/t) followed by RRIM 600 (33.6 g/t/t) and RRIL 417 (31.7 g/t/t) in the on-farm trial at Pathalia, Tripura.
- In soil and water conservation experiment, total 3.5 t/ha/year of soil was recovered from the pits in rubber plantation where slope gradient was 4-8° and observed the rainfall of 2902 mm during that period.
- In cropping system experiment, higher dry rubber yield (1066 kg/ha) was recorded in rectangular system of planting compared to paired row planting (1027 kg/ha).
- In high density planting experiment, annual yield (1530 kg/ha) increased with increase in plant density (612 trees /ha), whereas high yield per tree was observed in the lower densities.
- In Rubber-tea intercropping experiment, weed species were surveyed. It was observed that seven weed species were found inside tea plantation and five more species were found in the rubber area.
- In ecological modeling project, invasive potential of three weed species and cultivated rubber differing in habit and bio-geographic origin were



assessed through ecological niche modelling in the context of 2000 and 2050 climate in North-east India. It was observed that the weed *Ageratum* and *Hevea* species of South American origin showed higher potential to grow in North East region of India by 2050 compared to two weed species of South Asian origin.

- At RRS, Guwahati, planting of 11 clones and 9 ortets completed in OFT at Namsai, Arunachal Pradesh for the first clone evaluation trial in Arunachal Pradesh.
- In nursery evaluation of ortets selected from different regions (Guwahati, Tura, Agartala, Nagrakata and Dapchari) under the agro-climate of Nagrakata, performance of ortets developed in Guwahati showed high potential in terms of test tap yield followed by that of Nagrakata and Tura; this indicates better acclimatization of ortets of these three regions under this agro-climate. However, the performance of RRIM 600 was the best among all.
- GM rubber plants were raised in polybags for field planting in Sarutari farm, Assam.
- Screened twenty (20) promising mother trees showing above 60 g/t/t yield in mature phase after second year of tapping and continued regular monitoring of these trees.
- Growth of rubber in high pH (7.9) soil was at par with normal soil though in general, growth of plants in normal pH was better than high pH soil.
- Three on farm trials were started during 2009 and 2010. Trial-I includes blocks of six clones, viz. RRII 417, RRII 422, RRII 429, PB 235, RRIM 203 and RRIM 600, in Mendipathar (North Garo Hills) and Trial-II includes four clones viz. RRII 417, RRII 422, RRII 429 and RRIM 600 in Bolchugre, West Garo Hills. Preliminary data on yield states that highest mean annual yield was recorded in RRII 429 ($35.0 \text{ g t}^{-1} \text{ t}^{-1}$) followed by RRIM 600 ($32.9 \text{ g t}^{-1} \text{ t}^{-1}$) and RRII 422 ($32.0 \text{ g t}^{-1} \text{ t}^{-1}$) and lowest yield was recorded in PB 235 ($22.1 \text{ g t}^{-1} \text{ t}^{-1}$).
- In half-sib progeny trial, progenies from the clone SCATC 88/13 showed appreciable potential followed by the germplasm RO 5363 compared to that from RRIM 600.
- Nursery evaluation of polyclonal seedlings trial- 2014 has been completed and on the basis of test tap yield, top 25 best performing

progenies have been selected and maintained as bud-woods at Rubber Board campus, Tura and five progenies have been selected at RRS, Ganolgre farm for further evaluation.

- In order to maintain the 1st, 2nd, 3rd and 4th set of Germplasm Arboretum under the agro-climatic condition of Garo Hills of Meghalaya at Tekragre farm near Anogre. The jungle clearing was completed for 78 plants belonging to 26 accessions in the 4th set of germplasm field planting and lining work was also completed. Field planting done in the May 2018.
- In the Soil fertility mapping project for NE, geo-referenced soil samples were collected from the rubber growing areas from different states.
 - Meghalaya(Garo hills) (West, North, East and South-west district)
 - West Bengal - completed (80 samples)
 - Assam-completed two districts (75 samples)
 - Arunachal Pradesh - completed three districts (50%) (62 samples)
 - Manipur - some parts of Manipur have been completed (40%) (40 samples)
 - Tripura (Completed West Tripura and Sepaijhala District) - 263 samples

11.0 Research Fellowship Scheme

Under RRII Fellowship scheme, only one Junior Research Fellow is engaged for the last two years.

12.0 Scientific Advisory Committee (SAC) Recommendations

During the reporting year, the following recommendations were approved by SAC :

- Paired row system of planting (3.2 x 5.0 m within the paired row and 9.0 m between the paired rows with 440 plants/ha), can be recommended as an alternate planting system for the grower who wants to remuneratively cultivate intercrops for the entire immaturity period in traditional (Kerala) area and North East India.
- Upland rice, maize, cowpea and tuber crops like colocasia and elephant foot yam can be grown as suitable intercrops in immature rubber in North East India.
- Recommendation of use of water-based fungicide thiophanate methyl (0.07%) for effective control of Corynespora Leaf Disease (CLD) in immature rubber plantations. The cost of the new fungicide

is on par with recommended fungicide, carbendazim. It also adopted recommendation of a combination fungicide, (SAAF) containing carbendazim (12%) and mancozeb (63%) at 0.2% of the product for effective control of *Corynespora* Leaf Disease in immature rubber plantations.

- Conservation pits @ 250/ha may be maintained in immature rubber to facilitate rain water harvesting and soil moisture conservation. The pits may be opened in between two plants, alternatively in the interspace and closer to the platform. For the initial three years of immature phase forking the plant basin during the month of January followed by heavy mulching. Minimum three rounds of mulching, *i.e.*, immediately after planting, after the end of rainy season and after forking the basin in January - for initial three years.
- Recommended TAFE compact tractor MF6028 manufactured by M/s Tractors and Farm Equipment Limited (TAFE), Chennai, as suitable for low volume spraying in rubber plantations using Aspee-RRII tractor-mounted high tree mist blower. This compact tractor can be used for low volume spraying in mature rubber plantations for delivering spray fluid up to 80 feet height with a discharge of 1000ml per minute.
- Recommendation of an additional rolling of wet ribbed sheet coagula (after turning the sheet upside down), through a roller set with upper plain and lower grooved rollers or a roller set having pair of grooved rollers that can reduce the sheet thickness and increase the surface area. This leads to saving of drying time by 25% without affecting the sheet quality.
- A new region specific advisory of clones suited to each of the nine agro-climatically distinct zones in the traditional and non-traditional regions of rubber cultivation India was formulated and approved in the reporting year for communicating to the rubber plantation sector.

Table 57: Region-Specific Clone recommendations

Region	States/ Districts	Clones recommended
North East India	Tripura, Assam, Northern West Bengal and Meghalaya	RRII 208, RRII 429, RRIM 600
East and West Central India	Maharashtra and Odisha	RRII 429, RRII 208, RRII 430, RRIM 600
South-West Karnataka and Goa	Goa and Dakshina Kannada	RRII 430, RRII 414, GT 1, RRII 203
North Kerala	Kozhikode, Malappuram, Kannur and Kasargode	RRII 430, RRII 417, RRII 105
North Central Kerala	Trichur, Palakkad	RRII 417, RRII 429, RRII 430
Central Kerala	Pathanamthitta, Kottayam, Ernakulam and Alapuzha	RRII 430, RRII 414, RRII 417
South Kerala	Kollam, Trivandrum	RRII 422, RRII 430, RRII 417
Tropical high altitude regions	Wyanad, Idukki, Vithura and Kulathupuzha	RRII 422, RRII 429, RRII 417
South Tamil Nadu	Kanyakumari	RRII 430, RRII 105, RRII 429

13.0 Linkages with national and international centres of excellence and overseas training

External funded projects

- Department of Science and Technology Funded Project: Quantitative Trait Loci mapping for analyzing genetic determination of disease resistance and DNA marker development based selection tools for resistance breeding in rubber (*Hevea brasiliensis*) for 3 years from May 2017 with project outlay of ₹ 83.75 lakh.
- State Horticulture Mission, Kerala: Evaluation of Pollination support through Beekeeping.



Collaborative projects with national centre

- Collaborated with the National Bureau of Soil Survey and Land Use Planning, ICAR on soil fertility mapping and soil health monitoring of traditional rubber growing region.

14.0 Events

14.1 Awards received by the scientists of RRII

- Dr. C. Bindu Roy, Senior Scientist, Crop Protection Division received the “Australian Endeavour Fellowship Award” of the Australian Government for a period of six months from 22nd November 2017 to 21st May 2018.

14.2 RRII Scientific Seminar

RRII conducted 11 internal scientific seminars in which fourteen research papers, two project proposals and seven doctorate theses were presented and discussed.

14.3 Highlights / Exceptions

- RRII collected ₹ 83.75 lakh as testing charges and consultancy fee and offered advisory service to 3,122 stakeholders during the year 2017–18.
- RRII generated an amount of ₹ 510 lakh (provisional) as Internal Budgetary (IEBR) fund during the year under report.

15.0 RRII Publications – 65 Nos

16.0 Research Support Services

Scientists from RRII functioned as faculty in various training programmes conducted by Rubber Training Institute of the Board. Supporting services such as the Library, Computer Centre, Instrumentation section and Maintenance wing provided logistic support to all research laboratories and regional research stations. Regular updates were provided for Rubber Board website “www.rubberboard.org.in”.



TAFE compact MF 6028 tractor mounted with high tree mist-blower

PART VI

TRAINING

Training being one of the most important functions envisaged in the Rubber Act, an exclusive Department was established in 1994 to undertake training and skill development requirements of all stakeholders of rubber sector in the country. Rubber Training Institute (RTI) established in 2000 has the mandate for human resource development in all sectors of the NR industry comprising production, processing, product manufacturing, marketing and consuming sectors and has a significant role in the development of rubber industry.

The range of clientele of the RTI is from small farmers to large plantation companies and from cottage industry entrepreneurs to large manufacturing companies. Rubber dealers, processing companies, marketing firms, farmers and co-operative initiatives are clients of the RTI. The range of personnel to be trained spreads from students to experienced rubber technologists/ industrialists, tribal farmers to plantation executives, village level rubber dealers to exporters, rural women self-help group (SHG) members to corporate executives.

The Institute has designed more than 70 course modules on varying subjects and duration to cater to the needs of the clients. Besides, specialized / advanced follow up trainings are designed on specific demands from industry. The RTI is an ISO 9001-2008 certified establishment. The Quality Policy of the Institute is to continually improve the effectiveness of the training programmes through the Quality Management System to ensure satisfaction of the clients.

Objectives of the Institute

- Improvement and updating of technical knowledge and skill of stakeholders of rubber industry to achieve cost – quality competitiveness and develop competent manpower.
- Regional programmes to transfer location-specific farming technologies in NT/NE regions.
- Entrepreneurship development for rubber based small and medium scale industry.
- Training in advanced areas and technologies related to product manufacture towards improving competitiveness.
- Skill development and capacity building for youth for employment/ entrepreneurship and to meet skilled manpower requirement.
- Re-skilling/up-skilling programmes in a massive way for existing manpower in the farming, tapping, processing and product manufacturing sectors to make up their skill gap and adopt scientific and cost effective practices.
- Capacity building and leadership development for improving the business skill of various clusters like RPS, Rubber Marketing Co-operatives, rubber processing and product manufacturing groups, MSMEs and Self-Help Groups, in the unorganized sector.
- Promotion of additional income generation activities in plantations.
- Curriculum linked training of students for improving employability.
- Empowerment of weaker community and women in rubber sector
- Update technical competence and improve efficiency/productivity of Board's employees
- ToT programmes for developing resource personnel for skill projects
- Improvement programmes for internal faculty through deputation to national and international Institutes.
- Sharing of knowledge and skills through international programmes



Structure of Rubber Training Institute

For focused planning and execution, the Institute has four Divisions viz.,

1. Rubber Plantation Development (RPD)
2. Rubber Industry Development (RID)
3. Rubber Extension Development (RED)
4. Human Resources Development (HRD)

Annual Training Calendar, incorporating programmes of all the Divisions is prepared in advance and programmes are conducted for various target groups. Besides, need based and collaborative focused programmes were also organized. Being adjacent to the Rubber Research Institute of India (RRII), RTI is benefited by the excellent laboratory and library facilities of RRII.

The Institute has three demonstration laboratories for 1) Latex product manufacturing 2) Dry rubber product manufacturing and 3) Quality Control of latex and dry rubber based compounds and products. It also has state of art training halls, computer laboratory, library, well equipped auditorium and a hostel. In addition to the core faculty of four senior officers of RTI, an internal faculty bank of around 125 professionals including scientists, technologists, engineers, extension officers, technical personnel, senior officers of the Rubber Board specialized in various fields of rubber sector is maintained by the Institute. An external faculty bank is also maintained for outsourcing expertise in specific areas and to address the shortage of internal faculty as per need. Also, a faculty bank of about 350 certified trainers (on imparting ToT) are maintained for the external funded skill projects.

Course planning

Course objective is fixed based on the needs of the clientele and accordingly content is developed. Further modifications, are made based on the need analysis of the participants on the first day. Course materials/ training aids are prepared and pre/ post evaluations are carried out to measure the level of knowledge transfer. Training methodology followed includes: i) lecture session using PowerPoint presentation, ii) field/practical demonstration, iii) video films, iv) estate/ factory visit and Interaction, v) group discussions, case studies / brain storming sessions, etc.

6.1 External funded projects for skill development

Apart from the calendared programmes, RTI undertook the following external funded projects for skill development.

6.1.1 Rubber industry sector: Collaborative project with ASAP, Govt. of Kerala

RTI undertook collaborative projects with Additional Skill Acquisition Programme (ASAP), Higher Education Department, Government of Kerala for conducting the following courses to enhance employability of students:

- Lab Chemist Course for B.Sc. students
- Junior Rubber Technician Course for plus two students

During the reporting year, RTI imparted training for 222 students with a project cost of ₹ 25 lakh and got approval for 202 students at an outlay of ₹ 20.20 lakh for the year 2018 – 19.

6.1.2 PMKVY Skill Project, Government of India – Recognition of Prior Learning (RPL) training for Rubber plantation sector

The Institute had launched the RPL project in 2016 in collaboration with Rubber Production Department under the Pradhan Mantri Kaushal Vikas Yojana, Ministry of Skill Development and Entrepreneurship (MSDE), Government of India. On successful completion of the first phase of the RPL Project in Kerala for 10,000 persons, the Ministry gave approval for 22,040 participants from five states viz., Kerala, Karnataka, Tamil Nadu, Tripura and Assam for providing RPL programme in four job roles during 2017 – 18 with a financial outlay of ₹ 6.17 crore inclusive of all costs. The project was a great success and the Board has been adjudged as 'The Champion PIA' among the PIAs in Government sector by the MSDE, Government of India. Also the 'Best Training Provider' of Rubber Skill Development Council (RSDC) was awarded to Rubber Board. The Board submitted target proposal to NSDC/RSDC for the next four years @ 50,000 beneficiaries per year for RPL project and @ 6000 beneficiaries per year for new skilling under special project for different job roles as per need covering all NR producing states in the country.

6.2 Training programmes during 2017-18

Details of training programmes organized during the year are furnished in Table 58.

Table 58: Highlights of Training Programmes conducted by RTI during 2017 – 18

Sl. No.	Programmes	No. of trainings	No. of participants	No. of mandays
A. Calendared programmes of RTI				
1	Plantation Development Programmes	46	770	1,028
2	Rubber Industry Development Programmes excluding ASAP courses	63	863	4,411
3	Rubber Extension Development Programmes excluding PMKVY programmes	72	2,404	6,845
4	Human Resource Development Programmes	11	233	571
Sub-Total (A)		192	4,270	12,855
B. External funded skill projects				
1.	ASAP Project, GoK- Industry sector (3 Courses)	8 batches	222	7,783
2.	PMKVY-RPL Project, GoI – Plantation sector: Collaborative Project with RPD (4 Job roles)	739 batches	22,040	66,120
3.	PMKVY-RPL Project, GoI – Industry sector: Industrial workers in rubber sector	1	24	72
Sub-Total (B)		748	22,286	73,975
Grand total (A) + (B)		940	26,556	86,830

Brief report on the achievements of each division during 2017-18 is furnished below:

6.3 Rubber Plantation Development (RPD) Division

This Division focuses to impart scientific knowledge for proper location specific cultivation practices for achieving increased production and productivity at reduced cost without compromising quality. Latest research findings were given due thrust in the programmes. Emphasis was also given for online system of fertilizer recommendation and region-wise planting material recommendations. Conducted training in emerging trends and changes for entrepreneur development for small growers under Zonal Offices Agartala and Guwahati in collaboration with IIPM, Bengaluru and Rubber Production Department. In convergence with the Land Resource Department of Nagaland and RO Dimapur, 143 growers from 11 different regions were given training in scientific tapping and processing. Thrust was given for productivity enhancement through latest developments in latex harvest technology and

intercropping combined with field demonstrations and skill upgradation. Activities of the Rubber Plantation Development (RPD) Division are grouped under six major heads.

6.3.1 Rubber Plantation Development Programmes

- Short term training in rubber cultivation for small growers: To impart scientific knowledge in planting operations, crop harvesting and processing.
- Short term training in cultivation for estate sector: To impart scientific knowledge in cultivation to estate managers and interested persons.
- Short term training on cultivation for growers from Northeast and Non-Traditional (NT) region in India : a need based programme for imparting scientific knowledge in location specific cultivation practices,



- iv. Advanced training in cultivation and plantation management: Need based programme conducted to impart latest developments in cultivation and plantation management.
- v. Specialized training in plantation management: Need based programme to impart knowledge on plantation management for reducing cost of production.
- vi. Training in cultivation for Government officials/ agricultural officers of state and NT region
- vii. Specialized training in testing of soil/ organic manure

6.3.2 General Training Programmes

Focused training in various aspects of cultivation and processing are organized as per schedule and on need basis.

- 1) Beekeeping in rubber plantations
- 2) Mushroom culture
- 3) Spraying and maintenance of sprayers
- 4) Biogas generation from effluents
- 5) Latex harvest technology
- 6) Nursery management
- 7) Pests and disease control
- 8) Budding techniques
- 9) Modern clones
- 10) Rubber wood processing, furniture making and quality control
- 11) Root trainer plants
- 12) Clone identification

- 13) Soil and water conservation in rubber plantation
- 14) Rain guarding
- 15) Low frequency tapping (LFT) and Controlled upward tapping (CUT)
- 16) Manuring
- 17) Lining ,Pitting, terracing and planting
- 18) Intercropping
- 19) Planting and upkeep

6.3.3 Training programmes for students

- (i) Short term programme are arranged in cultivation and plantation management, on need basis, for students from Agricultural Universities/other academic institutions.
- (ii) Project work in rubber plantation

6.3.4 Regional Programmes

Regional training programmes are arranged including for SC category, in NT/NE regions.

6.3.5 Sastradarshan Programmes

Visit cum interaction programmes for students from Agricultural/VHSC/Botany disciplines are organized for familiarizing with the activities/ laboratories and also to have interaction with experts in RTI and RRIL, Kottayam.

6.3.6 International Training

- 1) Advanced training in cultivation and plantation management (Need based)
- 2) Overseas training on rubber cultivation

Table 59: Training imparted under RPD Training Division: 2017-18

Course Code	Course Title	Participants	Duration (days)	No. of batches	No. of Participants	No. of mandays
a. Rubber Plantation Development Programmes						
RC 02	Short term training in rubber cultivation for Estate Sector	Rubber Growers /Farmers	5	2	10	50
RC 04	Training in rubber cultivation & Plantation Management	Field Assts. From M/a. Arasu Ruber Corpn, Tamil Nadu	5	2	19	95
RC 05	Specialized Training in cultivation for estate sector	From Estate Sector	7	2	11	49
Sub total				6	40	194
b. General Training Programmes						
GT 01	Training in Bee-Keeping	Rubber Growers /Farmers	2	2	88	88
GT 03	Training in Spraying and Maintenance of Sprayers	Rubber Growers/ Farmers	1	1	3	3
GT 05	Training on Latex Harvest Technology	Rubber Growers /Farmers	2	4	32	64

Course Code	Course Title	Participants	Duration (days)	No. of batches	No. of Participants	No. of mandays
GT 07	Training in Pest & Disease control	Rubber Growers /Farmers	1	1	7	7
GT 08	Training in Budding techniques	Rubber Growers /Farmers	1	1	10	10
GT 09	Training in Modern Clones	Rubber Growers /Farmers	1	1	3	3
GT 15	Training in low frequency and controlled upward tapping	Rubber Growers /Farmers	1	1	16	16
GT 18	Training in Intercropping in Rubber	Growers/interested persons	1	2	9	9
GT 19	Training in Planting & Upkeeping	Growers/interested persons	1	1	8	8
Sub Total				14	176	208
c. Training programme for students						
ED 04	Rubber cultivation & Plantation Management	Students from Karpagam University, Tamil Nadu	10	1	8	80
d. Outstation Training programmes						
DT06	Emerging trends and changes for entrepreneurship development in rubber sector for small growers (IIPM) – (Collaborative programme)	Small growers in rubber sector under ZO, Guwahati / ZO, Agartala	2	2	71	71
DT 06	Training in scientific tapping & processing (in convergence with the scheme of Land Resource Dept., Nagaland and coordinated by RP Dept)	Growers from Peren, Dimapur and wokha Dists of Nagaland	1	12	206	206
DT 04	Specialized training in LHT & Pests & Disease control	Staff of Chanda- na-ppally Estate, PCK Limited.	1	2	43	43
Sub Total				16	320	320
e. Sastradarshan						
VT 03	Sastradarsan programme	Farmers/Students from Agricultural/ VHSC/ Botany	1	9	226	226
Grand Total				46	770	1,028

6.4 Rubber Industry Development (RID) Division

The Division addresses training needs of processing, product manufacturing, marketing and consuming sectors of rubber industry. Major thrust areas are technical updation, quality improvement and cost reduction which indirectly contribute in improving the marketability of NR. The Division also conducts entrepreneurship development and educational programmes towards employment generation and in meeting the technical as well as skilled manpower requirement of rubber industry.

RTI collaborated with professional bodies and Universities in India to conduct advanced

programmes for industry personnel and students respectively. Programmes to be highlighted are advanced training in rubber products manufacture / in rubber cluster in Kolkata supported by MSME, specialized training in testing and quality control of rubber/rubber products, ETP/quality improvement programmes and skill development programmes funded by ASAP for employability enhancement of students.

The Division also provided placement support for needy candidates. RTI commenced training for the workers of industries under PMKVY-RPL programme. Activities of the Division are grouped under nine major heads:



6.4.1 Rubber Processing and Quality Improvement Programmes

- i) Short term training in rubber processing and quality control: To provide scientific knowledge and skills for processing the crop into various marketable forms and its quality control.
- ii) Specialized training in processing of block rubber/ cenex: Need based programme to impart training on processing and skill development / updation in testing of ISNR, cenex and creamed latex.
- iii) Training in sheet processing and grading: To impart scientific knowledge in processing and grading.
- iv) Training in Total Quality Management (TQM) and ISO 9000 Quality System: Need based programme to impart training on management of quality for ensuring consistency.
- v) Training in effluent treatment and pollution control: Need based programme to impart awareness on pollution control and effluent management.

6.4.2 Rubber Industrial Development Programmes

- 1) Short term training in latex goods manufacture: Entrepreneurship development through imparting scientific knowledge and skills in the manufacture of latex based products.
- 2) Short term training in dry rubber goods manufacture: Entrepreneurship development through imparting scientific knowledge and skills in the manufacture of rubber products using dry forms of NR and SR and testing of rubber products.
- 3) Advanced training in rubber products development and manufacture: Need based programme to impart training on advanced techniques of rubber products manufacture and product development to improve competency.
- 4) Specialized training in testing and quality control of rubber and rubber products: Need based programme to impart knowledge and develop skill in testing of rubber and rubber products.
- 5) Training in entrepreneur development in rubber Industry (Need based) : Orientation programme to develop entrepreneurs in rubber based industry.

- 6) Specialized training in latex and dry rubber products: Need based programme to impart training on manufacture of specific products including its testing, quality control and other recent developments.

6.4.3 Training Programmes for Students

Programmes are arranged in rubber product manufacture and testing for Diploma /PG Diploma/ B.Tech./ M.Tech./ B.Sc./M.Sc. students of various Universities/ Colleges.

1. Short term training on Rubber products manufacture and Testing
2. Specialized training in Rubber Technology for P.G. Diploma students (Need based)
3. Training in Rubber Technology for B.Tech. / M./Tech. students(Need based)
4. Faculty improvement programme in Rubber Technology
5. Short term training in Entrepreneur development in rubber industry.
6. Project work in Rubber Technology

6.4.4 Market and Export Development Programmes

- I. Short term training on marketing and export management
- II. Training on export management

6.4.5 Outstation Training Programmes:

Need based programmes on entrepreneur development and quality control and other needy topics are organized for industry as per need.

- i. Orientation training in Rubber based industry
- ii. Training in Quality control of marketable forms of NR

6.4.6 Sastradarshan Programmes

Visit cum interaction programmes for students in Rubber Technology from VHSC/ Diploma/B.Tech/M. Sc/B.Sc. disciplines are conducted for familiarizing with the activities/ laboratories and also to have interaction with experts in RTI and RRII

6.4.7 Collaborative Programmes

Advanced programmes on specific topics in collaboration with professional bodies are arranged on need based.

- i. Advanced training in rubber products manufacture
- ii. Orientation programme cum placement drive
- iii. Trainers training programme
- iv. Entrepreneurship development programmes

6.4.8 International Training

Advanced training on Rubber products manufacture and Testing: Need based programmes to impart and share knowledge on latest developments in rubber products manufacture and product development.

6.4.9 External funded Project

- i) RID Division undertook collaborative project with Additional Skill Acquisition Programme (ASAP), Govt. of Kerala for conducting the following courses to enhance employability of students.

- *Lab Chemist- Summer Skill School* for B.Sc. completed students (Crash Programme)
- *Lab Chemist Course – Regular* for B.Sc. first year completed students (Round the year Programme)
- *Junior Rubber Technician-Regular Course* for plus one completed students (Round the year Programme)

- ii) PMKVY – RPL industry programme :
Commenced for workers in rubber industry.

Placement support was also given for needy candidates. Achievements and outcome of the RID Training Division are provided in Table 60.

Table 60: Training imparted under RID Training Division during 2017-18

Course Code	Course Title	Participants	Duration (days)	No. of batches	No. of participants	No. of mandays
a. Rubber processing and quality improvement programmes						
RP 02	Training in sheet rubber processing and grading	Growers/Processors/ Dealers/consumers/ Entrepreneurs	10	5	97	194
RP 04	Specialized training in testing of DRC of NR latex	Technical persons from Rubber Sector	21	9	9	21
RP 10	Specialized training in smoke house construction & design aspects	Person from Tripura	1	1	1	1
Sub total				15	107	216
b. Rubber Industrial Development Programmes						
RM01	Short term training in latex goods manufacture	Entrepreneurs/ traders/ manufacturers	27	3	41	265
RM02	Short term training in dry rubber goods manufacture	Entrepreneurs/ traders/ manufacturers/ consumers	18	4	20	86
RM03	Advanced training in Rubber Products Manufacture	Technocrats from Rubber Industries	9	4	53	77
RM05	Specialized training in latex & dry rubber products/ compounding	Manufacturers of Jute carpets for export – Entrepreneur from Gujarat & Manarcad	8	7	8	9
Sub total				18	122	437



Course Code	Course Title	Participants	Duration (days)	No. of batches	No. of participants	No. of mandays
c. Training Programmes for Students						
D01	Short term training in rubber products manufacture & testing / latex technology	UG / PG Students from B.Voc. Industrial chemistry, SB College, Changanassery; Madras Christian College, GPTC – Nattakom, Bombay Polytechnic, MIT, STAS, Madurai Kamaraj, , UCTE & MG university	112	16	383	2,657
ED02	Training in rubber technology	B.Tech.Students from CUSAT, Cochin	20	1	22	440
ED 03	Training in Rubber Technology	M.Tech students, MG Univ.; CUSAT	45	4	38	465
ED06	Specialized training in Rubber Technology	Research Scholoars	10	1	2	20
ED 07	Project work in Rubber Technology	M.Sc. students, BAM College, Thuruthicadu	4	1	2	8
ED 08	Internship in Rubber Technology	BSc students, St. Thomas College, Pala	20	1	1	20
Sub total				24	448	3,610
d. Out station Training programmes						
TOT	Training of Trainers	Faculty of ASAP programme	3	1	5	15
e. Sastradarshan						
VT01	Sastradarshan programmes	M.Sc/ BSc Students /B.Tech students and Lab Chemist, ASAP taken by other agencies	6	6	205	205
Total				64	887	4,483
f. External funded project- ASAP, Govt. of Kerala						
ED10	Lab Chemist Course SSS – 4 batches completed Training & Internship	Lab Chemist students - (RTI, CFSC, Adoor)	44	4	109	4,796
ED10	Lab Chemist Course Regular- 3 batches (Internship is ongoing)	Lab Chemists of ASAP – RTI, Ktm, Perumbavoor	25	3	95	2,375
ED09	Junior Rubber Technician Course - 1 batch (Internship is ongoing)	JRT students from Velloor	37	1	18	612
Sub total				8	222	7,783
PMKVY RPL Industry programme						
Industrial workers in rubber sector			3	1	24	72
Grand Total				73	1,133	12,338

6.5 Rubber Extension Development Division

The Division focuses on transfer of technology to groups of farmers through organizing training programmes in various aspects of rubber cultivation, in decentralized mode. The topics for the year were LFT/CUT, intercropping, manuring & RubSIS, disease management, apiculture, RPS registration, accounts maintenance & auditing, GST and mushroom cultivation. Thrust was given mainly for additional income generating activities and cost reduction practices. Training programmes were also conducted in non-traditional areas for creating awareness among the stakeholders and farmers for the adoption of scientific/cost effective practices towards sustainability of rubber plantation industry in the context of price fall of NR and other challenges.

Another major activity undertaken was the massive launching of Skill development programmes under the PMKVY Scheme of Government of India in five states. Human Resources training programmes were also arranged in collaboration with National Board for Workers Education and Development, Kochi at tribal RPSs towards empowerment and capacity building of backward communities.

The programmes conducted by the Division are grouped as shown below:

6.5.1 Training for RPS sector

This includes the need based programmes for Directors of RPSs to impart leadership qualities and managerial skills enabling capacity building of the societies. The main aim is to improve the skills in entrepreneurship, problem solving, business management, accounting, collective decision making and other leadership qualities. Programmes for RPS are:

- a) Training in Business management skills to RPS members / Director Board members of RPS.
- b) Training for Collection Agents of RPS:-To develop collection agents of RPS as social change agents in RPS.
- c) Training in marketing/business management and GST to RB promoted processing/ trading companies:-To improve competency to take more challenges and innovative practices in the changed taxation regime.

6.5.2 Certificate course in Apiculture

One year certificate course in apiculture launched on trial basis last year in collaboration with one of the RPS towards promoting entrepreneurship and generating ancillary income from plantations, was found to be successful. Hence extended the programme to eight more centres in association with the regional offices to develop qualified bee-keepers. 194 candidates were undergoing training in these centres during the year.

6.5.3 Outstation training programmes

These programmes are sponsored by the RTI and other bodies and conducted in selected locations and as per demand from the RPS, SHGs, Govt. institutions, trading /manufacturing companies etc. Need based trainings on specified topics were imparted. The topic highlighted was on accounting & GST due to total change in the taxation system. Five days' training in latex processing and 10 days' training in tapping were given to nominees of M/s Apollo Tyres. The Division conducted three batches of five days' training in tapping to the inmates of Open Prison, Thiruvananthapuram. This skilling programme was useful in capacitating them to harvest their own rubber plantations and to earn livelihood and re-habilitation.

6.5.4 Visit cum Training Programmes (Sastradarsan)

Rubber growers, members of cooperative societies, RPS, SHGs, Kudumbasree labour groups and other related groups in rubber production and processing, get an opportunity to visit RTI and RRII and interact with scientists and technologists. These programmes are conducted on all Thursdays.

6.5.5 External funded Collaborative Project: PMKVY Skill Project, GOI-Recognition of Prior Learning training for rubber plantation sector.

i) RPL Project for re-skilling and up-skilling

Massive skill development programmes under the PMKVY Scheme of Govt. of India were undertaken by RED Division in collaboration with Rubber Production Dept. of Rubber Board. In Phase 2, the RPL programmes were conducted in four states, viz Kerala, Karnataka, Tripura and Assam in four job roles of tapping, processing, nursery and plantation workers. In the present context of shortage of skilled manpower, these re-skilling/up-skilling programmes were highly beneficial to the rubber growers/workers and to the rubber plantation sector as a whole.

Re-skilling/up-skilling in the job roles of Latex Harvest Technician, Latex Processing Technician-Rubber Sheeting, Nursery Worker-General and Plantation Worker was imparted to 22,040 candidates. Forty percent of the participants were small growers who opted self tapping. The Project was successfully executed during May–November 2017. Out of the total 22,040 participants trained in 739 batches under 42 regional offices in five states, 19,317 trainees were certified by National Skill Development Corporation.

ii) Short term training: For new skilling

RTI submitted a target proposal to NSDC/ RSDC for imparting new skill to 6000 persons under special project during 2018-19 in all the 15 rubber growing states in India for different plantation job roles, for approval.



Table 61: Trainings imparted under RED Training Division during 2017 – 18

Course Code	Course Title	Participants	Duration (days)	No. of batches	No. of participants	No. of mandays
Training for RPS sector						
RE 03	Training for collection agents of RPS	Collection agents of RPS	2	1	27	54
MD03	Training in GST & Co's Act	Officers of Trading/ Processing Co's. of the Rubber Board	1	1	22	22
Sub total				2	49	76
Apiculture Training-Certificate programme						
DT 05	Certificate programme in Apiculture (one year course) - collaborative programme with Palakkad RPS	Growers/ interested persons from Rubber Sector	Round the year program	22 (8 batches)	193	4,246
Sub total				22	193	4,246
Out station training programmes						
DT01	Training at RPS centers	RPS/SHG members	31	31	1,675	1,675
DT 02	Latex-sheet processing at TTS, Kothala/ Chirakadavu RPS & Nettukaltheri, Tvm.	SHG members/ Inmates of Open Jail	36	11	397	758
Sub total				42	2,072	2,433
Visit cum training programmes						
VT 01	Sastradarsan	Growers / RPS members/ Students	6	6	90	90
Sub total				6	90	90
TOTAL				72	2,404	6,845

External funded project- PMKVY RPL Project, Govt. of India						
RPL Programme - Job Role – Latex Harvest Technician (Tapper)		Tappers	3 days	630	18,358	55,074
RPL Programme -Job Role – Processing Technician - Rubber Sheeting		Persons engaged in RSS processing	3 days	57	1,607	4,821
RPL- General worker– Rubber Plantation			3 days	45	1,266	3,798
RPL-Rubber Nursery Worker - General			3 days	7	188	564
Sub total				739	21,419	64,257
Grand Total				811	23,823	71,102

RPL – Phase 2 training under PMKVY given to 22,040 persons in four states had a very good impact in rubber plantation sector. Apart from increase in production/ productivity and improvement in quality of the produce, reports were received from these areas on better employment and increased income for the beneficiaries trained under the scheme. In the case

of outstation programmes, data collected at random revealed that there has been ready impact on adoption of the practices especially in the ancillary income generation activities, such as apiculture and mushroom cultivation. Training imparted in RPS registration and GST was timely and useful in renewing the long term pending registrations towards GST.

6.6 Human Resources Development Division

Training programmes of the Division are mainly aimed at improving technical and managerial competency of employees of the Board. Unlike previous years, training was imparted in this line only

to selected categories as per need due to paucity of funds. Major focus was given for up-skilling extension personnel of RP Dept. to undertake more challenging and innovative activities towards sustainability of the plantation sector.

Table 62: Trainings imparted under HRD Training Division during 2017 – 18

Course Code	Course Title	Duration (days)	No of batches	No. of participants	No. of mandays
Human Resource Development Training - Indoor					
	Training to Survey Officers	9	1	11	99
	Refresher training for Field Men/ Field Attenders	13	1	11	143
TE 18	Training in Corynespora disease management to Extension officers of 5 ROs, conducted by RO Mangalore	1	1	22	22
ToT/ SDMS	RPL/PMKVY- ToT Officers/ SDMS training for Junior Assistants	5	5	155	155
Workshops					
	Upskill the operation of equipment in training hall - RTI employees	1	1	9	9
	Refresher trg. on General Office Procedures - RTI employees	1	1	23	23
Sub total			10	231	451
HRD training programmes in external agencies					
EA 01	Trg. to drivers of ICMR – Vector Control Station, Kottayam	3 months	1	2	120
Grand Total			11	233	571

The outcomes of the HR programmes are:

- Technical capacity building of officers of Mangalore, Kundapura, Puttur, Shivmogga and Kasaragod Regional Offices for the effective control of Corynespora disease in Karnataka and to chalk out action plan and disease management strategies.
- Skilling of survey staff and personnel from Field Man/ Field Attender category to handle alternate responsibilities in the context of restructuring of Rubber Board.
- Effective HR management through enhancement in competency of the officials.



6.7 Physical and Financial performance of RTI in 2017 – 18

Table – 63 Summary of Physical achievement of RTI during 2017-2018

Type of Training	Target	Achievement	
Calendared Programmes including ASAP courses	3,500 beneficiaries	4,516 beneficiaries	20,710 man days
PMKVY –RPL : RTI – RPD collaborative Project	22,040 beneficiaries	21,419 beneficiaries	64,257 man days
Grand Total		25,935 beneficiaries	84,967 mandays

Financial performance

During 2017-18, the Department of Training of the Board has been provided a budget allocation of ₹15.00 lakh excluding operating expenses, under the Human Resource Development scheme. An amount of ₹ 393.00 lakh was generated by Rubber Training Institute (RTI) through the various training activities including training under externally funded projects.

Training Department generated ₹ **365.65 lakh** from external funded projects as Internal and Extra Budgetary Resources (IEBR) during 2017-18, in addition to ₹ **27.35 lakh** through calendared programmes.



Best Training Provider Award to Rubber Board by RSDC for PMKVY Project

PART – VII

FINANCE & ACCOUNTS

The Finance & Accounts (F & A) Department is concerned with designing and operating the Accounting system, preparing budget, financial statements and reports, exercising budgetary control, effective resource planning and funds management, establishing and maintaining systems and procedures, arranging for statutory audit, advising on financial propriety and regularity of transactions, overseeing cost control, evaluation of projects/schemes, handling tax matters.

F & A Department undertook the following activities during the year:

1. Preparation of Annual Budget, Performance Budget.
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 Principal Director of Commercial Audit, Chennai and the audited accounts to the Board and both the Houses of Parliament.
4. Placing demands for grant from Government 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 of the Board.
6. Assisting the Cost Accounts Branch of the Ministry of Finance in ascertaining the cost of production of natural rubber (NR).
7. Preparation of financial statements for project reports and schemes.
8. Suggesting measures for augmenting the Internal and Extra Budgetary Resources (IEBR) of the Board and monitored the progress in collection of IEBR.
9. Dealing with various tax authorities viz, Central Income Tax, Agricultural Income Tax, Service Tax and Sales Tax / VAT / GST matters relating to the activities of the Board.
10. Co-ordinating the activities of the companies jointly promoted by the Rubber Board and Rubber Producers' Societies (RPS).
11. Drawal and disbursement of pay and other entitlements of the employees of the Board based on the orders issued by Government of India from time to time.
12. Drawal and disbursement of wages of the workers and management of statutory recoveries.
13. Regulating all receipts and payments of the Board through PFMS Platform / DBT mode and accounting the same.
14. Work connected with the RSDC scheme implemented by the Rubber Training Institute (RTI).
15. Management of Pension Fund and General Provident Fund and regulating disbursements therefrom.

Annual Accounts 2016-17

Annual Accounts for 2016-17 were presented to the Principal Director of Commercial Audit and Ex-officio Member, Audit Board, Chennai within the stipulated time. The Accounts along with the Audit Report from the Principal Director were placed in both houses of Parliament before the due dates.



Revised Estimates 2017-18 and Budget Estimates 2018-19

The Revised Budget for 2017-18 and Budget Estimates for 2018-19 were prepared within the timeframe and submitted to the Ministry.

Budget sanctioned (RE) for the year 2017-18 was ₹ 185.08 crore against which the actual expenditure for the year was ₹ 208.55 crore. Internal and Extra Budgetary Resources (IEBR) was ₹ 24.98 crore. Budget sanctioned for the year 2018-19 is ₹ 146.62 crore.

Management of Funds

General Fund

A fund amounting to ₹ 185.08 crore was received from Government as budgetary support out of which ₹ 7.80 lakh received for RISPC was refunded to the Ministry. The fund raised from internal resources was ₹ 24.98 crore.

General Provident Fund/Pension Fund

The balance under the General Provident Fund as on 31 March 2018 was ₹ 82.95 crore and that under Pension Fund ₹ 119.05 crore. The accumulations in the funds are invested in long-term securities to obtain optimum returns.

The Board is maintaining GPF accounts for 1,156 subscribers and there were 1,339 pensioners on the rolls as on 31 March 2018.

Cost Accounts

The 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.

PART – VIII

LICENSING AND EXCISE DUTY

Transactions in NR are regulated by licences issued by the Board under the relevant provisions of the Rubber Act 1947 and the Rubber Rules 1955. The Act provides for levy of a cess on all rubber produced in India, at the rate notified by the Government of India from time to time. This said cess is collected from the manufacturers who use such rubber. The amount so collected, reduced by the cost of collection, is credited to the Consolidated Fund of India and then be paid by the Central Government to the Board for being utilized for the purposes of the Act, if Parliament by appropriation made by law in this behalf so provides.

The Licensing and Excise Duty Department is entrusted with the task of issuing licences to deal in rubber (dealers), to acquire rubber for processing and for selling rubber so acquired (processors) and to purchase or otherwise acquire rubber for manufacturing of rubber based products (manufacturers), collection of cess on rubber and enforcement of various provisions of the Rubber Act, 1947. The Department has three Divisions viz., Licensing, Excise Duty (ED), and Revenue Intelligence (RI) functioning at Head office, Kottayam and ten Sub-offices located outside Kerala.

Assessment and Collection of Cess:

During the year, the ED Division collected ₹ 93.89 crore towards cess on rubber and interest on belated payment of cess (for the period of 9 months from October 2016 to June 2017 as cess on rubber was repealed with effect from 1 July 2017). In addition, ₹ 164 lakh was collected towards licence fees. With the collective efforts of Excise Duty Division and the Sub Offices, detected various irregularities/flouting of Rules committed by some manufacturers involving 11,693 MT and initiated compounding action against them.

1. Licensing Division

The Licensing Division deals with issue and renewal of licences to rubber dealers and processors and other related work such as agency registration, branch registration, shifting of business premises, etc.

Issue of Licence to Dealers

Ordinarily, licence to dealers is issued initially for three years and thereafter, renewed for every

five years. During the year, 898 new licences and 1,201 licences were issued for dealers. Total number of licensed dealers was 8,353 as on 31 March 2018 against 8,252 licensed dealers at the end of previous year. On the request of the licensees, 673 dealer's licences were cancelled during the year. State-wise distribution of licensed dealers as on 31 March 2018 is furnished in Table-64

Table 64: State wise distribution of licensed dealers as on 31.03.2018

Sl.No.	Name of State	No. of dealers
1	Andaman & Nicobar Islands	4
2	Andhra Pradesh	6
3	Arunachal Pradesh	2
4	Assam	71
5	Chandigarh	1
6	Chhattisgarh	1
7	Delhi	103
8	Goa	3
9	Gujarat	36
10	Haryana	57
11	Jharkhand	3
12	Karnataka	147
13	Kerala	6,495
14	Madhya Pradesh	5
15	Maharashtra	77
16	Manipur	1
17	Meghalaya	4
18	Nagaland	8
19	Odisha	2
20	Puducherry	2
21	Punjab	139
22	Rajasthan	23
23	Tamilnadu	277
24	Telangana	6
25	Tripura	749
26	Utharakand	1
27	Uttar Pradesh	55
28	West Bengal	75
Total		8,353



Registration of branches / letters of authorization

During the year, 871 branches were registered/ renewed while 27 of them were cancelled as requested by the licensees concerned. 134 letters of authorization for purchase of rubber on agency basis were also registered.

Latex collection

The Board granted permission to 73 dealers for collection of field latex for ammoniation / making superior grade sheets during the year under report.

Excise Duty collection / forfeiture of bank guarantee

The Licensing Division collected ₹ 0.70 lakh from the dealers as compounding charges on unauthorized / concealment dealings in rubber.

Approval of change of licensed premises/constitution/ additional godowns

Shifting of premises in respect of 127 dealers was approved. Approval was given for change of constitution of dealership in respect of 9 cases and 94 additional godowns were registered during the year 2017 – 18.

Issue of Licence to Processors

During the year, 4 new licences were granted 6 applications received for producing creamed latex and 20 licences were renewed on expiry of its validity. Total number of licensed Processors was 108 as on 31 March 2018 against 105 licensed dealers at the end of previous year. Out of 108 licensed Processors, 88 Processors are located in Kerala followed by 10 in Tamilnadu, 5 each in Karnataka and Tripura.

At the close of the year, there were 42 licensed centrifuging factories and crumb rubber units in the country. Seven processors are licensed for producing creamed latex and others produce various forms of processed rubber.

2. Excise Duty Division

The Division discharges the functions of issue and renewal of licence to manufacturers, registration of authorizations issued by manufacturers to their purchase agents, assessment and collection of cess on rubber and remittance of the cess so collected to the Consolidated Fund of India. Further, the Division processes the cases of unpaid cess to initiate revenue recovery proceedings, takes action against violators of the provisions of the Rubber Act and the Rubber Rules, conditions of licence, etc.

Issue of Licence to manufacturers

During the year, the Division issued 318 fresh licences and renewed 3,865 licences. Total number of licensed manufacturers was 4,183 to purchase / otherwise acquire rubber as on 31 March 2018 as against 4,295 at the end of the previous year.

Table 65: State-wise distribution of licences issued to manufacturers in 2017–18

Sl.No	Name of State/ Union Territory	Number of units
1	Andhra Pradesh	37
2	Assam	5
3	Bihar	5
4	Chandigarh	2
5	Chhattisgarh	11
6	Delhi	108
7	Goa, Daman, Diu	21
8	Gujarat	411
9	Haryana	328
10	Himachal Pradesh	21
11	Jammu & Kashmir	2
12	Jharkhand	24
13	Karnataka	166
14	Kerala	668
15	Madhya Pradesh	61
16	Maharashtra	478
17	Odisha	13
18	Puducherry	14
19	Punjab	383
20	Rajasthan	136
21	Tamilnadu	455
22	Telangana	94
23	Tripura	4
24	Uttar Pradesh	394
25	Uttarakhand	26
26	West Bengal	316
TOTAL		4,183

Registration of authorisation:

Registered 116 letters of authorisation issued by manufacturers to their purchase agents. Special letters of authorisation were issued to 12 institutions to purchase rubber for experiment / research purposes.

Publication of list of Dealers / licensed Manufacturers

List of dealers to whom licences were granted had been uploaded on the website of the Rubber Board and updated in real time. Similarly, the list of licensed rubber goods manufacturers was published on the website.

3. Revenue Intelligence Division

The main task of the Revenue Intelligence Division is prevention of cess evasion. The Division comprises its establishment cell, one central squad, five regional squads and two check posts. Two check posts were closed on 1 July 2017 consequent to the implementation of GST.

Activities of Inspection Squad

Revenue Intelligence (RI) Squad functioning from Taliparamba, Palakkad, Muvattupuzha, Kottayam, Punalur, Marthandam, Mangalore, Guwahati and Agartala could arrest illicit trade in rubber to a considerable extent and thereby augment cess collection. Inspections conducted by the officers helped in collecting monthly returns from a large number of delinquent dealers.

In addition, inspections were also conducted to ascertain suitability of the applicants and their business premises for the purpose of issuing licence to deal in rubber, registration of branches of dealers and approval of new/additional premises, issue of special authorization for collection of field latex, etc.

During 2017–18, Inspection Squad conducted 2589 inspections in the premises of dealers / processors and detected irregularities / flouting rules to the tune of 8,642 MT of rubber. The squad also conducted vehicle checking on road, which facilitated to restrict movement of illicit consignments of rubber to a great extent.

Check posts and Interstate movement of rubber till 30 June 2017

In order to strengthen surveillance of inter-state movement of rubber, checking of the documents accompanying rubber consignments was done round the clock at the check posts at Walayar in Palakkad district and Manjeswaram in Kasaragod district of Kerala state up to the period of 30 June 2017. On introduction of Goods and Service Tax (GST), the check posts were closed in line with closure of Sales Tax check posts.

The surveillance exercised at the said check posts helped in detecting instances of illicit transport of rubber. Several consignments of rubber were detained at the check posts on valid grounds and the material was allowed to cross the border on production of valid documents/receipt of satisfactory explanation/ remittance of cess/compounding charges, etc. wherever applicable.

Cross checking of monthly returns/Form N declarations.

Monthly returns and the copies of Form N declarations received from various dealers/ manufacturers/ processors/ estates were cross checked/ scrutinized at random. Wherever discrepancies/ irregularities were noticed, explanations / clarifications were called for from the licensees concerned and appropriate action was taken. During the year under report, RI Division collected ₹ 59.72 lakh as compounding charges on irregular transactions, which were detected by the concerted efforts put in by the Inspection Squads, Sub-Offices, check post machinery and the RI establishment.

Issue of 'N' forms

During 2017–18, the RI Division issued 771 books & one set of Form N declaration to various estates, manufacturers, processors and dealers and also supplied 8,345 books to various offices for issuing to estates, manufacturers, processors and dealers under their service area. During the year, the Division received 37,656 numbers of Form 'N' declarations (copy to Rubber Board) at the Division after dispatching rubber. The use of Form "N" was dispensed with effect from 13 December 2017 consequent on its abolition through gazette notification.



4. Sub – Offices

The ten Sub-offices stationed at New Delhi, Mumbai, Kolkata, Chennai, Jalandhar, Kanpur, Ahmedabad, Mangalore, Guwahati and Agartala pursued remittance of cess, submission of various returns, licence renewal applications, etc. and conducted inspections in the respective jurisdiction. The officers also kept vigil on the movement of rubber transported inter-state. As a part of austerity measures, the Board attached the Sub-office, Bengaluru with the Regional Office, Mangalore and Sub-office, Secunderabad was merged with Sub-office, Chennai with effect from 1 April 2017.

5. Compounding of Offence:

Contravening any provision of the Rubber Act or any rule made under the Act is punishable with imprisonment or with fine or with both. However, Section 26A of the Act provides for compounding of offences committed in respect of any quantity of rubber. During the year, with the collective efforts put in by the sub-offices, check posts, squad units and the three Divisions, the Department could collect ₹ 91.96 lakh from different offenders as compounding charges.

6. Awareness Campaign on GST

In order to impart awareness on GST among the stakeholders, the Board organized four meetings during April to June 2017.

SUMMARY

Overall performance of the Department during 2017-18 is as follows in a nutshell:

(a) Number of manufacturers licences issued for 2017-18	4,183
(b) Number of dealer's licences as on 31 March 2018	8,353
(c) Number of processor's licences as on 31 March 2018	108
(d) Number of inspections/other visits conducted	3,737
(e) Total quantity of rubber involved in irregular/ unlawful transactions detected	11,693 MT

Assessment of Cess and Collection of Cess/ compounding charges

(f) Number of assessments made during the year	7,413
(g) Amount assessed during the year	₹ 9,333 lakh
(h) Amount of cess and interest collected during the year	₹ 9,389 lakh
(i) Amount of compounding charges received during the year	₹ 91.95 lakh
(k) Amount of licence fee collected	₹ 163.91 lakh
(l) Cost of "N" form collected	₹ 2.16 lakh

PART IX

STATISTICS AND PLANNING

1. Broad functions and activities

Key functions of the Statistics & Planning (S&P) Department of the Board are:

- i. Publishing of official statistics of the Indian rubber industry by collecting statutory returns from growers, processors, traders and end-users.
- ii. Surveillance on the Indian and global rubber industry and identifying long and short term issues having potential implications for demand and supply of NR.
- iii. Conducting grassroots level sample surveys in the small holding sector to ascertain trend in monthly production and stock with the growers.
- iv. Planning and organization of periodical surveys and preparation of survey based analytical reports
- v. Drafting analytical reports on domestic rubber industry and report through statistical publications of the Rubber Board.
- vi. Projecting the long-term demand and supply for NR in India.
- vii. Servicing meetings of the 'Internal Statistics Monitoring Committee (ISMC)' to examine the key statistics
- viii. Servicing the meetings of the Rubber Board and the 'Statistics Consultative Panel (SCP)' by making presentation and preparing background notes.
- ix. Facilitate consultations with stakeholders.
- x. Rendering support services to the Rubber Research Institute of India in designing field and laboratory experiments.
- xi. Rendering all statistical services to international and inter-governmental rubber organizations.
- xii. Analyse weekly purchase from major tyre companies and negotiate with them, if there is a deficiency in purchase.

The S&P Department gathered statistical information through statutory returns submitted by growers, processors, traders and end-use products manufacturers. The Department gathered information on the trends in production and stock

of NR in the smallholding sector by conducting grassroots level sample surveys on a monthly basis, with the active involvement of the Board's Extension Officers. Gathered the details of latex collected from all LCC / GPCs in Kerala State and analyzed the data and used it for checking the monthly production and stock. In addition to that, production data were validated using the quantity directly purchased by manufacturers, the quantity directly purchased by the dealers from growers and the quantity of NR disposed of by dealers to the manufacturers. An Internal Statistics Monitoring Committee (ISMC) had examined and scrutinized monthly/ annual estimates of key statistical variables and projections before publishing.

The Department published the annual issue of "Indian Rubber Statistics"-Vol.38-2017.

Trends in the country's production, consumption, import, export and stock of NR, synthetic rubber (SR) and reclaimed rubber (RR) and prices of different grades of NR have been published in "Rubber Statistical News" on a monthly basis.

In addition to bringing out the statistical publications, the Department rendered information services to the Central Government, State Governments, different governmental and non-governmental bodies, industry associations, research institutions, individuals and the media. These include statistical information provided for framing answers to Parliament questions, information provided under the Right-to-Information Act and information services. The Department provided monthly report on Supply / Demand position and NR prices to the Ministry. The Department provided data for the publication of the Association of Natural Rubber Producing Countries (ANRPC) and International Rubber Study Group (IRSG).

- a) The Department organized meetings of ISMC and Statistics Consultative Panel (SCP)
- b) Analysed the data on impact of skill upgradation on improvement of tapping standards and yield data (PMKVY programme), prepared a report and submitted to the National Skills Development Centre (NSDC).



PART X

DIVISIONS UNDER THE DIRECT CONTROL OF THE EXECUTIVE DIRECTOR OF THE BOARD

1. PUBLICITY AND PUBLIC RELATIONS DIVISION

The P&PR Division undertook the following activities during 2017-2018.

1.1 Publications

The Division brought out 12 issues of 'Rubber' magazine in Malayalam, an extension magazine containing cultural operations to be undertaken in the near future, popular articles, rubber news and activities of the Board. The average monthly circulation was 20,632 of which 12,065 were life subscriptions and 7,265 annual subscriptions. The Division received 105 advertisements and raised revenue of ₹ 6.45 lakh. Twelve issues of 'Rubber Statistical News' and one issue of "Rubber Board Bulletin" were brought out during the year. Besides, the Division organized the printing of "Rubber Samachar" 4 issues).

1.2 Press Releases, Press Meet and Advertisements

The Division issued 279 press releases (Malayalam & English) on important developments in rubber sector and organized one Press Meet of the Chairman for announcing the launch of "RubSIS" at Kottayam Press Club. The Division released two advertisements and twelve tender notifications on behalf of the Board.

1.3 Seminar, Meetings and Exhibitions

The Division participated in four seminars, the Intermedia Publicity Co-Ordination Committee meeting, National Rubber Conference and Entrepreneurial Development Workshop at Kanjirappally jointly organized by the Rubber Board and National Institute of Agricultural Marketing (NIAM) during the year.

1.4 Right to Information Act 2005

Deputy Director functioned as the Link Public Information Officer of the Board and Assistant Director

as the nodal officer of the RTI web portal of the Board. During 2017-18, 19 RTI applications were received and disposed of. Monthly, quarterly and yearly reports on RTI were furnished to the Ministry and also published on the website of the Rubber Board.

1.5 Media Alert

The Division subscribed to 14 Malayalam and 7 English dailies. Press clippings (2827 numbers) related to rubber sector were scanned, compiled and forwarded to Chairman & Executive Director and senior officers of the Board, on daily basis..

1.6 Social media-Twitter, Facebook and WhatsApp

The Board launched official Twitter and Facebook accounts, and created an official WhatsApp group "The Rubber Info" during the year for the benefit of stakeholders and employees of the Board. The Division posted 241 messages in Twitter, 236 messages in Facebook and uploaded two video clippings on YouTube.

1.7 All India Radio and TV / Doordarsan

Officers of Division gave talks on different technical topics on rubber and participated in live phone-in-programme of All India Radio (AIR), Thiruvananthapuram. Deputy Director of the Division recorded a speech and interactive session regarding Golden Jubilee of Farm & Home programme. Broadcast a 6-episode series in Farm & Home programme in AIR, Thiruvananthapuram. The Division produced a documentary video on "Weekly tapping" and telecast three episodes on "Low Frequency Tapping (LFT)", "Clones" and "Intercropping" in Manorama TV channel.

Deputy Director of the Division attended a live phone-in-programme on "RubSIS", in Krishidarsan of Doordarsan. RubSIS is an online system for application of appropriate mix of fertilizers to specific plantations of rubber growers based on the soil nature.

1.8 Call centre

The Board had established a Call Centre at Head Office to function as a centralized contact point for telephone calls from rubber growers and other stakeholders seeking technical advice on all aspects of rubber cultivation and details of various services of the Board. Arranged 26 special phone-in programmes on relevant topics on a fortnightly basis.

1.9 Pradhan Manthri Kaushal Vikas Yojana (PMKVY) – RPL Project

The Division assisted in the publicity of “Recognition on Prior Learning (RPL)” programme (Phase-2) under PMKVY project for rubber plantation sector covering five states, namely Kerala, Tamilnadu, Karnataka, Assam and Tripura. The Division brought out 3 Handbooks on Rubber Plantation workers, Latex Processing Technician and Latex Harvest Technician for Rubber Tapper’s Skill Development programme.

1.10 India Rubber Meet – 2018

The P&PR Division served as Secretariat of India Rubber Meet (IRM) and Deputy Director served as Secretary. Initiated action for organizing next IRM in 2018.

1.11 Annual Mass Contact Programme – 2017 (Campaign)

Organized to print theme folders for Annual Mass Contact programme 2017.

1.12 General

The Division participated in an exhibition organized by the Malayala Manorama at Karshakashri Farm Fair–2018 at Thodupuzha. Deputy Director functioned as the nodal officer responsible to share news & events, policy updates, member country information etc. for uploading in the ANRPC Website. He also functioned as Editorial Committee member of Rubber Board’s Annual Report. Prepared and sent monthly activity report for Intermedia Publicity Co-ordination Committee meetings.

The Division liaised with EDP Division for revamping of Board’s website and also, attended works related to publications, digital indexing of articles, and established regular contacts with the offices of the Board through digital media.

2. VIGILANCE DIVISION

Vigilance Division enquired/ investigated sixteen complaints against five officers of Group A status, seven staff of Group C status and 4 persons in connection with various stakeholders of the Board during the year and on completion of the investigation, appropriate action was recommended / taken against the erring Board’s personnel / persons wherever found required/necessary.

2.1 Cases/Suspension

The Board initiated two major penalty proceedings against two officials and two minor penalty proceedings against two officials of the Board under the Rubber Board Service (CCA) Rules, 1961 during the year. The Division assisted the Disciplinary Authority in processing/initiating the aforesaid disciplinary cases. During the year, three major penalty orders and one minor penalty order were issued, in cases instituted during the previous year and the current year.

2.2 Vigilance Cases disposed of during 2017 – 18

- i. Major penalty proceedings against Sri. C. Ashok Kumar, Development Officer for fraudulent drawal of taxi hiring charges, producing bills for tours not conducted, manipulation of attendance register, unauthorized drawal of cash from office, submission of inflated / fake bills and manipulation in the sale of farm products were concluded by imposing the penalty of reduction to the lower time scale of pay to “Level – 8” at the stage of ₹ 76,500 under the 7th CPC pay matrix with immediate effect.
- ii. Major penalty proceedings against Sri. H. Mohandas, Jr. Assistant Grade-I for unauthorized absence was concluded by imposing on him the penalty of withholding of two increments for a period of two years without cumulative and immediate effect.
- iii. Minor penalty proceeding initiated against Sri. P.B. Sureshkumar, Bus Attendant for unnecessary verbal interference in the family matter of his neighbour and for showering her with filthy words and also for practising illegal co-habitation was concluded by imposing on him the penalty of withholding of one increment for a period of one year without cumulative effect.



- iv. Minor penalty proceeding initiated against Smt. K.S. Indira, Section Officer for attempting to slap her Controlling Officer, using filthy words against her colleagues, showing indiscipline / insubordination by not acknowledging the official communication served to her, etc. was concluded by imposing on her the penalty of censure.

2.3 Cases pending as on 31 March 2018

- i. Major penalty proceedings initiated against Sri. H. Mohandas, Jr. Assistant Grade-I for unauthorized absence while working at Regional office, Dimapur.
- ii. Major penalty proceedings initiated against Dr. James Jacob, Director (Research), Rubber Research Institute of India for manipulation in Recruitment Rules amendment for selection of the candidates of his choice and practising nepotism / bias in the selection of Scientist posts at Rubber Research Institute of India, Kottayam – 9.

2.4 Surprise Inspections

During the year, twenty surprise inspections were carried out at various offices of the Board as part of preventive and predictive vigilance and suggestions were submitted for initiating remedial measures wherever necessary.

2.5 Property statements & acquisition/disposal of movable–immovable properties

Annual Immovable property statements as on 31 December 2017 were called for and received from 1470 officers of the Board in Group “A”, “B” and “C” status. The statements received from the officers have been properly dealt with. The Division also processed 49 applications relating to transactions in immovable property and 61 applications pertaining to transactions in movable property, as per provisions under the Rubber Board Employees’ Conduct Rules, 1958.

2.6 Comments/advice

194 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 comments/advice thereon.

2.7 Other activities

As instructed by the Central Vigilance Commission, ‘Vigilance Awareness Week’ was observed in the Board from 30 October 2017 to 04 November 2017, in a befitting manner. The Week commenced with administration of the pledges on 30.10.2017 in all offices of the Board and 994 employees of the Board participated in the e-pledge through CVC website. There was wide news coverage in dailies regarding observance of Vigilance Awareness Week in the Board. Elocution competition on the subject “My Vision – Corruption Free India” was conducted for Higher Secondary School students, employees of the Board (Central Zone), Kottayam and for employees of the Board in other zones at Thiruvananthapuram, Kozhikode, Mangalore and Silchar. Poster competition was also conducted for college students in Kottayam on the subject “My Vision – Corruption Free India”. Further, posters highlighting “Moral values, ethics, good governance and threat of corruption in the growth of the Nation” were displayed at Rubber Research Institute of India and Head Quarters of the Board. Meetings were arranged at Guwahati and Agartala with the participation of employees and other stakeholders of the rubber sector. A debate competition was also organized with the participation of officials of Government of India and NGOs at Kottayam on the topic “Are the present anti-corruption measures sufficient to achieve Our Vision – Corruption Free India or not”. In the valedictory function conducted in Kottayam, Padmabhushan Justice K T Thomas, Former Supreme Court Judge delivered a speech and distributed prizes to the winners of the competitions. In general, observance of ‘Vigilance Awareness Week – 2017’ in Rubber Board was carried out well, especially in the thrust given to public participation in promoting integrity as a tool of Good Governance was disseminated and highlighted for enlightening all the participants and public for cracking down corruption in society.

The monthly and quarterly returns on departmental inquiries and vigilance cases and complaints etc. dealt with in the Vigilance Division are being submitted regularly to the Ministry and Central Vigilance Commission. The Assistant Vigilance Officer is functioning as the CPIO of the Vigilance Division under RTI Act, 2005 and assisted in disposing of RTI appeals against the 1st Appellate Authority.

3. INTERNAL AUDIT DIVISION

According to Section 24(2) of the Rubber Act, 1947 Accounts of the Board shall be audited annually by Auditors appointed by the Government of India. Audit of the accounts of the Board has been entrusted with the Controller and Auditor General of India under Section 20 (1) of the Controller and Auditor General's (Duties, Powers and Conditions of Service) Act 1971.

As Statutory Audit cannot look into everything within a short span, it has to depend largely on the effectiveness of the Internal Audit System that exists. Internal Audit is an independent appraisal activity within the organization for the review of the operations

The Internal Audit Division has been conducting auditing of various units, scrutiny of Bank Reconciliation Statements and pendency of file processing at different units. During the year Audit and Inspection of 12 offices was conducted and issued Audit Reports. The replies to Audit Reports were scrutinized ensuring that the expenditure incurred was with due regard to principles of financial propriety.

Internal Audit reports issued during the year were examined by the C&AG / Ministry of Commerce & Textiles and they have expressed satisfaction. Numbers of paras outstanding from the previous inspection reports issued by C&AG, Kerala and Internal Audit, Ministry of Commerce & Textiles up to 2015-16 were 40 and 16 respectively. The Division

did all liaison work regarding these audits and arranged timely replies to Audit reports.

IA Division is also entrusted with the verification of service books for the calculation of pension and other benefits. During the year, Division verified 297 files relating to service book verification/retirement benefits and files referred from other Departments/ Divisions on service and other matters. The Division also examines files forwarded for Audit observations/suggestions and for expert opinion on matters involving Rules/ procedures.

IA Division ensured the economy in maintenance of vehicles and consumption of fuel by obtaining and scrutinizing monthly statement and also ensured to obtain the annual physical verification of stock and stores reports. Follow up action was initiated for timely settlement of TA/LTC/Contingent advances in all units. Consolidated statements were prepared and submitted to higher authorities for taking corrective measures.

The detail replies furnished by the Rubber Board against the outstanding audit queries / paras raised by C & AG during 2015 – 17 and by Internal Audit Wing of MOC & Textiles are compiled and furnished in Annexure – I.

The current status on outstanding Audit queries/ paras from the previous inspection reports issued by C&AG, Kerala and Internal Audit, Ministry of Commerce & Textiles as on 31 March 2018 are furnished in Table – 66:

Table 66: Summary of the current status on outstanding audit paras as on 31/03/2018

Year to which audit report pertains	No. of total audit paras included in the Audit report	No. of audit paras settled till date	No. of outstanding audit paras	Name of the Audit Agency
2015-16	12	0	12	C&AG
2016-17	20	0	20	C & AG
2012-16	17	10	7	Internal Audit Wing of MOC & Textiles
RRII since inception to 31/03/2016	10	0	10	Internal Audit Wing of MOC & Textiles
TOTAL	59	10	49	



4. PLANNING DIVISION

The activities of the Planning Division during the year 2017-18 are summarized under the following seven headings.

4.1 Formulation, Monitoring and Evaluation of Plan Schemes

The Division collected and consolidated information on progress in the implementation of plan schemes for preparing routine and other reports for internal purposes and submitting to the Department of Commerce.

Following documents pertaining to Plan schemes were prepared during 2017-18:

- EFC Memorandum of the Medium Term Framework (MTF) Plan 2017-18 to 2019-20 of the Board
- Inputs for Output-Outcome Framework for schemes 2017-18 of Department of Commerce
- Information/Clarifications on queries raised on MTF Plan of the Board

- Inputs for Output-Outcome Monitoring Dashboard developed by NITI Aayog
- Schemes implemented for welfare of the poor
- Information on flagship programmes
- Information for Output-Outcome indicators of the Board for 2018-19

Medium Term Framework Plan for the period 2017-18 to 2019-20

The Division coordinated the work related to the formulation of the EFC Memorandum of the Medium Term Framework Plan for the period 2017-18 to 2019-20 viz. "Sustainable and inclusive development of natural rubber sector". Approval of the scheme was accorded vide. F.No.T-17014/2/2016-Plant(A) of Department of Commerce dated 29.12.2017.

The Department of Commerce issued Modalities and Guidelines for implementation of the scheme vide F.No. 5/1/2016-Plant-C dated 15 March 2018

Table 67: Summary of the Medium Term Framework Plan for the period 2017-18 to 2019-20

Sl.No	Major Components	2017-18	2018-19	2019-20	Total
1	Rubber Plantation Development & Extension	25.02	31.27	40.33	96.62
2	Rubber Research	3.00	4.31	6.76	14.07
3	Support for processing & marketing, infrastructure development and specialised services	7.99	9.11	8.35	24.45
4	Human Resources Development	3.00	3.94	4.87	11.81
5	Pending Liability	18.00	0.00	0.00	18.00
6	<i>Sub Total (1+2+3+4+5)</i>	57.01	48.63	60.31	165.95
7	Salary & Pension	142.67	152.66	163.35	458.68
8	Increase in salary due to 7 th CPC	9.43	10.09	10.80	30.32
9	Increase in allowances due to 7 th CPC	5.00	5.35	5.72	16.07
10	Arrear of 7 th CPC	14.96	0.00	0.00	14.96
11	Establishment cost (other than salary & pension)	12.00	12.00	12.00	36.00
Grand Total (6+7+8+9+10+11)		241.07	228.73	252.18	721.98

4.2 Parliamentary Matters and PMO/VIP References

The Division supplied materials to the Department of Commerce on parliament related matters and PMO/VIP references.

- Materials for framing replies to 59 Parliament Questions related to trade deficit with China, provisions of Agreement on Agriculture (AoA), developmental schemes and trade zones in NER, closure of regional offices, increase in replanting subsidy, field offices, construction of rubber park, minimum support price of rubber, assistance for export of cash crops, imports in rubber sector, reduction in import duty, dumping of rubber products, consumption and production of rubber, financial difficulties faced by the Board, restriction on rubber industry, contract/outsourcing of jobs, fall in price of natural rubber, development of rubber industry in NE region, assistance to rubber growers, import of rubber cup lump, plantation workers of Kerala, problems of labourers, effect of demonetisation on sale of rubber, new rubber policy etc.
- Materials for framing replies to VIP references on matters raised under Rule 377.
- Inputs for action taken reply of Rubber Board on recommendations / observations of 132nd Report on Demands for Grants 2017-18 of the Department of Commerce.
- Information on "Need to provide adequate funds for supporting rubber growers" for discussion on Demand for Grants of Ministry of Agriculture in Parliament – Cut Motion.
- Inputs for action taken replies on the recommendations/observations related to the 135th Report of the DRPSC on Commerce.
- Comments/inputs on recommendations/observations contained in the 137th Report on 'Trade with Association of South East Asian Nations (ASEAN)' of Department Related Parliamentary Standing Committee on Commerce.
- Note on details of implementation of the Revenue Insurance Scheme for Plantation Crops in NR sector and work completed for the visit of the Committee on Government Assurance of Rajya Sabha.
- Materials for framing replies to PMO references related to rubber sector.

4.3 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 as indicated below.

- Views on representations received from rubber producing, trading, consuming and other sectors.
- Implications of Regional Trade Agreements (RTAs) and other forms of international cooperation on domestic rubber sector
- Tariff policy on rubber and rubber products.
- Monitored developments in WTO and FTA/RTA.
- Provided policy related information and statistics.
- Formulated pre-budget proposals of Rubber Board.
- Updated induction notes on Rubber Board and Indian natural rubber sector.
- Status reports on development/initiatives in rubber sector in different states.
- Monitored developments in domestic natural rubber and related sectors and developments in other rubber producing and consuming countries.
- Review of Acts and Regulations of Commodity Boards.
- Port restriction on import of rubber.

4.4 Coordination of committees, meetings and other activities

The Division assisted in conducting various meetings including preparation of documents, presentations and handling of correspondence.

- *Task Force on Rubber Sector (TFRS)*
The Department of Commerce, Ministry of Commerce & Industry had constituted a Task Force on Rubber Sector (TFRS) in March 2018. The main mandate of the TFRS is to recommend short term solutions and long term strategies for mitigating the problems faced by rubber growers and suggest a policy on rubber taking into consideration the relevant provisions of the WTO Agreement and other trade commitments, general economic policy of Government of India,



relevant Acts and Rules thereof, rubber industry value chain and welfare of stakeholders involved comprising growers, processors, end product manufacturers, traders, workers and final consumers of rubber products. The first meeting of the TFRS was held at Thiruvananthapuram, Kerala on 23 March 2018.

- Meeting of Rubber Processors, Traders and Consumers on 14 June 2017 at Rubber Board, Kottayam
- Interaction meeting of Sri Alphons Kannamthanam, Hon'ble Minister of State (I) Tourism, Government of India with Rubber Growers held at Rubber Research Institute of India, Kottayam, Kerala on 11 November, 2017
- Stakeholders Meeting chaired by Sri Alphons Kannamthanam, Hon'ble Minister of State (I) Tourism, Government of India held at Rubber Board, Kottayam, Kerala on 11 February 2018
- Stakeholders meeting held at Board Head Office, Kottayam, on 25.05.2017
- Formulated Annual Action Plan of the Board for participation in international trade fairs for export promotion, intergovernmental meetings of ANRPC, IRSG and ISO and meetings of IRRDB for 2017-18.
- Prepared notes and presentations for several meetings held at the Department of Commerce for reviewing the activities of commodity boards.
- Coordinated deputation of officials abroad and submission of quarterly returns to the Department of Commerce in this regard.
- Planning Division coordinated several other activities in which more than one Division or Department is involved including special studies, quick surveys, project formulation, technical correspondence etc.

4.5 Collaborative Projects

National Research Programme on Plantation Development (NRPPD)

The Seventh Meeting of the Steering Committee of the National Research Programme on Plantation Development was held on 29 August 2017 at Centre for Development Studies, Thiruvananthapuram, Kerala. Executive Director represented the Department of Commerce in the meeting.

The meeting decided to conduct studies the ensuing year in close co-ordination with Commodity Boards on issues confronted by the respective sectors. Accordingly, the Board constituted a Committee of Officers/Experts to work in collaboration with NRPPD. The details of the study are as follows;

- i Potential production from rubber plantations is more than 9 lakh tonnes but NR production in 2016-17 was only 6.91 lakh tonnes. The main reason for this gap in production is that 25% of mature area was left untapped. Fall in rubber prices, absentee growers and shortage of labour are the major causative factors. Some of the RPS companies have initiated contract planting to bring untapped plantations into tapping. The study examines the issue and suggests a workable model which can be implemented to bring the untapped areas into tapping.
- ii Rubber Board has excellent extension network which is appreciated widely comprising its offices, 2900 RPS and 1900 SHGs. Some of the RPS are functioning efficiently but majority of them have to be rejuvenated. RPS/SHG network is the main extension channel of the Board. Some of the improved practices recommended by the Board such as Low Frequency Tapping (LFT) including weekly tapping, Controlled Upward Tapping (CUT) etc are not reaching the field effectively as reflected in the low level of adoption. The proposed study is to examine the present extension systems and recommend strategies to enhance the rate of adoption of modern cultural practices.
- iii Rubber Research Institute of India (RRII) under the Board develops new products and technologies which can be adopted by the rubber products manufacturing industry. But these are not propagated or marketed effectively and hence do not reach the industry in the desired manner. In this context, the proposed study assesses the requirements of the rubber products manufacturing sector, especially MSMEs to formulate a mechanism for effective transfer of technologies to the industry and public sector.

Goods and Service Tax (GST) and Rubber Sector

A project on GST and Rubber Sector was awarded to the Gulati Institute of Finance and Taxation (GIFT), Thiruvananthapuram with a budget of Rs.15.07 lakh as a collaborative study between GIFT and the Rubber Board. A team constituted at the level of the Board by Executive Director liaises with GIFT in the study.

4.6 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 the activities related to India's participation in these organisations.

- Notes were prepared on documents circulated by the ANRPC and IRSG Secretariats on various issues related to the organisations and rubber industry.
- Organized remitting India's membership contribution to ANRPC and IRSG.
- Co-ordinated the participation of Indian delegations in ANRPC and IRSG meetings. During 2017-18, Indian delegations participated in the following meetings.
 - ANRPC Annual Meetings held from 23 to 27 October 2017 held at Ho Chi Minh City, Vietnam.
 - Fourth Meeting of ANRPC Expert Group on NR Price Stabilisation, Hat Yai, Thailand, 23-26 May 2017
- Reports of the meetings were submitted to Department of Commerce.

Strategic Review Working Group of IRSG

At the 50th Assembly of Nations of IRSG, held in March 2017, a Strategic Review Working Group was constituted to formulate recommendations for defining the role and structure of the organisation in the present context. India is also a member of the Working Group.

4.7 Other Activities

Joint Director (Economics), Planning Division continued to serve as a nominated member of Commodity Derivatives Advisory Committee (CDAC) of Securities and Exchange Board of India (SEBI), Mumbai.

5. ENGINEERING AND PROCESSING DIVISION

Engineering and Processing (E&P) Division is responsible for enhancing competitiveness and viability of the Indian rubber and rubber wood processing sectors in the global environment, through focused development by effective transfer of technology and quality technical support services through consultancy services. E&P Division headed by Joint Director (P&QC) has two sub-divisions viz., Engineering & Maintenance and Rubber Processing & Market Development (RP&MD) along with Central Wood Testing Laboratory at Kottayam.

Major objectives

- Provide technical and engineering services to rubber processors and manufacturers
- Implement renewable energy technologies
- Implement plan schemes – Cup lump incentive scheme
- Technical Consultancy services
- Engineering support for troubleshooting in processing factories
- Analytical and technical service to rubber and rubber wood processors
- Testing services for rubber wood and allied products at NABL accredited laboratories
- Technical guidance to Group Processing Centres (GPCs) and training to rubber smallholders for quality improvement
- Design and execution of engineering works of the Board
- Infrastructure Development and Maintenance of premises of the Board

The Division is giving special emphasis to attain international standards in quality and packing of rubber to meet global challenges in rubber / rubber wood processing.

5.1 Rubber Processing and Market Development (RPMD) Division

5.1.1 Quality Inspection of Sheet Rubber

Six joint quality inspections were carried out in sheet rubber procured by NMCE at various godowns of Central Warehousing Corporation



(CWC) on chargeable basis. Joint Inspection (JI) Team consists of representatives from Tyre industry, Indian Rubber Dealers Federation, CWC, NMCE and Rubber Board. The JI Team implemented some remedial steps to improve the quality of sheet rubber, as well as to resolve the quality issues raised by the buyers.

Conducted “Quality awareness” program for Suppliers at their godowns and “Quality upgradation” program in collaboration with M/s. Kasaragode Rubber Marketing Society Limited for farmers at Kasargode. “Refresher training” was also conducted for CWC staff, at Kochi and distributed Awards to the best performers in grading of sheets.

Committee on Quality of Smallholder Sheet Rubber (CQSSR)

With an objective to bring standardization in sheet rubber trade, the Board had suggested a strategy of “Domestic Branding” for NR trading in the domestic market. In this context, a Committee on Quality of Smallholder Sheet Rubber (CQSSR) has been constituted by the Board comprising of all stakeholder representatives from ATMA, IRDF & RPS and Board’s officials. CQSSR was to streamline the issues pertaining to quality of sheet rubber, create awareness on NR processing, traceability of rubber bundles traded, etc. The CQSSR met on regular intervals.

First meeting of CQSSR held on 7 July 2017 at Rubber Board Head Quarters had decided to constitute three Working Groups to address the issues pertaining to 1) Bridging skill gap in sheet processing, 2) Quality improvement measures for sheet rubber and 3) Developing traceability system in NR trade.

The major recommendations of CQSSR are conducting awareness meetings/ campaigns among small growers, new skilling/up skilling programmes at traditional/ NT and NE regions, promoting centralized sheet making/ drying facilities, promoting involvement of private sector start ups with technical support from Board, etc.

Farmers Awareness Programme

RPMD Division provided faculty support for conducting “Farmers awareness programmes” jointly organized by NMCE and SEBI at Konni, Palai, Vadakkancherry, Kothamangalam, Punalur, Nilambur, Kannur and Thodupuzha during the year.

5.1.2 Technical consultancy service

Consultancy services were provided in the following order.

- M/s Plantation Corporation of Kerala Ltd. - Development of sub stage latex to meet HLL’s specification & Quality assessment of Skim rubber
- M/s Thiruvambadi Estates Ltd. - To set-up modern RSS factory
- M/s Kamadhenu Estates, Tamil Nadu - Quality upgradation of ISNR & RSS
- M/s Chakkacheril Rubbers, Nedumangad - Quality upgradation of Cenex.

Technical Advisory Services.

- 1) Provided technical advice to solve fungus issue by remedial measures for M/s. National Trading Syndicate, Kanjirappally on rejection of sheet rubber bundles due to the presence of fungus.
- 2) Provided advice on assessment of physical properties of sheet rubber produced in NE region for M/s. Manimalayar rubbers so as to obtain purchase order from tyre companies.
- 3) Technical advices given to farmers, dealers and processors.

Evaluation of Solar assisted smoke house.

Solar assisted integrated smoke house was installed at Elavampadam RPS with technical assistance from Tamilnadu Agricultural university and conducted the evaluation of the drier and formulated the detailed report regarding the efficiency and economics of drying for further action.

Inspection for issue of Processors’ licence and certificate for Sheet rubber

During the year, the RPMD Division conducted inspection and issued Processor’s licence to two rubber processing companies and received two samples from two firms from Mumbai & Darjeeling were inspected and issued the certificates.

Phone in programme and Radio programme

Officers of the Division attended ‘Phone in Programme’ at Rubber Board Call Centre, Kottayam and provided technical guidance to farmers through telephone.

General

The officials of the RPMD Division functioned as coordinators as well as faculties in ASAP programme being jointly conducted by RTI and Government of Kerala for Junior Rubber Technician and Laboratory Chemist courses. The Division took initiative to recover outstanding dues includes loans repayments and Interest on loans from Processing Companies and Co-operative Societies and collected ₹ 8.71 lakh, including interest of ₹ 2.69 lakh during the year 2017–18.

The legal actions initiated by RPMD Division against the co-operative societies are in progress. The current status of the cases are i) Execution petition file in 3 cases and ii) Arbitration cases pending with Arbitrator in 9 cases.

5.2 Engineering & Maintenance Division

5.2.1 Pilot Scheme for Promoting Deliberate Processing of Block Rubber

Major activity of the Division during the year under report was implementing a new scheme titled “Pilot scheme for promoting deliberate processing of Block Rubber from latex coagulum (LC)” and disbursement of financial assistance to the beneficiaries under the scheme. Government of India approved the above-said scheme for a period of two years, *i.e.*, during 2016–17 and 2017–18.

The Board is promoting processing of quality block rubber from fresh cup-lump through three factories *viz.*, M/s Kavanar Latex Ltd., Pala, M/s Indiar Crumb Rubber Factory (Pala Marketing Society) at Pala and Rubber Mark Crumb Rubber Factory at Chenappady. Fresh cup lumps are collected from individual growers and transported to processing factory by RPS. Under this scheme, growers are given an incentive of ₹10 per kg of dry rubber content (DRC) with a view to improving the quality of block rubber and as compensation for the losses incurred when compared with the prices of RSS 4 grade sheet rubber. The incentive to the growers will be credited directly (DBT). RPS and processing factories are eligible for an incentive ₹ 2 per kg of DRC for the transportation of cup lump from smallholders, and its processing.

Under the scheme, 433 rubber growers were registered as on 31 March 2018. During the year 2017–18, an amount of ₹ 3.10 lakh was released as incentive and sanctioned ₹ 3.40 lakh under the scheme.

5.2.2 Civil Engineering

The Civil Engineering Unit executed major constructions/modifications and repair works in offices, conference/ meeting halls, residential quarters, compound walls, tarring & maintenance of roads, etc at Board's establishments all over India. During the year 2017–18, major civil works were carried out at Rubber Research Institute of India, Rubber Training Institute & Rubber Board Head Office at Kottayam and establishments at Agartala and Guwahati in NE region. Ten civil works worth of ₹ 1.61 crore was completed.

The Unit evaluated various extension establishments for Rubber Production Department such as latex collection centre, Group Processing Centers (GPC) of Rubber Producers' Societies (RPSs), etc. and various proposals of different departments of the Board. During the year, the Division inspected and evaluated the GPC projects at 10 locations and sanctioned ₹ 0.56 crore to RPS. The Unit also provided consultancy service to set-up one GPC, and smoke houses of various types such as tunnel type, trolley type and conventional type, on chargeable basis.

The Unit provided consultancy service on leak proofing of building for M/s Adoor Rubbers and M/s Manimalayar Rubbers.

5.2.3 Electrical Engineering

Electrical Engineering (EE) Unit executed electrification works in new constructions, repairs/ rewiring in residential buildings, offices, etc. and standardization of electrical installations at various establishments of the Board all over India. The unit also carried out proper liaison with State Electrical Inspectorate, Central Electrical Authority and State Electricity Board for electrification and obtained approval from Electrical Inspectorate.



During the year, the Unit installed and maintained 400 KVA & 250 KVA transformers with 11 KV Sub-station, 400 KVA (2) & 250 KVA Generator set, APFC Capacitor panel of 60 KVAR (2) for power factor improvement, Centralized UPS of 60 KVA (2), Air conditioner units (70 tons), 50 KWp solar power plants at Rubber Research Institute of India campus, Kottayam.

During the year, the EE Unit completed and continues the electrical works worth of ₹ 12.84 lakh related to standardization of electrical installations and telephone wiring, repair & maintenance works and installation of Solar water pumping system in RRII & RTI at Kottayam, NRETC, Agartala and RRS, Dapchari.

The EE Unit provided consultancy service for supply and installation of RMU and 250 KVA USS at MPEDA, Kochi for worth of ₹ 17.84 lakh and for standardization of wiring at Latex Centrifuging Factory of M/s Plantation Corporation of Kerala at Kallala Estate for worth of ₹ 30 lakh under progress.

5.2.4 Mechanical Engineering

Mechanical Engineering (ME) Unit undertook various works including preparation of bid documents and bid evaluation for machineries and equipment, supervising erection / commissioning of machinery, imparting training to factory personnel on machinery operations and maintenance, project evaluation and advisory work for rubber and rubber wood processing projects and monitoring the maintenance of Board's vehicles.

The ME Unit provided consultancy services on modern mechanized Ribbed Smoked Sheet (RSS) processing with technical knowhow, technical guidelines on the functioning of effluent treatment plant, setting-up of a rubber product manufacturing facility at Rubber Mark, use of alternate fuel for smoke houses, etc. The unit prepared and submitted Project reports to set-up PLC factory of M/s UNPA Rubbers, Kothamangalam and TSR factory for M/s. Southern TSR, Assam and M/s Hima Rubbers, Agartala, Rubber mat manufacturing unit for M/s Plantation Corporation of Kerala at Kodumon Estate and Project profile for Cenex unit of M/s Josma Agencies during the year.

The Unit developed processing machinery to process cup lump at small grower and RPS level by adopting cost effective method. Besides, the Unit designed a irrigation system for Regional Research Station, Dapchari and installed during the year.

5.2.5 Maintenance

Maintenance Unit of the E & P Division ensures continuous upkeeping, water supply, availability of electricity and other utility support such as Generator, UPS, etc for entire campus of the RRII at Kottayam include office/ laboratories, guest house, residential quarters, meeting halls/auditorium and Rubber Training Institute located adjacent to RRII campus. Besides, the Unit also ensures the irrigation facility for seeding nursery / experimental field, smooth functioning of water / sewage pipelines and collection & disposal of solid wastes (bio and non-bios wastes) in RRII campus.

5.3 Central Wood Testing (CWT) Laboratory

The Central Wood Testing (CWT) Laboratory, which is an NABL accredited laboratory, engaged in the following activities during the year under reporting.

5.3.1 Training and technical advice

CWT Laboratory provides training to graduate/ post graduate/doctorate students. During the year, the Laboratory imparted training to students from different universities on wood processing, quality control and testing and provided technical advice to 25 stakeholders.

5.3.2 Testing and quality control

The CWT Laboratory facilitates testing of samples from various processors/ users / public and provides advice regarding quality control. During the year, 2202 samples (73 batches) were tested for 931 parameters and collected ₹ 14.15 lakh as professional fees include testing / consultancy charges and GST. In addition to Indian customers, the Laboratory served two foreign customers viz., M/s Forestry Innovation, Canada and Mr. John Larson, Sweden. Major Indian customers are M/s IISER & M/s CPWD, Trivandrum, M/s KITCO, Kochi, M/s ITC, Bengaluru, M/s Funskool (India) Ltd., Chennai, St. Thomas College, Pala, M/s South Indian Constructions, Kollam, etc.

Allied products and Wood Composite Testing

As part of diversification and IEBR generation, CWT lab started testing of wood based products such as plywood, black boards, panel doors, wood composites, cement particle board, etc and issued test certificates to customers. M/s Nagarjuna Cement products Ltd, one of the largest Cement Particle Board (CPB) manufacturer in the country, entrusted testing of CPBs to CWT Laboratory. The testing was carried out in presence of experts and officials from M/s NCL Ltd, Hyderabad. CWT Lab was also tested Polymer wood Composites (Multiwood) first time, which is being used in the construction of interiors at various sites.

Further, CWT lab was involved in testing of eucalyptus wood for Indian Tobacco Company regularly. During 2017–18, 600 different wood samples were tested. CWT lab have been keeping good liaison with CPWD as well as other departments for whom testing is being carried out.

5.3.3 NABL reassessment

CWT Laboratory successfully completed the NABL reassessment audit in April 2016 and extended NABL accreditation up to June 2018. CWT Laboratory of the Board provides consultancy service to obtain NABL accreditation involves documentation as per ISO/IEC 17025:2005, training, conducting audit, etc.

During the year, CWT laboratory has successfully completed the documentation process for ISO certification and obtained NABL accreditation for TSP QC / MS QC laboratories at M/s Kerala Metals and Minerals (KMML), Kollam. Besides, CWT laboratory entered into an agreement with the Rubber Park (I) Private Ltd for providing consultancy service for obtaining NABL accreditation for their JJ Murphy Research Centre at Kochi.

Rubber Park India is a joint venture promoted by Kerala Infrastructure Development Corporation (KINFRA) and Rubber Board, which comprise more than 100 different rubber product manufacturing units in its umbrella. The kick off meeting of the contract was held at the Rubber Park office on 6th March 2018 and the documentation process is being done based on the latest manual of ISO/IEC 17025 2017.

5.3.4 ASAP Training

CWT Laboratory had actively participated in the ASAP training program being conducted through Rubber Training Institute. Data presentation, Record keeping, Systems & Standard specification, Communication skills & other soft skills, Lab management systems, etc were the main topics handled and one month in-house training was given to 4 ASAP students at the CWT Laboratory.

Training and Laboratory familiarisation program

As part of the curriculum of B.Sc. (Forestry), Kerala Agricultural University, Trichur, one day training and laboratory familiarization program was



Design of Irrigation system for Regional Research Station, Dapchari



organised for students during the year. Classes on various topics related to wood treatment and seasoning, present scenario of wood industries in Kerala and use of rubber wood as a substitute to conventional wood from rain forest were conducted by Technical officers of the Rubber Board. Hands on training for various testing methods such as Chemical, Mechanical and sample production were done during the one day training program.

5.4 Closure and Leasing of Factories functioned under FM Division

Factory Management (FM) Division had been operating Model TSR Factory at Kottayam and Pilot Latex Processing Centre (PLPC) factory at CES Chethakal, Ranni. The lease agreement of the PLPC factory is being renewed with 10% enhancement on lease rent regularly. The Board leased out the PLPC factory to a private latex processor for 2 years and the lease rent is fixed at ₹ 9.00 lakh per annum.

The Model TSR Factory was closed 2 years ago due to negative net worth and shortage of working capital. Since the MTSR factory was closed, the Board has initiated action to redeploy the workers.

5.5 Internal and Extra Budgetary Resources fund generation

IEBR fund generated was ₹ 37.70 lakh through E & P Division during the year 2017 – 18.

Table 68: IEBR generated by E & P Division of the Board during 2017–18

Head of Account	IEBR generated (₹ in lakh)
Refund of WC loan - Co-operative Societies	1.40
Refund of WC loan - Processing Companies	3.50
Refund of Share capital - Co-operative Societies	1.12
Interest received - Co-operative Societies	1.27
Interest received - Processing Companies	3.42
Consultancy- Engineering	0.25
Consultancy - RP&MD	2.34
Testing fee - Rubber Wood Laboratory	11.99
Lease rent of PLPC	8.80
Penalties imposed	3.51
Miscellaneous receipts and Sale of other items	0.10
Total IEBR generated in 2017-18	37.70



Joint Inspection Team inspecting the sheets

4. MARKET PROMOTION DIVISION

The Market Promotion Division consists of three units viz., Market Intelligence, Export Promotion and Domestic Promotion functioning at Kottayam, and a Marketing Office functioning at NRETC, Agartala to support the marketing activities in NR region. Major functions of each section are as follows:

1.1 Market Intelligence

Market Intelligence Section collects, compiles and disseminate market price of different grades of NR and rubber wood. The Section collected daily price of sheet rubber (RSS-4 & RSS-5 grades), block rubber (ISNR-20 grade) and centrifuged latex (60% drc) at Kottayam and Kochi. Prices of higher grades of sheet rubber, block rubber and pale latex crepe were collected and published on a weekly basis and price of scrap rubber thrice a week. International prices from Bangkok and Kuala Lumpur markets were also collected and published. Besides, NR prices in Agartala were published. Price data were disseminated through different media like newspaper, website, IVRS and SMS. During the year, 47 new subscribers were enrolled for SMS mode of price dissemination.

Further, a mobile application for NR price collection was developed in association with National Informatics Centre (NIC) during 2017-18 and final run of the application is in progress. Rubber wood prices were also collected and uploaded on Board's website. Daily prices were uploaded on Board's websites www.rubberboard.org.in and www.indiannaturalrubber.com along with NR prices.

4.2 Export Promotion

Rubber Board is the designated Export Promotion Council (EPC) for export of natural rubber. The Board being the EPC for NR had issued 6 new Registration-cum-Membership Certificates (RCMCs) and renewed 29 RCMCs and collected ₹ 2.02 lakh towards fees for issuance / renewal of RCMCs. Volume of NR exported in 2017-18 declined to 5,072 MTs compared to 20,920 MTs in the previous year. Of this, 60% was in the form of Centrifuged latex, 29% as ISNR grades and the remaining 1% as RSS grades. Indian NR was mainly exported to Iran

(26%), China (16%), Italy (15%), Netherlands (9%), Sri Lanka (8%) and rest to Nepal, Brazil, Germany, Malaysia and so on. Country-wise Export of NR from India during 2017-18 is provided in Table – 69.

Table 69: Country wise Export of Natural Rubber in 2017-18

Product	Country	Export Quantity in MT
Natural Rubber HS Code 4001 - ISNR, RSS and 60% drc Latex	Iran	1,333
	China	800
	Italy	774
	Netherland	452
	Sri Lanka	405
	Nepal	292
	Total	5,072

The price trends of RSS-4, RSS-3, ISNR 20, SMR 20, and 60% centrifuged latex in the domestic and international markets during 2017-18 are furnished in Table – 70.

4.3 Domestic Promotion

The import of natural rubber into the country has been regularly monitored by the Market Promotion Division. The Board participated in one trade fair related to NR industry in Chennai. The Domestic Promotion Section is mandated with updating trade information portal www.indiannaturalrubber.com. Details of NR imports through various ports under different channels and grades were compiled and furnished in Table – 71.

As part of Market promotion, Board undertook the following activities during 2017-18:

- 1) *Entrepreneurship Development Programs:*
In order to improve the marketing system and quality of rubber produced in NE region, the Board has organized sensitization programs on agricultural marketing to rubber growers in NE region with the funding from NIAM, Jaipur. During 2017-18, fourteen sensitization programs were conducted in two phases, one for Manipur, Nagaland and Arunachal Pradesh and another in Assam and Meghalaya during benefiting 475 participants through RPSs.



Six Entrepreneurship Development programs (EDP) were organized in association with NIAM, covering Kerala, Tamil Nadu and Karnataka during February 2018 with a focus to set-up sheet rubber processing units as a commercial enterprise. The EDP has been formulated to impart knowledge on financial viability, marketing aspects, rules & regulations for setting up new rubber processing units, infrastructural requirements for sheet processing, entrepreneurial skills, etc. About 225 growers attended the programs.

2) **Branding of NR** – The brand “Indian Natural Rubber” is initiated to differentiate Indian NR in the international market. Accordingly, the brand ‘Indian Natural Rubber’ is awarded to export consignments on confirmation of quality parameters defined by the Board. Board ensured quality features of the branded materials by carrying out necessary laboratory tests and inspections. During the year, 3,189 MT of NR were exported under the brand Indian Natural Rubber. Brand certificates were issued after inspecting the export consignment and quality testing. During 2017-18, 63 % of NR exported from India was branded.

Table 70: Price of Natural Rubber (2016 – 17) (Rs. per Quintal)

Month	Sheet Rubber		Block Rubber		Latex 60% drc	
	Kottayam RSS 4	Bangkok RSS 3	Kottayam ISNR 20	Kuala Lumpur SMR 20	Kottayam	Kuala Lumpur
April 2017	14,339	14,625	12,522	10,701	9,413	9,531
May	13,073	14,165	11,916	9,859	9,357	9,564
June	12,238	11,627	11,089	9,228	9,246	8,774
July	13,300	11,315	12,495	9,706	9,174	7,907
August	13,063	11,775	11,414	9,783	8,211	8,248
September	13,424	11,977	11,743	10,269	8,396	8,588
October	13,060	10,889	11,200	9,414	8,284	7,663
November	12,587	10,298	10,689	9,184	8,273	7,505
December	13,082	10,455	11,365	9,309	9,170	7,580
January 2018	12,746	10,755	11,352	9,602	8,872	7,762
February	12,413	10,963	10,993	9,461	8,631	7,640
March	12,438	11,286	11,426	9,389	8,454	7,978
Average	12,980	11,678	11,517	9,655	8,790	8,228

Table 71: Import of NR from various countries under different channels in 2017–18

Channel-wise import		Country-wise import		Grade-wise import	
Channel	%	Country	Volume (MT)	Grade	%
Duty Paid	70.69	Indonesia	2,74,615	TSR	82.43
DEPB	-	Thailand	86,336	RSS	17.01
DEEC	25.45	Vietnam	63,338	Latex	0.51
DFIAS	0.01	Cote d Ivoire	19,112	PLC	0.03
Others (EoU)	3.83	Others	26,359	EBC	0.01
Total	100 %	Total	4,69,760	Total	100 %

PART – XI

LIST OF MEMBERS OF THE RUBBER BOARD

AS ON 31 March 2018

Sl. No.	Name and address of members	Representing interest
1)	S/s Dr. M.K. Shanmuga Sundaram, IAS Holding Additional Charge as Chairman of the Rubber Board KOTTAYAM – 686 002.	Appointed by the Central Government under clause (a) of section 4(3).
2)	Mahant Shambhuprasadji Tundiya, M.P. 135, South Avenue, NEW DELHI – 110 021	Member of Parliament under clause (e) of section 4(3).(Council of States)
3)	B.S. Yeddyurappa, M.P. 3, South Avenue Lane, New Delhi – 110 021	Member of Parliament under clause (e) of section 4(3).(House of People)
4)	Ms. Shobha Karandlaje, M.P. 101, Narmada, M.S. Flats, Dr. B.D. Marg, New Delhi – 110 001	Member of Parliament under clause (e) of section 4(3).(House of People)
5)	Md. Nasimuddin, IAS Principal Secretary, Environment and Forest Department, Secretariat, Govt. of Tamilnadu, CHENNAI – 600 001	Representative nominated by the Government of Tamilnadu under clause (b) of section 4(3).
6)	Vacant	Representative of large grower from the State of Tamilnadu clause (b) of section 4(3).
7)	Teeka Ram Meena, IAS Agricultural Production Commissioner & Principal Secretary, Secretariat, Government of Kerala, THIRUVANANTHAPURAM–695 001	Representative nominated by the Government of Kerala under clause (c) of section 4(3).
8)	Sunil Kumar, A.M., Director, Agricultural Development and Farmers Welfare Department, Secretariat, Government of Kerala, THIRUVANANTHAPURAM–695 001	Representative nominated by the Government of Kerala under clause (c) of section 4(3).



9)	S. Jaya Sooryan, Vice Chairman, Kondoorparambil (H), Poovarani Post, Pala, KOTTAYAM - 686 577	Representative of large grower from the State of Kerala under clause (c) of section 4(3).
10)	K.C. Dominic, Karippaparambil, Rosalayam, Kanjirapaaly – 686 507.	Representative of large grower from the State of Kerala under clause (c) of section 4(3).
11)	K.M. Santhosh Kumar, Kottarathil, Pizhaku Post Kottayam - 686 651.	Representative of small grower from the State of Kerala under clause (c) of section 4(3).
12)	T.P. Sundaresan, Sundara Bhavanam, Murinjakal Post, Pathanamthitta District.	Representative of small grower from the State of Kerala under clause (c) of section 4(3).
13)	P.K. Ramachandran, Pranavam, Vadacode Post, Kochi – 682 021.	Representative of small grower from the State of Kerala under clause (c) of section 4(3).
14)	Vacant	Representative of Rubber Producers Societies under clause (c) of section 4(3).
15)	N.C. Mohandas, Nallukunnel House, Puthupally Post, Kottayam – 686 011.	Representative of Rubber Goods Manufacturers under clause (d) of section 4(3).
16)	Soni Thomas, Purayidathul House, 31 st Mile, Mundakkayam Post, Kottayam – 686 513.	Representative of Rubber Goods Manufacturers under clause (d) of section 4(3).
17)	M.P. Rajeevan, BMS State Office, Marayil Lane, Chittor Road, Ernakulam, Kochi – 682 018	Representative of Labour under clause (d) of section 4(3) of the Rubber Act 1947.
18)	T. Rajendran Pillai, Mazdoor Bhavan, BMS Office, Asramam Road, Chinnakkada, Kollam	Representative of Labour under clause (d) of section 4(3) of the Rubber Act 1947.
19)	N.B. Sashidharan, BMS Office, Nedumkandam Post, Idukki – 685 553	Representative of Labour under clause (d) of section 4(3) of the Rubber Act 1947.
20)	R. S. Vinodkumar, Pilichal Veedu, Ramavarmanchira Post, Kanyakumari – 629 152	Representative of Labour under clause (d) of section 4(3) of the Rubber Act 1947.

21)	Vacant	Representative of small growers from the State of Kerala under clause (d) of section 4(3).
22)	Vacant	Representative of small growers from the State of Tripura under clause (d) of section 4(3).
23)	Bhrugu Baxipatra, Plot No. 19, Sashtri Nagar, Bhubaneswar – 751 001.	Representative of small growers from other NT States like Karnataka, Odisha, etc under clause (d) of section 4(3).
24)	Sawar Dhanania, Dhanania Niwas, 1, Lord Sinha Road, KolKata – 700 071	Representative of Other Interests under clause (d) of section 4(3).
25)	Director (Plantation), Department of Commerce, Ministry of Commerce & Industry Udyog Bhavan, New Delhi 110 107	Member nominated by Central Government from Department of Commerce under clause (da) of section 4(3).
26)	Under Secretary (Plantation), Department of Commerce, Ministry of Commerce & Industry Udyog Bhavan, New Delhi 110 107	Member nominated by Central Government from Department of Commerce under clause (da) of section 4(3).
27)	Dr. B N S Murthy, Horticulture Commissioner, Dept. of Agriculture and Co-operation, Ministry of Agriculture and Farmers Welfare, Krishi Bhavan, NEW DELHI – 110 001	Member nominated by Central Government from Department of Agriculture and Co-operation under clause (da) of section 4(3).
28)	Dr. M.K. Shanmuga Sundaram, IAS Executive Director, Rubber Board, KOTTAYAM – 686 002.	Ex-officio member as per clause (ee) of section 4(3).
29)	Vacant (Rubber Production Commissioner)	Ex-officio member as per clause (f) of section 4(3).




TRANSACTION AUDIT/THEMATIC AUDIT OF THE RUBBER BOARD FOR THE YEAR 2015-16

Audit Para No.	Subject / Remarks offered by CAG	Details of Replies furnished as on 21/06/2017
Part II B Para 1	Over payment of salary amounting to Rs.2.71 crore (provisional) due to non-merger and/or delayed merger of pay scale as recommended by 5 th and 6 th Pay Commission. The Rubber Board did not merge the pay scales as per the CCS (Revised Pay) Rules 1997 and continued to retain posts with identical pay scale as feeder and promotion posts and pay fixation benefits under FR 22(I)(a)(i) were granted. Approval of the Department of Expenditure, Ministry of Finance was not obtained as per OM No.169/2/2000-IC dt. 24/11/2000	<p>1. Vide OM No.169/2/2000 dt.24.11.2000, the Department of Expenditure, Ministry of Finance, Govt. of India have also clarified that fixation under FR 22(I)(a)(i) could be extended to the promotion posts which carry higher duties and responsibilities even if the promotion posts and feeder posts are in the same time scale of pay as per the V CPC recommendation, subject to approval from the Ministry of Finance, Department of Expenditure, Govt. of India.</p> <p>2. Rubber Board had got the cadre strength, scale of pay, functions and responsibilities of various posts studied and evaluated by the Staff Inspection Unit (SIU) of the Ministry of Finance, Department of Expenditure, Govt. of India during 1999-2000. The SIU vide their report dt. 2nd February 2001 and subsequent modification vide OM F No.16/2/99-SIU dt. 11th June 2001 has approved the following feeder and promotion posts carrying the identical time scale of pay. Hence requested to drop the para.</p>
Part II B Para 2	Pay fixation of direct recruited staff within the organization, over payment of Rs.2 crore (ProvnI) –Pay of the employees of the Board directly recruited to various posts within the Board itself were fixed under FR 22(I)(a)(i) and allowed to exercise option for re-fixation from the date of next increment which was not admissible as per the proviso to FR 22 (I)(a)(i).	<p>It may be noted that the employees referred in the Audit para are not Fresh Recruits and they were in the service of the Board for the last several years and hence the entry pay is not applicable to them.</p> <p>Further, as per OM No.3379-E.III(B)/65 dt.17/06/1965, it is specifically stated that in cases where an employee apply for posts in the same or other departments through proper channel, the benefit of past service is to be given for the purpose of fixation of pay in the new post.</p> <p>Hence requested to drop the para.</p>
Part II B Para 3	Unviable operation of the Rubber Board - Steps taken in this regard may be intimated to Audit	<p>Share of establishment expenses in terms of salaries and operating expenses of Rubber Board substantially increased over the years to 74% at present. This has happened due to implementation of Sixth CPC for Pay and Allowances and reduction in quantum of funds allotted by the Government. To cope up with the situation, Board had introduced several measures for rationalising the establishment expenses, since early 2015. Recently, based on the recommendation of Expenditure Management Commission (EMC), Department of Commerce has directed vide letter dated 1st February 2017 to review and restructure the Rubber Board (Central Autonomous Body) as laid down in 208 of GFR.</p> <p>Accordingly, the Board had initiated the following measures to reduce establishment (operating) expenses so as to disburse more funds towards the subsidy component :</p> <ul style="list-style-type: none"> ➤ Shifted Licensing Division functioned at Kochi in the rented building to Board's own HO complex.

		<ul style="list-style-type: none"> ➤ Discontinued outsourcing of personnel by the Board. ➤ Discontinued engagement of casual/contract labourers. ➤ Abolished unviable offices and merged them with nearby offices. ROs at Kothamangalam and Ernakulam were abolished/ merged with ROs Muvattupuzha. RO, Kottayam was merged with RO, Changanacherry. ➤ Closure of Guest houses attached to Sub Offices at Chennai, Bangalore, Kolkata and Mumbai. ➤ Shifted various rented offices to low-rented buildings. ➤ Sub Office Bangalore was shifted to RO, Mangalore and Sub Office, Secunderabad was shifted to SO, Chennai. ➤ Department of P&PD and Market Promotion were thereby reducing their Departmental status to Divisions. ➤ All recruitment process was stopped from 2015 onwards. ➤ All promotions banned temporarily w.e.f. 1st Dec. 2016. ➤ Payment of lump sum Transfer grants banned temporarily from 2016 onwards and the same will be paid subject to allotment of funds by the Government. ➤ Centralized all payments relating to salaries, wages, subsidy, personal claims, etc at Head Office, so as to take advantage of the system. ➤ Action initiated to centralize all administrative and financial functions of the Board under a single umbrella. ➤ Action initiated to abolish L&ED Department due to repeal of Rubber CESS by the Government. ➤ Action is also being initiated to abolish S&P Department. ➤ Action is being initiated to wind up the NRETC project at Andamans due to high operating expenses. ➤ Action initiated to reduce staff strength from 1977 (sanctioned strength) to 1100 by not filling consequential retirement vacancies and abolished 323 vacant posts ➤ Took action to increase IEBR through various measures. ➤ Disposed uneconomic vehicles due to high Mntc. cost. ➤ Reduce expenses on various stationery/ Printing
Part II B Para 4	Delay to realization of assets of M/s.Pamba Rubbers Limited - Latest position in this regard may be intimated.	Operations of the Factory owned by M/s Pamba Rubbers Ltd, Konni was suspended in September 2015, duly settling the claims of the staff and workers thereon. The Company carried on the trading activities thereafter and explore the possibilities of Leasing out the Factory. This caused the delay in deciding to dispense with the plant and machineries there at. As competent offers were not received during March 2017, the company was advised to dispose of the plant and machinery (estimated to realize Rs. 25.00 lakh) following the procedures prescribed in the Companies Act 2013 and remit the proceeds thereon to the Board against outstanding loan.
Part II B Para 5	Pension benefits to be paid to M/s MPEDA towards absorption of Shri.V.V.Suresh Kumar – Present position may be intimated.	As directed by Audit, action has been initiated to refix the pension benefits of Shri.V.V.Suresh Kumar, Accounts Officer, who was absorbed at MPEDA, Kochi.



Part II B Para 6	Implementation of Prime Ministers Skill Development Yojana by the Rubber Board foregoing revenue of Rs.60 lakh due to implementing the Scheme through an intermediary named Rubber Skill Development Council (RSDC) – Training through RSDC.	Rubber Board has full-fledged facility to conduct structured training programmes to all stakeholders of the rubber Industry and such trainings are imparted through the Rubber Training Institute (RTI) based on the annual training calendar and with the support of Rubber Production Department utilizing the facilities of RPSs and TT Schools. However, the recognition of Prior Learning (RPL) Project under the PMKVY Scheme is different from the trainings conducted by Rubber Board. RPL programme is launched on a massive scale to recognize the existing practitioners for a particular job role through re-skilling/up-skilling. In this scheme, individuals with prior learning experience or skills will be assessed and certified based on a well-defined training package formulated as per the guidelines of NSDC and approved by NSDC for each job role. On completion, the participants will be assessed and certified by a third party affiliated to the Sector Skill Council and this is mandatory as per PMKVY Guidelines (2016-2020). In the rubber sector, RSDC is the SSC. Guidelines specify that in RPL component of PMKVY Scheme, the PIA shall include SSC or any other agency designated by MSME/ NSDC and Assessment Agencies are not permitted as PIAs. Hence, it is informed that there was no willful omission or lapse from the Rubber Board causing revenue loss. However, in future projects, Rubber Board shall submit proposal considering the core competency which is superior to any other agency in the sector as rightly pointed out in the query.
Part II B Para 7	Incorrect fixation of Pay in the case of Sri.C.C.Chacko, on direct recruitment to the Post of Director, L&ED – Intimate review of pay fixation	The pay fixation in this case was regulated as per the instructions in the OM No.3379-E.III(B)/65 dt. 17/06/1965, where it is specifically stated that in cases where an employee apply for posts in the same or other departments through proper channel, the benefit of past service is to be given for the purpose of fixation of pay in the new post. Sri.C.C.Chacko was holding Deputy Director and he was not a fresh recruit. Hence requested to drop the para..
Part II B Para 8	Construction of Molecular Biology Lab irregularity in tendering – Intimate the latest position	Tender for construction of Molecular Biology Lab (ground floor and first floor together) <u>1st phase</u> was invited. As per file noting vide para 81 of Note File, “Construction of Molecular Biology Lab Building” was discussed in the plan meeting and decided to construct ground alone at the tendered value of Rs. 48.65 lakh . This was evident vide the approval issued by Chairman as per para 101 of the Note File. Kindly refer para 93 to 101 of the concerned Note File. Accordingly the 1 st phase was awarded with a tendered value of Rs. 48.65 lakh. As the contractor is willing to execute the <u>2nd phase</u> work at initially approved rate as per the original tender, no tender was initiated again. Hence it is pointed out that there is no irregularity in tendering. The tender for the <u>3rd phase</u> , with regard to another work namely “Construction of Garage for residents at RRII”, was published only in (1) Mangalam Daily and (2) Hindu Daily as per the specific Orders dated 8/07/2013 issued by the then Director (P&PD) so as to curtail the “Expenditure on Advertisement” to the barest minimum (Noting para 53 dt. 8/7/2013 file No E/4/888/2012/P&PD). This instruction was followed while tendering for the 3 rd phase of

		<p>work. Hence there is no irregularity in tendering.</p> <p>For outside plastering to height of about 8 m, other Overhead charges, 10% tax component, etc, the work was awarded at 70% above “2012 KPWD Schedule of Rates for Schedule A Items”. Since the same is classified as “Left out Work”, the possibility of offering the contract at a lower rate was absolutely impractical. Hence action taken is justifiable and the work was not retendered.</p>										
Part II B Para 9	Tribal Rehabilitation Rubber Plantation Project (TDRPP) – Non-adherence of the terms and conditions of the MOU – Intimate Progress in this regard	<p>Tribal Rehabilitation Planting is included under “Rubber Plantation Development” of approved 12th Plan Scheme of Rubber Board. The objective is to raise rubber plantations by the tribal beneficiaries themselves as a cluster, get engaged in the activity of plantation, harvest and post harvesting operations including marketing through RPSs formed by them. The Board has been implementing the programme in a collaborative mode with respective State Governments and the tribal beneficiaries. Area on a cluster/block will be developed by providing all inputs, for scientific development of plantations with labour input by the beneficiaries, efficiently managed under Board’s guidance till the plantation is ready for harvesting. During 12th Plan period, an area of 400 ha with a financial outlay of Rs 6.15 crore is proposed to cover in a phased manner. The programme is proposed as a collaborative project by the Board with respective State Govts and tribal beneficiaries with contribution of 40% from the Board, 50% from concerned State Govt. and 10% from beneficiary by way of labour. In addition, support for harvesting & post-harvest operations for tribal beneficiaries of the scheme implemented earlier in these pockets is proposed</p> <p>The process for identification of tribal groups in different states starts simultaneously and eligible tribal settlements are identified in Kerala, Andhra Pradesh, and Odisha. Implementation of the tribal project is initiated with selection and identification of beneficiary groups. An assessment of the cultivable area is arrived by conducting a preliminary survey. Later detailed survey will be conducted for ascertaining the extent to be included on the basis of suitability of area for scientific rubber cultivation, beneficiary’s title over the land, willingness of the beneficiaries for adherence to the scheme rules etc. In detailed survey some of the area will be excluded which is not fulfilling the eligibility criteria.</p> <p>Table-1 Details of tribal projects initiated in various states.</p> <table><tr><th>State</th><th>Area</th></tr><tr><td>Kerala</td><td>90.06*</td></tr><tr><td>Andhra Pradesh</td><td>53.52</td></tr><tr><td>Odisha</td><td>498.00</td></tr><tr><td>Total</td><td>641.58</td></tr></table> <p style="text-align: right;">*Out</p> <p style="text-align: center;"><i>of 90.06 ha planted in Kerala 27.83 ha is in SC settlement with 40% funding support</i></p> <p>Against the target of 400 ha in Traditional & Non-Traditional area, the achievement far exceeded the target and reached 868.18 ha,</p>	State	Area	Kerala	90.06*	Andhra Pradesh	53.52	Odisha	498.00	Total	641.58
State	Area											
Kerala	90.06*											
Andhra Pradesh	53.52											
Odisha	498.00											
Total	641.58											



		<p>including the planting in Andhra and Odisha.</p> <p>The Board has adopted the policy of going ahead with the project which is found prima facie suitable and with beneficiaries who expressed their willingness to participate.</p> <p>As mentioned in the Audit Report, an MOU was entered in to between Rubber Board and Tribal Development Department of Govt. of Kerala on 7/10/2013 in the initial year of 12th Plan period to implement a project for planting rubber plantations in 275 ha. land in various scheduled tribes settlements in different districts owned by ST families.</p> <p>Even though, the MOU was signed for 275 ha, only 226.6 ha could be brought under the project. The proposal for planting in 30 ha in Ambalavayal settlement was dropped on account of adverse report by the RO, Kozhikkode. The then Officer in Charge reported that there was little response from the beneficiaries as they were not staying in the project area and most of them were employed. Since the Board has far exceeded the physical target set for the plan period in overall achievement, prima facie rejection of unsuitable area due to various reasons has resulted in the non-adherence of terms and conditions of MOU in individual projects in this area.</p> <p>In view of the severe fund crisis due to budget cut, Board expended the fund in such a manner to attend the work critically important for the scientific upkeep of the plantations and item such as boundary protection was undertaken in essential cases on the basis of field conditions.</p>
Part II B Para 10	Irregularities/defects noticed in the disbursement of Financial assistance to RPS for the construction of Group Processing Centre (GPC) – Submit Justification in this regard.	<p>With reference to above, the following points are furnished:</p> <ol style="list-style-type: none"> 1. One of the major components of RPDETNT scheme under 12th plan is "Cluster Development and Capacitating Market Linkage". Under this, establishment and maintenance of GPCs has been envisaged to address the issues of quality consciousness and environment protection. Community processing centres are to be set-up in RPS sector for processing the latex by member growers in to good quality sheets for improving quality of rubber produced in the country to compete in the domestic as well as International market. 2. It may be noted that application for financial assistance for construction of GPC was given by RPS, but due to paucity of fund, the file was kept pending. Anticipating permission, the RPS started construction. In the Scheme rule, despite the fulfillment of any or all the conditions under these rules, the Chairman, RB shall have absolute discretionary powers to select any RPS or Company for being included under the scheme and also to withhold consent to RPS or Company for participating in the scheme and if any doubt arises as to the interpretation of any of the rules, the decision of the Chairman on such matter shall be final and binding on the parties. 3. As per the scheme rule, 'for civil work, the RPS should collect a minimum of three competitive quotations from local contractors'. To reduce cost of construction, quotations are invited from local members just like the task force of people's planning program in Panchayaths. Quotations were submitted after proper evaluation of

		<p>the Executive Committee. Scheme rule doesn't prohibit any member of the RPS in submitting quotations. Therefore, Board had accepted these quotations.</p> <p>4. Copy of the agreement executed by the RPS with the Board already submitted is enclosed for perusal.</p> <p>5. As per Inspection Report received from RO, Mangalore, RPS has expended Rs. 2,17,552 towards land development and the expenditure incurred by RPS. File is under process for ratification and details will be intimated to Audit.</p> <p>6. Approved Turnkey holders competent for construction of biogas plant are not available in DK District of Karnataka. Sri.M.J.Xavier, who is also President of Moorje RPS was the only competent licensed turnkey holder for Deenabandu model Biogas plant.</p> <p>7. Payment of Rs. 20.11 lakh was effected for RPSs under following ROs in 2015-16 for various extension schemes:</p> <p>a) Trolley operated smoke house, training hall and purchase of Table and chairs - Under RO, Pala – Rs. 1,14,935</p> <p>b) Extension schemes payment under RO, Pala- Rs. 70,565</p> <p>c) Extension schemes under RO, M'lore - Rs.13,57,433</p> <p>d) Assistance to GPC-Thazhathuvadakara RPS under RO, Kottayam - Rs. 4,68,500. Total Rs. 20,11,433</p>
Part II B Para 11	Avoidable Recurring Expenditure of Rs. 3 lakh per annum – Intimate latest position.	Regional Office Kottayam was closed with effect from 31/05/2017 and merged with RO, Changanacherry vide Office Order dated 11/05/2017.
Part II B Para 12	Procedural irregularities in awarding and execution of contract – Furnish justification in this regard	<p>As per the terms and conditions of tender, the Contractor (M/s ATZ SSS Corporation) is entitled to receive payment, limited to 90% within 20 days after submission of bill for supply, installation and commissioning of Iron removal Plant.</p> <p>Value of contract - Rs.11.69 lakh</p> <p>90% of bill amount - Rs.10.52 lakh</p> <p>Payment released - Rs. 7.50 lakh</p> <p>The Board paid only 64.16 % of the bill amount due to non-submission of test result. Now the water sample has been given for testing at Tripura PWD and test result is awaited. Balance amount of Rs. 4.19 lakh will be released only after getting satisfactory test result. As the delay in completion of the work occurred due to the fault of Contractor, penalty will be imposed as per conditions of contract and agreement terms at the time of final settlement of claim.</p>


TRANSACTION AUDIT/THEMATIC AUDIT OF THE RUBBER BOARD FOR THE YEAR 2016-17

Audit Para No.	Subject	Details of Replies furnished as on 15.10.2018
Part II B Para 1	Supply of Rubber Plantation Inputs with price concession – Payments pending from Nodal companies amounting to Rs.6.06 Crore.	Sale of the estate inputs items were not up to the estimated level due to various unanticipated reasons like climatic condition, price in the open market etc. The soft loan is granted @ 3% interest and the delay in repayment shall be penalized @ 7% as per the MOU between Nodal Companies and Rubber Board. The present stock of inputs available with the companies was sold to the companies. More over it was decided to discontinue the procurement of inputs during 2016-17 onwards.
Part II B Para 2	Tribal planting scheme – Non achievement of targets and non utilization of funds received from Tribal Development Department (TDD) amounting to Rs.88.95 lakh.	<p>Target in area could not be achieved in Kozhikode, Wynad and Kannur District due to the following reasons</p> <ul style="list-style-type: none"> i) Whenever suitable area was identified, there were a lot of excess other trees and the beneficiaries were not ready to remove the excess other trees. ii) Suitable other areas could not be identified in these locations. iii) Presence of wild animals in some of the identified locations also prevented in planting rubber. <p>Regarding non-utilization of fund from TDD, proper disbursement could not be made due to extreme shortage of fund. However maintenance of rubber plantations was done by curtailing expenditure on transportation and travelling without affecting supervision of plantations. All plants under these projects are well maintained and growth of the trees is good.</p>
Part II B Para 3	Unnecessary construction of Hostel Building for Rubber Training Institute (RTI) when existing facilities are underutilized – Blocking up of funds amounting to Rs.53 lakh when Planting/Replanting Subsidy to Rubber growers is outstanding to the extent of Rs.38.96 Crore.	The Hostel construction work was awarded on 05/08/2014 when no fund shortage was reported. When fund shortage was reported, the Contractor was instructed to complete only the skeleton of building including roof slabs in order to protect the completed work. At present the skeleton part of the building is safe and the balance items of the building can be completed as and when fund becomes available. The amount of Rs.53 Lakhs is a part of the bill paid to the Contractor for the completed works according to the agreement. Due to lack of bath attached single occupancy facility in the RTI Hostel, participants from Industry and Estate Sector prefer to stay outside. Most of the Non AC rooms are also double bedded and nine beds available in the AC rooms with attached bathroom are either twin or triple sharing and hence many of the trainees reluctant to share the room with others. The proposal for construction of a new Hostel building was made based on the problems faced in the past. Report submitted by the High Power Committee appointed by the MOC also was considered while making the proposal.
Part II B Para 4	Tribal Plantation Scheme in North East Region (Cluster Planting) - Non receipt of Government share.	Rubber Board implemented a Scheme for plantation Development in the NE with the object of providing sustainable livelihood for poor and marginal beneficiaries from tribal communities. It was envisaged as a collaborative project with concerned State Government having fund share of 50% of project cost, 40% by Rubber Board and remaining 10% by the beneficiary. The Scheme was implemented in the States of Assam, Tripura, Meghalaya, Nagaland and West Bengal. Though Board requested

		the respective states to release their 50% share, an affirmative reply has not been received from State Governments. However effective steps are being taken to obtain the funding support from the State Governments so as to save the plantations and extend the financial assistance to the growers.
Part II B Para 5	Long pending dues from various Rubber Co-operative Societies.	From 2002 onwards we have initiated legal proceedings against the defaulted Societies and during the year 2017-18 we have collected an amount of Rs. 2,66,929 towards long pending dues. We also takes earnest effort to recover the dues by speeding up the Arbitration cases.
Part II B Para 6	Non-connection of Solar power plant at RTI to KSEB grid.	Additional investment of Rs.10 lakh for converting the plant to grid tied one will not give an economically beneficial pay back or attractive IRR in tune with the investment. As it is already five years over after the installation of the plant, the efficiency of the solar plants are diminishing gradually and export of power to grid will reduce accordingly. We have already connected all the light and fan loads in RTI to solar power system and provided a change over switch mechanism for connecting all A/C units in operation to solar power in summer season and to grid in rainy season.
Part II B Para 7	Short receipt of Grants (Plan and Non Plan) and mounting operating expenditure.	Actions were initiated to reduce operating and administration expenses. Eg: Freeze all appointments except in NE region, curtailed tour of officials, transfer grants limited to transfers on public interest, restricted hiring of vehicles, shifted many rented buildings to own buildings, centralized purchases, L&ED, P&PD Departments were pruned as Divisions etc.
Part II B Para 8	Outstanding dues from Govt of Kerala towards Tribal Planting Scheme in Thonnackal Trivandrum District—Rs.54.32 lakh.	Effective steps are being taken to get the outstanding dues from the Kerala Government.
Part II B Para 9	Time overrun due to delay on the part of the Board to terminate the Contractor and retender the work in time and resultant cost overrun of Rs.3.22 lakh.	Though Board took every effort to complete the work at the originally awarded rate through the same Contractor to avoid cost escalation due to elapse of time, all efforts were in vain. Hence terminated the work at the risk and cost of the Contractor. The payment was not yet released to the Contractor towards the completed work. Only eligible amount will be paid to the Contractor after completion of the work by re tendering.
Part II B Para 10	Revamping of E&P Division to generate maximum IEER.	Main works of E&P Division include construction/repair and maintenance of civil, electrical and mechanical infrastructure of the Rubber Board in traditional and non-traditional areas. It is also running 'Cup lump incentive scheme', consultancy of sheet rubber processing factories and works of the Board promoted Companies. As Rubber Board is a new entrant in to the field of consultancy in engineering activity, it may take some more time to establish its presence.
Part II B Para 11	Delay in issuance of reward money and certificates of RPL Programme.	During the initial stages there were delay in creation of module and technical issue in uploading data in SDMS module. Uploading of assessment results and certificates are the duty of RSDC and pay out to candidates are directly made by NSDC to candidate's Bank Account. Currently, the pay out details is uploaded by NSDC in their website and we are continuously updating the details. SDMS module is also now working satisfactorily. Therefore uploading of assessment results, issue of certificates to trainees and pay out to trainees do not face any difficulty now.
Part II B	Construction/repairing of compound wall at NRETC Agartala.	The Contractor made inordinate delay in execution of work. Retendering may result in excess expenditure due to hike in cost



Para 12		of materials and labour charges. We have imposed maximum penalty to the bill amount and has not yet released any payment to the Contractor.
Part II B Para 13	Planting material generation and supply- high incidence of rejection/casualties for root trainer plants during 2017-2018.	High rejection/casualties for Root Trainer Plants during 2017-18 are due to adverse climatic conditions. All possible steps will be taken in future to reduce casualties / rejection in Board's Nurseries.
Part II B Para 14	Lack of proper monitoring in production and sale of rubber	Close monitoring is done in all Farms and possible productivity enhancement measures like, rain guarding, stimulation, tapping correction etc. are initiated to improve production and productivity from the existing level.
Part II B Para 15	Functioning of Internal Audit Department.	The co-ordination work relating to Audit is entrusted with the Internal Audit Division. Internal Audit Manual shall be prepared at the earliest. Details of audit conducted at each office/unit are available. Due to budget constraints, recruitments were curtailed and hence shortage in the staff. However, the matter was taken up with Secretary (IC).
Part II B Para 16	Arrears in collection of Rubber CESS.	Board has send reminders to the Revenue authorities to expedite recovery wherever the recovery is possible. Majority of CESS arrears over 10 years are irrecoverable as the Revenue recovery authority as well as Board's field machinery found the units did not possess any assets or the present details owners are unknown. In view of the abolition of CESS, time bound notices were sent to all the defaulters to clear the dues. Action is already initiated to refer all the remaining cases for revenue recovery.
Part II B Para 17	Lapses in the operation of Rubber Training Institute	RTI was conducting training programme with the support of available Scientists in RRII. Now RRII is facing shortage of Scientists due to non filling of retirement vacancies. Most of the Scientists were allotted with additional research works and hence RTI was not able to utilize the service of Scientists from RRII. At present RTI is focusing on decentralized sponsored training programme so as to generate maximum IEBR by optimum utilization of resources.
Part II B Para 18	Irregularities pertaining to TA claims of officials	The comments by the Audit Party are noted for future guidance.
Part II B Para 19	Proposal for "Tyre Testing Station" pending with Ministry of Commerce & Industry.	Approval from competent authorities was not received so far. The concept of ASIDE Scheme was discontinued and new Scheme under Trade Infrastructure for Export Scheme (TILES) from 2017 was initiated. We are ready to follow up the project proposal for consideration of the Government and concerned Ministry.
Part II B Para 20	Steps to be taken to retain NABL Accreditation for the Laboratory in Technical Consultancy Division	<p>The list of equipment which require calibration has been given and the total estimated charges for calibration by accredited agencies is approved by NABL. We have initiated files to complete the calibration work. Co-ordinated efforts will be taken to complete the work at the earliest.</p> <p>Annual Maintenance Contract (AMC) is very much essential for smooth and continual operation and maintenance of the equipment, which are imported and installed in the laboratory. Calibration and AMC was pending due to financial difficulties and efforts were made to complete the same on sanctioning the proposals.</p>

**OUTSTANDING PARAS IN THE INSPECTION REPORT OF INTERNAL AUDIT WING (MOC)
FOR THE PERIOD FROM 01/04/2012 TO 31/03/2016.**

Audit para No.	Subject	Details of Replies Furnished
Para 1	Outstanding amount of Rs. 4.95 Crore of CESS collection	The arrears of CESS noted in the Audit, Rs.4.95 Crores pertain to the year from 1961 to 2016. CESS is collected from the manufacturers on the quantity of rubber purchased by them as shown in the half yearly returns submitted to the Board. Board issues license to manufacturers only for a year. Renewal of license is considered only on furnishing of all pending returns and payment of pending Excise Duty. The system works as a major mechanism to ensure payment of pending Excise Duty. On cases of default, reminders were sent to defaulters invoking the provisions of revenue recovery. Simultaneously Board's field machinery conducts inspections of these units and persuades the manufacturers to remit the amount. If the unit had stopped manufacturing operations or if the unit fails to remit CESS, the case is referred to the District Collector for initiating revenue recovery proceedings. Moreover, Board sends reminders to the Revenue authorities to expedite recovery process. Besides, Board's field machinery establishes direct contacts with the authorities concerned to expedite recovery wherever the recovery is possible. An effective system is in place to follow up revenue recovery cases, an Arrear Clearance Cell at Head Office, to monitor each case. Majority of payments in arrears over 10 years are irrecoverable, as the revenue Recovery authorities as well as Board's field machinery has found that the concerned units did not possess any assets or the present whereabouts of the owners are not known. Moreover, the dues are collected along with applicable interest.
Para 2	Blockade of Government money of Rs. 61,26,973 on account of outstanding Sundry Debtors (MTSRF-Rs.56,66,648 & PCRf – Rs.4,60,325)	<ol style="list-style-type: none"> 1. Rs.55,10,325 is the refund due from M/s Ponmudi Rubbers Ltd to MTSRF. This amount was lent from MTSRF as temporary loan on different spells for promoting trade/export. Due to the unfavorable market conditions, the company has closed down the Factory. M/s Ponmudi Rubbers Ltd is having immovable property of 5.5 acres of land with factory building. A decision will be taken in the coming AGM of the Company to dispose off the properties and settle the dues of the Rubber Board. 2. Rs. 1,56,223 is due from M/s V.M Ashraf Traders, Erattupetta to MTSRF on account of DRC variation in the cost of raw material supplied by them. Legal proceedings have been initiated (vide Case No. AS.229 of 2013 before the District Court, Kottayam) against the party for recovering the amount. 3. Rs. 4,60,325 is the amount due from M/s Kavanar Latex (P) Ltd towards cost of materials supplied from PCRf. Based on our frequent reminders, the company has agreed to remit the dues within 2 months (August 2017). 4. Rs. 100/- due from M/s R1 International towards the cost of tender forms. Since this is a meagre amount, action has already been taken to write off the amount from the Books of Account during 2017-18.
Para 3	Outstanding loan of Rs. 15.89 Crore against various Companies and Co-operative Societies.	Outstanding amount of 15.83 Crores as on 31/03/2015 is to be recovered from various companies and Co-operative Societies. Due to the actions and frequent notices issued by the Department, an amount Rs.6,08,316 was realized from the Societies during the FY



		<p>2016-17. We have initiated legal proceedings against the defaulting Cooperative Societies and the latest position is attached in Annexure I.</p> <p>An amount of Rs. 1,25,000 was remitted by 2 Co operative Societies after 31/03/2017.</p> <p>The RPS companies were promoted by Rubber Board with the noble objective of protecting the growers from the exploitation of middle men The companies provide direct employment to people belonging to socially and economically weaker sections.</p> <p>These Companies were suffering from acute shortage of working capital and Rubber Board supported them to overcome the financial crisis. However the Rubber Board has directed these Companies to settle their dues to us at the earliest. During the FY 2016-17 an amount of Rs. 3,49,480 was remitted by M/s Kavanar Latex Ltd towards refund of loan.</p> <p>We have already issued Demand Notices to all processing companies. for settling the outstanding dues. Based on our demand notice, M/s Pamba Rubbers Ltd has initiated action to dispose of the machinery lying idle in the factory. The upset value of machinery fixed was Rs. 24.90 lakh. Since Rubber Board is having 1st Charge over the assets of the Company, our dues will be settled on priority basis.</p>
Para 7A	Purchase of Air Tickets from Unauthorized Travel agents	<p>The Audit observation is noted. In order to comply the same, Board has entered into an agreement with M/s Air India Ltd., with effect from 01/06/2017 for purchase of tickets directly from them. All cases of deviations, if any in future will be referred to the Financial Advisor of the Ministry of Commerce as per OM No. 19024/1/2009-E.IV dated 07/06/2016.</p>
Para 7B	Air travel other than the AIR INDIA	
Para 13	GPF subscription recovered in excess of maximum limit.	<p>The Audit observation is noted and Action has already been taken for regulating the GPF subscriptions as per Rules. The excess interest paid is also recovered.</p>
Para 14	Outstanding EMD Rs. 22,66,460 and SD of Rs. 18,0,047 since long.	<p>Out of Rs.2,33,580 EMD outstanding, an amount of Rs.1,43,580 has been forfeited / refunded and the balance amount of Rs.90,000 will be settled by payment or by forfeiture within the time limit. Out of Rs.1,48,303, Security Deposit outstanding, an amount of Rs.54,764 has been forfeited and necessary book adjustment entries made in this regard and the balance amount of Rs.93,539 will be settled by payment or by forfeiture within the time limit. Hence the para may be dropped.</p>

**OUTSTANDING PARAS IN THE INTERNAL INSPECTION REPORT OF RUBBER RESEARCH
INSTITUTE OF INDIA UNDER RUBBER BOARD FOR THE PERIOD, SINCE INCEPTION TO
31/03/2016 BY INTERNAL AUDIT WING MOC**

Audit para No.	Subject	Details of Replies Furnished
1.1	Implementation of FCS in RRII from 06/07/2006-objections raised by CAG.	FCS is a career advancement scheme as distinct from ordinary seniority based promotions that are dependent on vacancy position. Under FCS, Pay band and Grade pay only upgraded as in MACP and post not upgraded and hence there is no creation of posts. Scientists have obtained Stay Order from the Hon'ble High Court of Kerala and now this issue is pending for final decision from the High Court.
1.2	Assessment and Screening	CAG has noticed that Second Level Assessment was done by the Committee consisting of majority of internal members. Please note that assessment done in June and July 2014 were as per old FCS in which there was no such condition and the condition of majority of outside experts is prescribed in Modified FCS only.
1.3	Recruitment Rule (RR) not amended	CAG has observed that recruitment rules not amended on implementation of FCS. We have originally implemented FCS as per DOPT norms. We are now taking action to amend the RRs as per Modified FCS conditions.
1.4	FCS promotions given with retrospective effect	We have sanctioned FCS with retrospective effect as there was some delay in assessment of Scientists and hence with intention of avoiding denial of timely promotions to Scientists. However based on CAG remarks we have not given pay fixation to 25 Scientists promoted from C to D and 13 Scientists from B to C, as per Office Memorandum No.3/25/1(1)/2014/EST dated 08/08/2014.
1.5	FCS sanctioned to non-scientific activities	CAG has observed that FCS was implemented to personnel engaged in non-scientific activities such as Economics, Statistics and Testing Lab etc. Kindly note that we have no Scientists in Statistics. Economic Research Division is part of RRII doing field research on economic aspects of rubber. Regional Testing Labs are part of RRII and Scientists are working there for conducting field trials.
1.6	Simultaneous operation of seniority based promotion as well as promotion under FCS	Based on CAG objections the promotions given on seniority basis were cancelled and pay re-fixation done w.e.f. 01/01/2013. However recovery of excess drawn salary on such promotions up to 31/12/2012 is pending.
1.7	Clarification on interpretation of the term "up to the level of Scientist C"	CAG has observed that Ministry has approved implementation of FCS up to the level of Scientist C only and hence FCS promotion from Scientist C to D is not permitted. Now the Ministry has clarified that FCS is applicable up to the level of Scientist C only and hence Board has decided that promotion from Scientist C to D is not possible. However this issue is pending before Hon'ble High Court of Kerala.
2	Loss on account of theft of copper conducting wires.	We have filed a case against the loss of copper conducting wires before the Circle Inspector of Police, East Police Station, Kottayam. They have prepared a First Information Report and the matter is being followed up with the Police.



3	Non-maintenance of Asset Register in Form D-4	We are maintaining Asset/Stock Registers as per GFR 40, 41 and 42. Action taken to maintain Asset Register in Form D-4 in future.
4	Non-maintenance of Service Books in duplicate.	Regarding GFR Rule 257, it is requested that we may be kindly exempted in this regard based on the following grounds: Even though we are not giving copy of Service Book to staff, we are keeping it properly bounded and under safe custody of responsible officers-in-charge and also shown to each staff every year and get it signed by him. There is a proposal by Govt. of India to maintain SBs in electronic mode. Due to current poor financial condition of the Board and considering the cost, issuing duplicate SBs to all the 1500 employees is difficult. We have taken action to scan the SBs, update every year and to upload in our website so that each employee can have access to his/her Service Book. However it is requested that as the present system is safe and issuing duplicate involves huge expenditure, that is not bearable in the present financial crisis of the Board, it is requested to kindly drop the Audit para.
5	Certificate in bills for supply of light refreshments.	Necessary instructions to certify in all bills for expenditure on light refreshments as mentioned as per OM No.7(3)/E-Coord/2013 dated 06/05/2015 issued.
6	Non-maintenance of NPS Detailed Ledger Account.	Necessary instructions issued to maintain a detailed ledger account of all NPS Subscribers with one folio to each subscriber.
7	Non-maintenance of Register of Contingent Charges in Form GAR-27.	Necessary instructions issued to maintain Register of Contingent Charges in Form GAR-27. Instructions regarding this will be communicated to all concerned.
8	Disposal of unserviceable and obsolete items.	For the disposal of unserviceable and obsolete items, action is in progress.
9	Non-constitution of Research & Development Committee.	Necessary action taken for constituting R & D Committee. The term of the previous Board expired on 28 th February 2014 and the reconstitution was done in May 2017. The R&D Committee was constituted in the 175 th meeting of the Board held on 10 th October 2017.
10	Shortage of funds faced by RRIL.	Audit remarks noted by higher authorities of the Board.