

15 -ാം കേരള നിയമസഭ

12 -ാം സമ്മേളനം

നക്ഷത്ര ചിഹ്നം ഇല്ലാത്ത ചോദ്യം നം. 911

09-10-2024 - ൽ മറുപടിയ്ക്ക്

വനം വകുപ്പ് സ്ഥാപനങ്ങളിൽ കംട്രോളർ ആന്റ് ഓഡിറ്റർ ജനറലുടെ ഓഡിറ്റ്

ചോദ്യം		ഉത്തരം	
ശ്രീ. ടി. സിദ്ദിഖ്		ശ്രീ. എ. കെ. ശശീന്ദ്രൻ (വനം-വന്യജീവി വകുപ്പ് മന്ത്രി)	
(എ)	വനം വകുപ്പിന് കീഴിലുള്ള സ്ഥാപനങ്ങളിൽ കഴിഞ്ഞ നാല് വർഷ കാലയളവിൽ കംപ്ട്രോളർ ആന്റ് ഓഡിറ്റർ ജനറൽ നടത്തിയ ഓഡിറ്റിൽ എന്തൊക്കെ ക്രമക്കേടുകൾ കണ്ടെത്തിയിട്ടുണ്ട് എന്ന് വ്യക്തമാക്കുമോ;	(എ)	വനം വന്യജീവി വകുപ്പിന് കീഴിലുള്ള കേരള ഫോറസ്റ്റ് ഡെവലപ്മെന്റ് കോർപ്പറേഷനിൽ കഴിഞ്ഞ നാല് വർഷ കാലയളവിൽ കംപ്രോളർ ആന്റ് ഓഡിറ്റർ ജനറൽ 2018-22, 2022-24 എന്നീ കാലയളവുകളിൽ നടത്തിയ ഓഡിറ്റിൽ ക്രമക്കേടുകളൊന്നും കണ്ടെത്തിയിട്ടില്ല.
(ബി)	പ്രസ്തുത ഓഡിറ്റ് സംബന്ധിച്ച അന്തിമ റിപ്പോർട്ട് ലഭിച്ചിട്ടുണ്ടോ; എങ്കിൽ ആയതിന്റെ പകർപ്പ് ലഭ്യമാക്കുമോ?	(ബി)	അന്തിമ റിപ്പോർട്ട് ലഭ്യമായിട്ടുണ്ട് . റിപോർട്ടറിന്റെ പകർപ്പുകൾ അനുബന്ധം I , II ആയി ചേർക്കുന്നു

സെക്ഷൻ ഓഫീസർ

INSPECTION REPORT ON THE COMPLIANCE AUDIT OF KERALA FOREST DEVELOPMENT CORPORATION LIMITED, KOTTAYAM FOR THE PERIOD 2018-2022

PART-I

A. Introduction

The Kerala Forest Development Corporation Limited (Company) is a Public Sector Undertaking jointly owned by Government of India (GoI) and Government of Kerala (GoK). The Company was incorporated in the year 1975 with its Head Office at Kottayam and Divisional Offices at Thiruvananthapuram, Punalur, Munnar, Thrissur, Gavi and Mananthavady.

The Company has the following main objectives

- i. To acquire, purchase or take over on lease or otherwise, reserved forests, unreserved forests, vested forests and other lands from GoK and others either with tree growth or not and to develop such areas and raise plantations of industrial use.
- ii. To cultivate plantation of rubber, pepper, cashew, cocoa, cardamom etc. and to buy, sell, export, import, process, distribute, deal in all kinds of forest plants, trees, agricultural crops.
- iii. To acquire, purchase or take over on lease or otherwise and manage forests to maximize production of timber and other produce.
- iv. To carry on the business of foresters, planters, cultivators, sellers, dealers in timber and industrial woods, firewood, charcoal etc.

B. Share Capital

The authorized share capital of the company was ₹10 crore. The paid up share capital as on 31/03/2022 was ₹9.20 crore consisting State Government contribution of ₹8.27 crore and Central Government contribution of ₹0.93 crore.

C. Organizational Structure

Activities of the Company are governed by the Board of Directors comprising six official and four non official Directors. The day-to-day activities are controlled by the Managing Director; who was an officer in IFS from the Kerala Forest Department. The Managing Director was assisted by an Assistant General Manager, Company Secretary, seven Divisional Managers and two Accounts Managers.

D. Staff strength

As against sanctioned strength of 151, men in position as on 31 March 2022 were 89.

E. Plantations

The species wise details of plantations under each division as on 31 March 2022 was as follows:

Sl. No	SPECIES	TVM (Ha.)	PNLR (Ha.)	TCR (Ha.)	MNR (Ha.)	GAVI (Ha.)	MTDY (Ha)	Total Area
1	Eucalyptus	1205.287	345.010	108.042	465.440	50.500	0.000	2174.279
2	<i>Acacia auriculiformis</i>	866.129	468.900	339.125				1674.154
3	<i>Acacia mangium</i>	13.160	6.080	51.870				71.110
4	<i>Acacia crassicaarpa</i>	28.903	11.480					40.383
5	<i>Mahagony</i>		9.400					9.400
6	<i>Ailanthus triphyssa</i>			11.900				11.900
7	<i>Meliadubia</i>	8.3.		8.250				8.250
8	<i>Macaranga peltiatta</i>		4.850					4.850
9	Casuarina		6.020					6.020
10	Bamboo	415.846	199.190	37.040	14.500	28.000	0.000	694.576
11	Gmelina	19.564	7.430	20.890	0.000	0.000	0.000	47.884
12	Cardamon			38.000	115.700	100.000		253.700
11	Coffee			457.427	76.840	71.900		606.167
12	Rubber			57.936				57.936
13	Red Sanders	36.640		44.337				80.977
14	Pepper	3.800						3.800
15	Sandal	8.000		9.970				17.970
16	Cashew	159.063	165.000					324.063
17	Tea						100.670	100.670
18	Albizia	11.950	51.000					62.950
19	Teak	13.450	1027.190	218.440				1259.080
	TOTAL	1576.505	1956.540	1295.185	207.040	199.900	100.670	7510.119

G. Financial position:

The Company has finalized its financial statements only up to the year ended 31 March 2020. The financial position and operational performance of the Company for the three years up to 2021-22 is as under:

Financial Statements

(₹ in lakh)

Equity and Liabilities	2018-19	2019-20	2020-21	2021-22
Share capital	919.54	919.54	919.54	919.54
Reserve & Surplus	3935.26	3784.77	3801.62	3838.44
Non-Current liabilities:				
Long term borrowings	100.09	273.26	153.66	400.09
Other long term liabilities	960.81	532.17	655.97	834.42
Provisions	1065.48	1145.78	1233.68	1191.74
Total	2126.38	1951.21	2043.31	2426.25
Current Liabilities and Provisions	618.73	597.73	584.62	604.4
Total	7599.91	7253.25	7349.09	7788.63
Assets				
Non-Current Assets – Fixed Assets				
Tangible Assets	546.34	494.66	446.49	414.16
Capital WIP	9.90	9.90	9.90	9.90
Total FA	556.24	504.56	456.39	424.06
Non-current Investment	95.22	95.22	95.22	95.22
Long term loans & Advances	227.40	227.40	213.80	214.31
Current Assets				
1. Inventories	6276.35	6197.22	6272.11	6240.36
2. Trade receivable	193.07	173.93	163.55	146.47
3. Cash and bank balances	235.84	5.58	106.99	630.17
4. Short term loans and advances	15.79	49.34	41.03	38.04
Total	7599.91	7253.25	7349.09	7788.63

Operational Performance

(₹ in lakh)

Income from operation	2018-19	2019-20	2020-21 (Provisional)	2021-22 (Provisional)
Revenue from Operations	1617.61	1371.63	1346.89*	1320.74
Other Income	6.54	9.02	0.40	0.97
Prior period income	38.29	0.00	473.57	0.00

Total revenue	1662.44	1380.65	1820.86	1321.71
Expenditure				
1. Plantation and upkeep, harvesting	456.84	619.67	419.69	289.93
2. Changes in inventories	-238.53	78.84	-75.12	31.56
3. Employee cost	878.45	858.17	684.09	672.00
4. Other expenses	434.85	359.57	194.08	221.89
5. Prior period exp	0.05	0.00	0.00	0.00
6. Finance cost	14.75	16.44	34.85	29.71
7. Depreciation	63.77	55.00	48.31	40.16
8. Rates & Taxes	4.10	2.52	2.49	3.30
Total expenditure	1614.28	1990.21	1308.39	1288.55
Profit before tax	48.16	-609.56	512.47	33.16
Tax expenditure	0.70	0.06	0.63	0.00
Profit for the period	47.46	-609.62	511.84	33.16

- Includes the financial assistance of Rs 500 lakh from GoK in respect of working capital

The Company could not sell out its matured eucalyptus plantations due to high rate fixed by the Government which was badly affected the revenue of the Company during the period 2019-22. Further, due to fully/partially closure of the tourism activities during the period of COVID 19, the revenue from tourism activities of the Company was also decreased significantly during the period 2020-22.

The details of grant received and utilized during the year from 2018-19 to 2021-22 were as under:

(₹in lakh)

Year	Grant received	Grant utilised	Purpose
2018-19	32.94	32.94	Expansion of Munnar ecotourism
2019-20	0	0	
2020-21	500.00	500.00	Working capital
	12.06	12.06	Expansion of Munnar ecotourism
	74.8	70.97	Expansion of Arippa ecotourism
	100.00	100.00	Cardamom revitalisation
2021-22	74.74	44.04	Expansion of Arippa ecotourism
	76.00	37.90	Expansion of Gavi ecotourism
	300.00	298.79	Cardamom revitalisation

The grants were utilised for the purposes for which the Government released.

I. Disclaimer

This Inspection Report has been prepared on the basis of the information furnished and made available by Kerala Forest Development Corporation Limited, Kottayam. The Office of the Principal Accountant General (Audit-II), Kerala disclaims any responsibility for any misrepresentation and/or non-information on the part of the auditee.

PART-II-(A)

Significant Audit Findings

NIL

PART-II-(B)

Other incidental Audit Findings

I. Cardamom Plantations Activities at Gavi

The Company has 841.01 Ha of cardamom plantations in Gavi. In the initial years of the cardamom plantations, traditional cardamom varieties such as Vazhuka, Malabar, Mysore etc were planted. The yield from the initial plantations were comparatively very less. Hence, from 2000 onwards high yielding varieties such as Njallani were used for planting and yield began to show gradual progress. The Cardamom plantations areas were classified the Company into three categories viz; Specially Treated Areas (STA), Treated Areas (TA) and General Management Areas (GMA). In respect of STA and TA, intensive agricultural operations such as application of fertilisers, fungicides, insecticides and irrigation were carried out. These areas were also covered with power fencing. However, in respect of GMA, weeding and base cleaning before harvesting were the only operations carried out. The details of the areas (Ha) of cardamom plantations in Gavi division were as follows:

(Nos. in Ha)

Sub-unit	STA	TA	GMA	Total production area	Unproductive Area	Total
Meenar Estate	10.90	14.30	105.29	130.49	93.29	223.98
Gavi Estate	14.12	14.23	131.10	159.45	129.06	288.51
Pamba Estate	0	45.50	174.77	220.27	108.25	328.52
Total	25.02	74.03	411.16	510.21	330.6	841.01

The normal life span of Cardamom plants is nearly 12 years. However, most of the cardamom plants were very old age. Further, the replantation activities in respect of the cardamom

executed by the Company during the period 2011 to 2019 were very few. The total area replanted during the years 2011 to 2019 were only 37 Ha. On further analysis, it was noticed that the yield from cardamom was decreased drastically from 2013-14 onwards as detailed below:

(₹ in lakh)

Year	STA/TA	GMA	Total (Kg)
2009-10	10962	1503	12465
2010-11	10718	991	11709
2011-12	12615	3456	16071
2012-13	10822	1101	11923
2013-14	2610	1030	3640
2014-15	1659	2176	3835
2015-16	5332	4548	9880
2016-17	1882	1618	3500
2017-18	2578	3733	6311
2018-19	1265	1478	2743
2019-20	335	711	1046
2020-21	2677	3039	5716
2021-22	1831	2332	4163
2022-23 (upto Dec)	1105	2344	3449

Due to the low yield from the cardamom plantation, the revenue generated from the Cardamom Plantations were not enough to meet the expenditure. The revenue and expenditure in respect of the cardamom plantations for the last four years were as follows:

(₹ in lakh)

Year	Revenue	Expenditure	Loss (')
2019-20	6.825	197.61	-190.785
2020-21	100.44	197.36	-96.92
2021-22	59.278	195.	-136.422
Total	166.543	590.67	-424.127

In this connection the following observations are made:

1. There are many threats in management of the Cardamom plantation. They are in the nature of pests, diseases, overshade, wildlife damages etc. For effective management of pests, spraying with appropriate insecticides is necessary and the spraying schedule need to be planned in consultation with the expert in cardamom consultants in addition to the advice of the Spices Board from time to time. The major disease to the Cardamom is Azhukal and which is caused by the fungus Phytophthoras. Infection appears on the panicle tip and proceeds downwards. The reasons for Azhukal disease are heavy and continuous rainfall, excess soil moisture, thick shade, over crowding of plants and prevalence of inoculums in the soil. Thus, the Azhukal is the prime threat for the productivity of the plantation. Preventive and systematic spraying along with proper

phyto sanitation required for a positive result. Further, Over shade is another threat to the Cardamom plantations. Optimum level of sunlight is required for cardamom plantations. Excessive shade needs to be regulated by cutting and removing the tree branches as required. For the management of the above problems, the Company has identified and included in the Management Plan (2015-20) the intensive agriculture activities are to be followed in the cardamom plantations. However, it was noticed that there were no intensive cultivation activities were given to the cardamom plantations in Gavi Division. The Company stopped the fertiliser application to the cardamom plantation since April 2020 onwards. In addition to this, the current Management Plan 2020-25 of the Company were not included the intensive agriculture activities. Hence most of the intensive agriculture activities cannot be executed in the cardamom plantation in Gavi without the prior approval of MoEF. Thus, absence of the intensive agriculture activities at the cardamom plantations at Gavi resulted in poor yield leading to loss of revenue to the Company.

2. The production and Cardamom sales and stock position from Gavi Division were as follows:

(₹in lakh)

Year	Production (Kg)	Available stock	Sales (₹g)	Closing stock (Kg)
2018-19	2743	2743	2440	254
2019-20	1046	1300	250	1012
2020-21	5716	6728	3466.5	3498
2021-22	4163	7661	2315.5	4771
2022-23 (uptoDecember)	3449	8220	318	7902

From the above table it was noticed that there is a stock of nearly 8 Ton cardamom with the Company. The Company was selling the cardamom only to those buyers who are approaching the Company directly. There were no marketing efforts to sell the cardamom through other means at high prices as the Company have organic cardamom (GMA) production for which no certificate was obtained by the Company so far. Further, the thew Company is not able to market whatever produced that resulted in accumulation of stock thereby blocking up of the fund of the Company. In addition to this, the cardamom required proper storage facility for long period to retain its quality particularly the colour. Due to absence of proper storage facility fetching high prices in bulk sales (auction/pooled) is remote.

3. In respect of the cardamom production from GMA area increased from 2020-21 onwards. In respect of GMA area, the Company did not apply any kind of fertilisers. As such, those cardamom comes under the category of Organic Cardamom. Comparison of yearly average sales price of the Gavi Division cardamom and the Spices Board yearly average price during the year 2018-19 to 2019-20 as detailed below:

(₹in lakh)

Year	Qty	Amount	Avg rate (per KG)	Yearly Avg rate of Spice Board	Difference
2018-19	2440	5124000	2100	1520	580
2019-20	250	682500	2730	2908	-178
2020-21	3457.5	11152711	3225.658	1478	1748
2021-22	2315.5	5663018	2445.7	996	1450

There are much difference between Company's yearly average selling price and Spices Board average selling price since 2021-22 onwards. This shows that majority of the Company's cardamom sold during the two years were GMA category and price of organic cardamom is very high. However, the Company has not taken the organic certificate in respect of cardamom so far. The reasons for not obtained such organic certificate in respect of cardamom may be stated to Audit..

4. The normal life span of Cardamom plants is nearly 12 years. Out of the 510 Ha productive cardamom plantation area, the economic yield getting from only 37 Ha cardamom plantations i.e consist of 7.25 percentage of total cardamom plantation. Further, the Company has replanted cardamom 28 Ha in 2020 and 26 Ha in 2021 as part of cardamom revitalisation plan. The economic yield from these plantation start from third year onwards. Hence the total viable cardamom plantation in Gavi Division is only 91 Ha. The present yield from the cardamom plantation is 18 kg per Ha in STA/TA and 5.67 kg from GMA area. Thus, absence of the rotational replantation of cardamom at Gavi also resulted in loss of revenue to the Company.
5. The total number of workers in the Gavi Division to manage the cardamom plantations were as detailed below:

(₹in lakh)

Year	No. of workers			Area (Ha)	Area (Ha) STA, TA	Per Ha worker (STA, TA, GMA)	Per Ha worker (STA, TA)
	Gavi sub unit	Pamba Sub unit	Total				
31.03.2019	105	63	168	510	99.05	3	0.59
31.03.2020	92	60	152	510	99.05	3.36	0.65

31.03.2021	90	58	148	510	99.05	3.45	0.67
31.03.2022	85	58	143	510	99.05	3.57	0.69

From the table it is evident that the Company is managing the cardamom plantations with less staff than required i.e 0.60 to 0.69 labour per Ha. As per the Spices Board assessment (December 2021) minimum 4 labourers should be maintained per Acre for carrying out all agriculture operations. Due to employment of less labour than the required also contributed loss revenue to the Company.

6. As per the project report prepared by the Company for the assistance for the plantation of new cardamom from Government (2019-20 to 2023-24), the expected yield from third year was 100 Kg per Ha, fourth year 300 Kg per Ha and 500 Kg per Ha from fifth year onwards. As against this, the yield achieved by the Company during the period 2021-22 and 2022-23 (upto December 2022) as detailed below:

(₹ in lakh)

Year of plantation	Area (Ha)	2021-22			2022-23		
		Yield per Ha	Expected yield	Actual yield	Yield per Ha	Expected yield	Actual yield
2016	4	500	2000	1831	500	2000	1105
2017	9	500	4500		500	4500	
2018	5	300	1500		500	2500	
2019	5	100	500		300	1500	
2020	28.02	0	0		100	2802	
2021	26.23	0	0		0	0	
			8500	1831		13302	1105
Shortage			6669			12197	

However, the Company could not generate the yield as projected by the Company. From the above table it was also noticed that yield from new plantations is decreasing. This also resulted in loss of revenue from the Cardamom plantations. Further, the Government has pumped Rs 4 crore into the Company for the various cardamom replantation activities. If the projected revenue could not be generated by the Company, it would result in the investment of money into unviable project of the Company. Hence the Company should assess the reasons for the poor yield from the new cashew plantation and should take suitable remedy to yield the projected yield from the new cardamom Plantations.

II. Sandal Tree Plantation

The Company planted sandal wood trees in Anakkulam area under Trivandrum Division in two bits - 4.28 Ha during 2010 and 3.18 Ha during 2011. The sandal wood trees were planted 3 x 3 distance (1111 per Ha) along with plantation of gooseberry (*Phyllanthusemblica*) plantation (278 per Ha) totaling 1411 nos per Ha. The sandal tree attains full maturity within 100 years. It attains a height of 10 to 15 m and average girth of 100 cm at BH. These plantations were maintained by the Company since its first year of planting. The growth of the plantation was between 15 cm GBH to 30 cm GBH with 90 per cent stock. The sandal wood plantations are in human populated area. The plantations were maintained without chain fencing and at present only one watcher is deployed for the security of the trees. Every year the Company is taking one sample plot analysis of the trees (50 trees) only and found that most of the trees GBH were more than 20 cm. In this connection the following observations were made:

- The Company was giving knife weeding to the plantations every year upto 2017-18. However, the then Managing Director directed (19.01.2018) that sandal tree is a partial parasite drawing nutrient by roots haustorial association with roots of other suitable plants, weeding in the both plantations shall not be done in future. Hence the Company stopped giving the yearly maintenance to the sandal wood plantations since 2018-19 onwards. On July 2018, the Manager of the Anakkulam area reported that the undergrowth will grow over the sandal wood plantation, hence proper action is required. It was reported that on 26 April 2019 in the heavy rain and wind, seven sandal wood trees were broken from the middle portion of the sandal trees by falling of acacia auriculiformis, manjiam and Maruth trees on the sandal trees. The height of the sandal trees were between 90 cm to 260 cm and the GBH of the trees were between 11 cm to 33 cm (2021). The GBH of felled acacia auriculiformis, manjiam and Maruth trees were 80 cm. As per approved working plan of the Mannarcad Forest Division, 'when sandal plant reaches sapling stage, help is given by providing overhead light. Hence the tending operations are aimed at giving enough lateral shade during the early stage and plenty of overhead light after the sapling stage. Climber cutting is being done at all stages of growth'. However, it was noticed that due to stoppage of weeding work, the presence of the exotic plants like acacia auriculiformis, manjiam etc were high as against the host trees of gooseberry for the sandal wood plantation. Further due to presence of the exotic plants in the sandal wood plantations, the Company lost 7 sandal trees. As such, the Company should take expert opinion to arrest such loss of sandal wood trees from the Plantation in future.

- The forest department has been classified the Sandal plants as seedlings, saplings, poles and trees above 30 cm GBH. However, such classification has not been done by the Company so far so as to give proper care to the sandal wood plantations.
- Further, in March 2021, the Manager reported that other species like acacia auriculiformis, manjiamete and occupies upper canopy may harmfully affect the plantations. In August 2021, the field officer of the plantations reported that the plantation was thickly populated with other trees and undergrowth. Hence it was not able to go inside the plantations by the protection staff. This will affect the growth as well as the protection of the trees. As against this the Company has not taken any action so far. The reasons for not taken the action for the report of the Manager may be stated to Audit.
- The forest department conducts enumeration of sandal woods trees once in two years. However, such enumeration of sandal wood trees was not conducted by the Company. As sandalwood is rare and costly, all the sandal trees need to be properly identified, numbered and a proper record should be maintained. This will help in identifying loss, damage and can help in monitoring as well. The procedure followed by Marayoor Sandal Division for marking of sandal trees, is by assigning a unique number and fixing a number plate with a unique number for a sandal tree. Further, the Company needs to ensure GPS reading in respect of all sandal plants to ensure its survival like forest Department following. Such system is not seen followed by the Company. For ensure sustainable growth and development of upcoming sandal trees proper protection is required. The Company should take immediate action.
- There are chances of deep cut at the sandal plants to assess the maturity of the wood by trespassers. However, due to thick weeds the Company could not check such damages in the sandal wood plantations.
- The Management Plan of the company is not included the working circle detailing the intensive agriculture activities of the sandal wood trees.

In short, the sandal wood trees plantation should be given proper protection. Further there is a threat to the growth and survival of sandal wood plantation due to the absence of the regular maintenance at the sandal wood plantations.

III. Red Sandal Wood Plantation

The Company planted red sandals in Palode sub-unit in an area of 36.64 Ha during the year 2009. The red sandalwood has been classified as endangered category by International Union for Conservation of Nature's (IUCN). The red sandal plant was planted after clear felling of the Manjiam. The Manjiam trees were having good germination rate. The red sandal wood

trees were planted in 2.5 x 2.5 metre distance i.e 1600 trees per Ha. The plantation was given maintenance in the first three year only and hence due to heavy under growth of plants, the growth of red sandal was affected. In 2014, the Managing Director directed to remove the under growth in the red sandal plantation and to retain Manjiam trees having good growth. During Ockhi cyclone in November 2017, many of the Red sander trees were damaged due to fallen of majority of Manjiam trees on the Red sandal trees. In September 2018, the MD directed to remove all the Manjiam trees from the red sandal plantations. Hence due to removal of the manjiam trees from the Plantations, vacant places were formed and the Company decided to plant 35000 nos teak plants without any study. Initially, 53120 nos red sandal were planted and only 18384 nos are remaining after Ockhi cyclone which accounted only 34.6 % of the planted trees. The teak wood planted in the red sandal plantations were in 2019. The Company did not follow the burning process before planting the teak wood. The majority of the teak wood plant planted were not survived and hence it become failure. In this connection the following observations were made:

- The red sandalwood was restricted to southern parts of Eastern Ghat of India. Most of the red sandalwoods were located in Andhra Pradesh. The Company planted red sandal wood in 80.98 Ha (Trivandrum 36.640 and Thrissur 44.337) of land. Even though, the red sandalwoods plantations were new to the Kerala State, the Company should have prepared working cycle in respect of the cultivation of Red sandal woods for achieving the objective framed by the Company. However, the Company did not prepare the working cycle and which was not included in the Management Plan for the cultivation of sandal wood plantation. As such, many intensive agricultural activities were not identified and followed by the Company. This resulted loss of major portion of the red sandal wood trees in Trivandrum Division.
- As the red sandal wood trees were totally new to Kerala, a proper sample plot analysis should have been done in respect of growth of the trees as well as for stock of the trees at a regular interval. However, such sample plot analysis was absent in the company. Had the Company did the sample plot analysis, the live problems in the Plantations could have identified in time and proper remedial action could have been given to the Plantations. At the early stage, the poor stock could have mitigated by with timely causality plantation.
- The ideal sapling space for the red sandal wood trees were 4 m X 4 m. As the Company planted the trees at a distance of 2.5 x 2.5, thinning was required for the plantation. The ideal plant population for a hectare was 600 trees as against

this, the Company planted 1600 nos of red sandal trees. However, the Company did not frame the thinning intervals and hence not given thinning to the red wood plantations. The reasons for the non-thinning to the plantations may please be stated to Audit.

- During the November 2017 due to Ockhi cyclone, many manjiam trees were fallen on the Red sandal wood trees in the red sandal wood plantation. However, the wind fallen trees were removed by the Company after 18 months i.e by May 2019. This also caused the growth of the red sandal wood tree. As the price of the red sandal wood trees is very high, proper care should have been taken the Company to the immediate removal of wind fallen trees. Thus, delay in removing the windfallen Manjiam trees from the plantations affected growth of the survived red sandal trees in the plantations.
- During the inspection (May 2019) at the Plantation, the Divisional Manager reported that the Manjiam trees were having good germination rate and hence every year weeding is required. Divisional Manager further reported that 25% of the red sandal trees growth were below 2 metre and in respect of the 34.68 % of the red sandal trees, proper fertilisation and maintenance required for the growth. However, the Company did not analyse the recommendation of the Divisional Manager and suggestions were not considered. As the red sandal trees is a very costly wood, the reasons for not analysed such recommendation for the increased growth of red sandal wood trees may be stated to Audit.
- In 2015, the Divisional Manager reported that stock of the Red Plantation is 70 % and the growth of the trees were poor. In the plantations, the manjiam trees were showing good growth and the entire Plantation is appears to be a good Manjiam Plantations. It was noticed that the red sandal wood trees are light demanding trees and can withstand moderate droughts also. As such, the growth of the manjiam trees over the height of the red sandal trees were threaten the growth rate of red sandal tree. Thereby the growth of the red sandal trees was affected by Manjiam trees. However, the Company did not taken advice from FRI or similar Institute for the remedial action like removal of the entire manjiam trees from the plantations.
- As the wood of the red sandal tree is having a very good value, proper protection of the trees was required as many of the GBH of the surviving trees were more than 50. Hence the Company should have conducted census of the red sandal trees and given proper numbering. The Company should classify

the trees in the plantations as poles and trees with GPS location so as to detect timely the theft of the red sandal wood trees, if any in the plantations, and for taking immediate action.

- Twenty to twenty five year old red sandal wood trees are used for the extraction of bark and wood. The expected yield of the wood is 150 tonnes per hectare after 15-20 years. At present the age of the red sandal trees of the Company is 14 years. As such, chances of theft of red sandal trees are very high. Hence proper protection to the plantations should have been done by the Company.

IV. Functioning of Sandal Oil Factory. (3)

The Government of Kerala ordered closure of all private sandalwood oil extracting units in Kerala from February 2005 as an effective measure against the smuggling of sandal wood. Accordingly, KFDC was directed to go with a project for establishment of sandal oil distilling units in Marayoor. The land for the sandal oil factory (one acre) was provided by the Forest Department at Marayoor. For the sandalwood oil extracting, the Forest Department assured regular supply of a 10 MT of sandalwood annually, preferably root portions. As per Government order, the raw material will be supplied on a monthly credit basis and payment will be settled before release of next consignment. The installed capacity of the sandal wood oil extracting factory was 400 Kg per year. The amount invested by the Company for the establishment of the sandal oil factory was Rs 269.85 lakh. The Company purchased 5465.95 KG (in two times - 2017 and 2018) sandalwood from Forest Department and extracted 283.225KG of sandal oil so far. The extraction of sandal oil has been carried out by the Company only two times (2011-13 & 2017-19) since its commissioning. In this connection the following observations are made:

- The installed capacity of the sandal wood factory was extraction of 400 Kg sandalwood oil from 10MT of sandalwood in a year. As against this, the Company could extract only 283.225 Kg for the last 11 years. This shows that the Company was not utilised even one year capacity of the factory since its commissioning of the factory. Further, there is no production planning in respect of sandalwood factory and hence Company did not prepare the yearly sales and production budget in of sandalwood oil. The total capacity utilisation of the factory so far is only 6.44 percentage of the installed capacity. This was mainly due to poor demand of the sandalwood oil in the market.
- The Company had purchased (November 2018) 989.35 Kg of sandal root from the Forest Department for the extraction of sandal wood oil. The total amount payable to

the Forest Department for this was ₹122.59 lakh (December 2022). Due to the absence of continuous extraction of sandalwood oil, the Company delayed the payment to the Forest Department in respect of the purchase of sandalwood oil. This resulted in blocking up of the fund of the Government with the Company.

- The details of sandal oil extracted and sales made by the Company since 2017-18 onwards were as follows:

(₹in lakh)

Year	Sandalwood purchased (Kg.)	Sandalwood consumed (Kg.)	Oil obtained (Kg.)	Oil Disposed (Kg.)	Closing Stock	Bulk sale	Retail sale
2017-18	0	713.873	36.14	33.301	36.394	8	25.301
2018-19	989.35	989.35	48.67	41.435	43.629	31	10.435
2019-20	0	0	0	8.026	35.603	6.222	1.804
2020-21	0	0	0	4.514	31.089	0	4.514
2021-22	0	0	0	6.48	24.609	0.11	6.37
2022-23 (Upto Dec)	0	0	0	5.771	18.838	0	5.771
Total	989.35	1703.223	84.81	99.527	18.838	45.332	54.195

The second time, after commissioning of the factory, the Company extracted sandal oil in 2017 with the balance available sandalwood stock from the first purchase made in 2011. The present stock in hand (December 2022) of the sandalwood oil (which were extracted during 2017-18) is 18.84 KG. The total sales made by the Company from the extraction of sandal wood oil is only 99 KG (45 KG bulk sales and 54 KG is retail sales). However, the sale of sandalwood oil were drastically reduced since 2018-19 onwards. The average retail sales of sandalwood oil for the last four years (2018-19 to 2022-23) were only 6.71 KG only. There are no bulk sales of sandalwood oil since from 2020-21 onwards. This is mainly due to the high price fixed by the Company based on the cost of production. The present sale price of sandal wood oil of the Forest Department oil through auction is ₹2.35 lakh per KG (December 2022). Hence, the prospect of the Company in the near future in respect of sale of sandal oil is through retail sales only. Hence the Company should find out the new venues for the retail sales of the sandalwood oil. For this, yearly target should be fixed to the eco-

shops of the Company in addition to the other marketing efforts to increase the sale of the retail sales of sandalwood oil.

- The expenditure incurred by the Company in connection with the extraction of the sandal oil during the period 2018-19 were ₹Rs 330 lakh per KG. Hence the bulk sale purchase price for the sandal were fixed at ₹3.30 lakh per KG (plus tax) and in respect of retail sale the price was fixed at ₹5 lakh per KG (inclusive of tax). It was noticed that the Forest Department is selling the sandalwood oil @ ₹2.35 lakh per KG. While the raw material price for extracting the sandalwood oil is increasing year after year. As such, demand of the Company's sandalwood oil will be poor. In this connection the Company should have plan to utilise the factory assets in an efficient way to avoid the idle investment/expenditure in connection with the factory.

V. Eco-tourism activities at Gavi.

Ecotourism tourism is ecologically sustainable tourism and is promoted through people's participation without damaging the ecological status of the forests, for the benefits of the local communities. The cardamom plantations at the Gavi were situated in the Periyar Tiger Reserve Area. The Cardamom Project at Gavi was running in huge loss and therefore Corporation has ventured (2001-02) into Ecotourism activities as part of diversification programme. The Day Package programme for visitors was initially operated by the Company. As part of eco-tourism activities, three Eco-Development Committees (EDCs) namely Gavi EDC, Kochu Pampa EDC and Meenar EDC were formed during 2000-2001. The resident labour families of the Cardamom-Coffee estates of KFDC are members of these EDCs. The objectives of the Day Package programme was diversion of tourism pressure from the Tourism Zone of Periyar Tiger Reserve, visitor satisfaction, labour opportunities and income to members of the EDCs, and additional income to KFDC. Initial funding for the Programme was released during 2000-01 from the India Eco-Development Project. Later, the Company expand the tourism activities in the Gavi area after introducing the stay programme in two places at Gavi and Jungle Camp. At present the Company is arranging the stay programme in its Green Mansion building, Swiss cottage tents and Jungle camps. The details of the rooms and beds in the stay programme were as follows:

Location	Rooms/Tent	No. of Beds
Green mansion eco lodge	11	28
Swiss Cottage tent	7	14
Jungle Camp (two locations)	2	20
Total	20	62

The rate charged for the facilities offered by the Company were per person/bed wise as detailed below:

Particulars	Rate inclusive GST (₹)
Day programme	1653
Green mansion Jungle lodge	3315
Swiss Cottage tent	3875
Jungle Camp (Rate is minimum four persons & ₹ 3854 for extra person)	15416

The rate is inclusive of Breakfast, Lunch and Dinner. The stay programme at Gavi includes trekking, vehicle safari, boat rides (rowing boats) with the support of trained guides. The Day Package programme also offers same facilities to the tourist with food. The above tariffs (without GST) were fixed by the Company during the 192nd Board meeting held on 19 March 2018 and has been implemented w.e.f 1 April 2018 on wards. After that, the tariff (inclusive of GST) was revised from April 2019 with an increase of 10 percent in the tariff fixed by Company on April 2018.

The performance of the Gavi ecotourism for the last five years were as follows:

(₹ in lakh)

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
Revenue from ecotourism (₹)	375.74	231.13	247.52	53.02	115.21
Expenditure (₹)	131.46	101.40	116.68	51.06	87.49
Profit (₹)	244.28	129.73	130.84	1.96	27.72
Percentage of Expenditure to Revenue from Ecotourism (%)	34.99	43.87	47.14	96.30	75.94

The number of visitors at Gavi during the last five years (2017-18 to 2021-22) were as follows:

(In numbers)

Years	GM	CT	JC	DAY	Total	Indian	Foreign
2016-17	4243	1741	248	14113	20345	19033	1312
2017-18	5132	2077	327	15933	23469	21841	1628
2018-19	2368	1039	291	7599	11297	10079	1218
2019-20	3445	1369	319	5810	10943	9885	1058
2020-21	1080	340	50	1030	2500	2497	3
2021-22	2258	794	33	1969	5054	5016	38

In this connection the following observations were noticed:

1. From the above table it was noticed that the revenue from the eco-tourism activities at Gavi were decreasing every year since 2018-19 onwards. Due to Covid 19 the revenue were decreased drastically during 2020-21 and 2021-22. However, during 2018-19 the

revenue from the ecotourism activities decreased to ₹231.13 lakh from ₹375.74 lakh (2017-18). On further analysis of the number of tourists, it was showing an increasing trend of the number of tourists upto 2017-18. As against this, from 2018-19 onwards the number of tourists were in decreased trend. The number of tourists were decreased drastically from 23469 nos (2017-18) to 11297 nos (2018-19) and which account for 48 percent of the number of tourists in 2017-18. Hence the number of tourists decreased were 52 percent and thereby the revenue were also decreased by ₹144.61 lakh resulting a decreasing in profit by ₹114.55 lakh. While the percentage of expenditure to the Revenue of eco-tourism was in increasing trend as the expenditure to revenue of 35 per centage during the year 2017-18 was increased to 44% in 2018-19. One of the reasons for decreased in the tourist was the heavy flood in August 2018. However, the effect of the flood was affected the Company during the month of August, September and October 2018 only and which was recovered from November 2018 on wards. Another reasons for the decrease in tourist was due to increase of the tariff (20 percent) by the Company from April 2018 on wards and further increase of tariff (10 %) due to charging of GST in April 2019. It was evident from the analysis of the previous year's tourist numbers prior to the revision of tariff (2016-17 & 2017-18) as detailed below:

(In numbers)

Month	2016-17	2017-18	2018-19	2019-20
April	1498	2159	1464	1121
May	2287	2967	2067	1400
June	1144	1757	680	753
July	1298	1787	580	634
Total	6227	8670	4791	3908
Drop % of tourists	0	0	44.74	54.93

However, the Company was not analysed the reasons for decreased in tourist after revisions of the rates at Gavi. It was further noticed that the revision in tariff was implemented by the Company without execution of any major renovation works and any added facilities to the tourist. This resulted in loss of revenue to the Company. The reasons for not analysed the decreased in the tourists numbers thereby decrease in revenue after revision of the tariff may be stated to Audit.

2. The stay programme (Green mansion and Swiss cottage) occupancy rate at the Gavi accommodation was very poor after the enhancement of the tariff of stay programme as detailed below:

Year	Maximum bed capacity of Green mansion (28 * 365) and Swiss Cottage tent (14 * 365)	No.of tourists	Occupancy percentage
2016-17	15330	5984	39.03
2017-18	15330	7209	47.03
2018-19	15330	3407	22.22
2019-20	15330	4814	31.40
2020-21	15330	1420	9.26
2021-22	15330	3052	19.91

From the above table it was noticed that the annual stay programme occupancy rate was in the range of 39 to 47 percent during the period April 2016 to March 2018. However, it has been decreased drastically to 22 percent in 2018-19 and 31 percent in 2019-20. The tented accommodation were given major renovation during the year 2015. The rate was increased by the Company by stating that the rate fixed prior was on 12 January 2015 and further, the salaries of the employees and other expenses in relation to tourism was increased. It was noticed that no study was conducted by the Company prior to the increase the tariff of the accommodation charges. The reasons for not carry out the proper study to evaluate the tariff in Gavi may be stated to Audit.

3. The occupancy percentage of accommodation at Gavi were very high during weekend and holidays. Further, during weekdays the occupancy percentage were very low and in many days the occupancy percentage were zero. As such, the Company should have framed a policy to tap more revenue from ecotourism so as to avoid the low occupancy percentage to avoid loss of revenue. Had the Company frame a policy in respect of flexible tariff rate to attract tourist in off season/week days, the Company could have earn more revenue from eco-tourism. Why the Company did not analyse and frame a method to avoid the low occupancy percentage of accommodation may be stated to Audit.

VI. Anayirakkal Cottage & Kalypso Camp

The District Collector, Idukki had taken possession (vide order No. RDOVM/343/2018/b6) of 2.941 Ha of encroached Government land in Chinnakanal village, Devikulam Taluk on 07 October 2020. The encroached land was utilised by a private person as tourism resort after construction of various buildings. Later, the Company expressed interest (20.10.2020) to the Government for acquiring the property for tourism operations. The property is situated three KM away from Suriyanelly. The property is developed by the private person into two division Anayirakkal Camp (independent cottage/tent type) and Kalypso (ordinary tent type) as a public road is passing between the two properties. The total number of cottages in the Anayirakkal

camp were 10 nos and the total number of tents in Kalypso camp were 8 nos (2 Swiss tent and 16 nos of ordinary tent). The tariff charged (including food and trekking charges) by the Company in respect of Anayirakal properties were Rs 2500 per person for Cottages, Rs 2000 for Swiss cottage tent and Rs 1500 per Dome tent and Rs 500 person in respect of Kalypso tent. The Company started its tourism operations (as eco-tourism) in the properties since April 2021. However, the revenue generated by the Company from the operation of the Anayirakal properties were very low. In this connection the following observations were made:

1. The properties (Anayirankal camp and Kalypso - building and other assets) with 2.945 Ha land were taken over (15 January 2021) by the Company from the Revenue Department. Total number of buildings in Anayirankal camp were 14 nos of which 5 buildings were locked (office room, kitchen and 3 cottages) and not handed over to the Company. As the kitchen was not handed over to the Company, at present the work area to the kitchen is used for kitchen purposes. In respect of Kalypso camp, as against 18 nos of tents, the Revenue Department handed over only 16 nos of tents to the Company. For the possession of the non-occupied buildings, the Company has taken up the matter only with District collector, Idukki at Divisional Manager level only. The matter was not taken up with Government level at the Managing Director level and the subsequent follow up were also from Divisional level through writing letters to Revenue Department. The reasons for not taken up the matter and subsequent follow up at the Managing Director level with Government may be stated to Audit.
2. The maximum number of tourists that can accommodate in the Anayirakkal properties were 65 nos (Anayirakkal camp 17 and Kalypso 48). The property is situated in Revenue Department land instead of Forest Department land. As such, the property can be operated as eco-tourism as well as normal tourism activities. Further, the property is situated in major tourism destination and the competition from the competitors is very high by offering good services at competitive rates to the tourists. However, in the highly competitive place, the Company could not employ dedicated and qualified staff for the tourism activities in the properties. At present there is only one person is placed in the properties to attend entire work like cleaning, housekeeping, cooking, front office etc. This shows that the Company is managing the property not in a professional way. It was also noticed that Company is charging ₹5550 (2 person) inclusive of all taxes per day. Likewise, similarly tariff charged hotels are also offering services to the tourists with the trained staff in the tourism sector. This shows that lack of professional management in the management of a well-developed property leading to a loss of revenue to the Company.

3. The Company commenced its operation in Anayirakkal properties from April 2021 onwards. The revenue generated from the properties were very meagre due to the poor occupancy of guest. The details of revenue generated and the number of guests occupied in the properties during the period from April 2021 to December 2022 were as follows:

Category of accommodation	Max capacity	No. of guest	Occupancy %	Amount
Anayirankal Cottage	1920	21	1.09	36075
Anayirankal Canvas Cottage	5120	57	1.11	118523
Anayirankal Dome Tent	3840	135	3.52	203600
Kallypso Tent	30720	2231	7.26	693840

From the above it is evident that the occupancy percentage at Anayirankal Cottage is 1 to 3 percent and Kallypso Tent is 7 per cent. It was noticed that the Covid 19 situations has affected the property in very few months during the above period. In respect of the Kallypso tent, the income generated by the Company was a little higher than the Anayirakkal camp as a firm Kalypso Adventures, Ernakulam the booked the property for a long period. Eventhough, the occupancy percentage was zero in most of the days as well as in many months also (Annexure) in the property. However, no action was taken by the Company at higher level for the effective utilisation of the property for tourism purposes to generate income in professional way through enhancement of the occupancy rate of tourists. This also caused for the decrease of revenue from the property.

4. The property is situated in the prime tourist location in Munnar i.e. Suriyanelly. The property has a good tourist potential as a bird's eye view of Anayirakkal reservoir in the midst of green tea fields is an attraction from the property. The Suriyanelly is the starting point for the Kolukkumalai trekking and off-road jeep travel. As such, the place have a good tourists attraction as the majority tourists visiting Munnar visits Suriyanelly also. However, the Company could not attract any of the tourist to the Company's properties for stay. It is further noticed that the Company is having a floriculture centre at Munnar and which is also situated in a prime tourist location. Most of the tourist visiting Munnar are also visiting floriculture centre. The number of tourists visited the floriculture centre were as follows

Year	No. of visitors
2018-19	396636
2019-20	469689
2020-21	116117
2021-22	179907
2022-23 (upto Nov)	304813

In addition to above, a very large number of tourists are visiting the Company's other property at Meechapulimala. However, the Company could not tap such tourist potential to the properties in Anayirakkal. Further, the Company could have attracted tourist to the property by coordinate with the District Tourism Promotion Centre, however, which have not been done. This shows that the poor marketing efforts taken by the Company with dedicated staff. This also caused failure in managing a developed tourist property by the Company.

5. In tourism industry major repairs were to given to the properties once in five years. As such, lost of a day's occupancy in one room is lost for ever. Hence, the Company should have framed a policy towards maximum utilisation of rooms occupancy. One of such methods is introducing a flexi tariff rate system after analysing the variable cost and fixed cost applicable to the property. The company should frame a policy for introducing of flexi tariff rate for the increase in the occupancy percentage in the property after conducting a proper evaluation.
6. The tariff fixed by the company was based on the recommendation of the Divisional Manager. However, the higher Management of the Company has not analysed the similarly placed tourism properties tariff rate and their services, facilities etc offered to the tourist. The reasons for such absence of analysis may be stated to Audit.
7. There is a one acre young tea plantation at the premises of Anayirankal properties. As such, from the tea plantation collection and sale of Green Tea Leave can be happen and thereby the Company can generate revenue. The expected quantity of tea is 200 KG and the sale price is between ₹15 to 20. Hence regular weeding and pruning work also to be given to the plantation. This in turn attract the tourists to stay in Company property. However, the Company did not explore such tourist attraction in the property.

Thus due to lack of professional management in managing a well developed property become unfruitful to the revenue generation to the Company.

VII. Cashew plantation activities

The Cashew plantations were raised by the Company from 1987 onwards under Centrally Aided Scheme in Thiruvananthapuram and Punalur Divisions. The total area of cashew plantation of the Company were 324.063 Ha. under the division - Thiruvananthapuram and Punalur. A cashew tree starts bearing fruit after the third year of planting and the economic life span of a cashew tree is about 20 years. However, all the cashew plantations of the Company were crossed 20 years rotational age. Hence, the yield fetched the Company from the cashew

trees were very less. The details of area and yield received from the cashew plantation in the two Divisions during the last four years was as follows-

Particulars	2018-19		2019-20		2020-21		2021-22		Total average	
Division/Estate	Tvm	Punalur	Tvm	Punalur	Tvm	Punalur	Tvm	Punalur	TVM	Punalur
Total area in Ha.	159.063	165	159.063	165	159.063	165	159.063	165	159.063	165
Total num. of trees	16339	36775	16239	36770	16335	40335	16335	40335	16312	38554
Total no. of yielding tree	14107	12600	14415	10800	14331	12189	14556	13790	14352	12344
Actual quantity collected	6079	27450	9176	36505	8577	39700	5965	12400	7450	29014
Actual revenue generated	552300	2878500	809211	3290533	761036	3051266	528550	2580800	662775	2950275
Average yield per Ha. in kg (actual quantity collected/total area)	38.2	166	57.5	221	54	240	37.5	75	47	175
Per tree average revenue (in ₹) (total revenue / total yielding tree)	39	228	56	304	53	250	36	187	46	242
Per tree average yield (in kg.) (actual quantity collected/total yielding tree)	0.43	2.17	0.63	3.38	0.6	3.25	0.4	0.89	0.51	2.42

In this connection the following observations are made:

- On analyzing the performance, it was observed that the yield per hectare was very low from cashew plantations. The yearly average yield during 2018-19 to 2021-22 from Trivandrum division were ranged from 36 Kg/Ha. to 56 Kg/Ha. and in respect of Punalur Division were ranged from 75 kg/Ha. to 240 kg/Ha. The average productivity of cashew plantations in Kerala (published by the Directorate of Cashew and Cocoa Development) was recorded 962 kg/Ha during 2018-19. This shows that the productivity of the cashew plantations of the Company were far below the State average. The shortfall in yield was mainly due to absence of maintenance given to cashew plantations and also due to the old age of the cashew trees. It is further noticed that yield per tree in Trivandrum Division is very poor compared to the Punalur Division. This also contributed uneconomic utilisation of leased land which affected profitability of the Company through loss of revenue from the Cashew Plantations.
- One of the objectives of the Cashew Plantations of the Company was promote cashew cultivation to provide raw material for the Cashew industry in Kerala. Cashew

interplanted with pulpwood species are proposed on a large scale as it satisfies the in purposes catering to the need of traditional industry and provide adequate raw material to plywood industry. However, no action was taken by the Company for achieving this objective except collection of raw cashew from the cashew plantations.

- The 6th Management Plan proposed the following disease affected poorly yielding and wildlife prone Cashew plantations proposed for clear felling and replanting with pulpwood species: -

Division	Subunit	Block no. and location	Area in Ha.	Year of felling	Year of regeneration
Trivandrum	Arippa	v/7p, venkolla	3.967	2020-21	2021-22
		IX/10,12 Sasthanada	17.256	2021-22	2022-23
	Palode	XXIV/5 Vamanpuram	10.172	2020-21	2021-22
		XIII/5p, Peringamala	3.317	2020-21	2021-22
Punalur	Punnala	I Kadasery	19.6	2020-21	2021-22
Total			54.312		

It was observed that the Company has not initiated any action against the plantations as per the Management plan.

VIII. Meliadubia plantation

During 2021, the Company planted MeliaDubia in 8.03 Ha of Arippa subunit of Trivandrum Division. The area of plantation was adjacent to Reserve Forest of Kulathupuzha reserve where the presence of wild animals are high. The estimate cost of planting and first year maintenance of Meliadubia was ₹14.19 lakh. A total of 10150 seedling were purchased from M/s Rayirath Gardens, Thrissur and the plantation work was complete on 03.08.2021. Immediately, after the plantation (05.08.2021), the presence of the wild animals were noticed in the Plantation. The provision for solar fencing was not included in the first-year maintenance eventhough it was recommended from Divisional level. The Divisional Manager (DM) again noticed (16.08.2021) the heavy browsing of animals and recommended solar fencing for the Plantation. The casualty percentage (September 2021) of the plants were very high due to wild animals. During the inspection (January, 2022) the DM, found that 50 per cent stock was damaged by the wild animals for which the Company carried out casualty's plantation work for an amount of ₹1 lakh. Subsequently, the plantations were given solar fencing protection during the year 2022. In this connection, it was observed that as the area was very highly

infested by wildlife, protection like power fencing should be given to the Plantation. Due to the absence of solar fencing protection, the Company had to incur an amount of ₹1 lakh for the casualty's plantation.

Remarks of Management called for is awaited.

IX. Internal Control

The following internal control lapses were noticed during the Audit:

1. The Plantation Register maintained in respect of the Cardamom were not updated.
2. The Company is following convenor system of work system instead of contract system in respect of forestry related work including plantation.
3. Estate/Plantation wise yield of Cardamom is not maintained by the Company to assess the productivity of the various cardamom plantations.
4. The quotation register in respect of local purchase at the Munnar Division has not been maintained.
5. The rotational transfer among the staff in the Company are not followed to ensure better internal control.
6. The flow of Management Information System (MIS) from the lower management to higher management is weak. Hence the flow of MIS should be reassessed and strengthen.
7. As per the Company policy, the plantation clear felled should be replanted immediately with suitable species. However, 70.91 Ha of land was idling without replantation.

PART-III

(Follow up on findings outstanding of previous Inspection Reports)

The pendency position of paras in the previous reports is as given below:

Para No.	2009-10
IIB - VIII	Punalur Division - Sub Unit-II Karavoor - Booking of planting cost for an area in excess of that actually
	2013-14
IIB - IV	Unviable sandalwood factory at Marayoor
	2014-18
IIB - I	Non disposal of Eucalyptus Grantis plantations in Munnar worth ₹9.24 crore and Eucalyptus Pellitta in Punalur
IIB - II	Failure to collect GST on ecotourism activities resulted in avoidable liability ₹152.37
IIB - III	Procurement of materials for construction of power fence at higher rate and consequent extra financial burden of ₹7.89 lakh
IIB-	Failure in obtaining prior approval form MoEF for sale of plantations and

IV	consequence blockage of revenue ₹ 37 lakh
IIB - V	Non-realization of sale proceeds from Green tea lifted during 2013-14 ₹ 23.35 lakh
IIB-VII	Non-realization of long pending dues from Debtors ₹ 271.04 lakh

PART-IV

Best Practice

Nil

PART-V

Acknowledgement

The following officers were in charge of the office during the period covered in audit:

Sl. No.	Name of Managing Director	Period
1	P. R. Suresh, IFS	22/02/2018 to 01/06/2020
2	Deepak Mishra, IFS	02/06/2020 to 14/01/2020.
3	Anoop K. S, IFS	22/10/2020 14/01/2021
4	Prakriti Srivastava, IFS	15/01/2021 to 27/07/2022
5	Georgi P Mathachen , IFS	27/07/2022 to till date

The facilities extended to the audit team for the smooth conduct of audit is acknowledged herewith.



Senior Audit Officer

INSPECTION REPORT ON THE COMPLIANCE AUDIT OF THE KERALA FOREST DEVELOPMENT CORPORATION LIMITED FOR THE PERIOD 2022-2024

PART I

A. Introduction

The Kerala Forest Development Corporation Limited (Company) is a Public Sector Undertaking jointly owned by Government of Kerala (GoK) and Government of India (GoI). The Company was incorporated in the year 1975 with its Head Office at Kottayam and Divisional Offices at Thiruvananthapuram, Punalur, Munnar, Thrissur, Gavi and Mananthavady.

The Company has the following main objectives.

- i. To acquire, purchase or take over on lease or otherwise, reserved forests, unreserved forests, vested forests and other lands from GoK and others either with tree growth or not and to develop such areas and raise plantations of industrial use.
- ii. To cultivate plantation of rubber, pepper, cashew, cocoa, cardamom *etc.* and to buy, sell, export, import, process, distribute, deal in all kinds of forest plants, trees, agricultural crops.
- iii. To acquire, purchase or take over on lease or otherwise and manage forests to maximize production of timber and other produce.
- iv. To carry on the business of foresters, planters, cultivators, sellers, dealers in timber and industrial woods, firewood, charcoal *etc.*

B. Share Capital

The authorized share capital of the company was '10.00 crore. The paid-up share capital as on 31 March 2024 was '9.20¹ crore consisting of GoK contribution of '8.27 crore and GoI contribution of '0.93 crore.

C. Organizational Structure

The activities of the Company are governed by the Board of Directors comprising six official and three non-official members. The day-to-day activities are controlled by the Managing Director, who was an officer in Indian Forest Service from the Kerala Forests and Wildlife Department. The Managing Director was assisted by an Assistant General Manager, Company Secretary, eight Divisional Managers and two Accounts Managers.

D. Staff strength

As against the sanctioned strength of 143, staff in position as on 31 March 2024 was 93.

G. Financial position and Operational Performance:

The Company has finalized its financial statements only up to the year ended 31 March 2022. The financial position and operational performance of the Company for the two years up to 2021-23¹ is as under:

¹ Finalization of financial statements for the year 2023-24 is pending.

Financial Position

Table 1

(₹ in lakh)

Equity and Liabilities	2021-22	2022-23 (provisional)
Share capital	919.54	919.54
Reserve & Surplus	3844.92	3990.54
Non-Current liabilities:		
Long term borrowings	210	150
Other long-term liabilities	347.73	120.8
Provisions	1191.74	1158.38
Current Liabilities:		
Short term liabilities	1291.84	1422.09
Total	7805.77	7761.35
Assets		
Non-Current Assets – Fixed Assets		
Tangible Assets	418.57	416.51
Capital WIP	9.90	37.94
Non-current Investment	95.22	95.22
Long term loans & Advances	214.30	214.30
Current Assets:		
1. Inventories	6253.1	5484.57
2. Trade receivable	146.47	193.77
3. Cash and bank balances	630.17	1260.18
4. Short term loans and advances	38.04	34.46
5. Other Current assets	Nil	24.4
Total	7805.77	7761.35

Operational Performance

Income from operation	2021-22	2022-23 (provisional)
Revenue from Operations	1320.74	3053.21
Other Income	0.97	13.87
Total revenue	1321.71	3067.08
Expenditure		
1. Plantation and upkeep, harvesting	289.93	477.38
2. Changes in inventories	18.82	768.38
3. Employee cost	672	1185.86
4. Other expenses	221.72	441.01
6. Finance cost	43.96	45.44
7. Depreciation	42.6	45.41
8. Rates & Taxes	3.3	5.4
Total expenditure	1292.33	2968.88
Profit before tax	29.38	98.21
Prior period income	4.28	0
Tax expenditure	0	0
Profit for the period	33.66	98.21

Status of grant received and utilized.

Table 2

(₹ in lakh)

Year	Grant received	Grant utilised	Purpose
2022-23	100.00	100.00	Revitalization of Cardamom
2023-24	15.00	14.58	Gavi Ecotourism
	50.00	50.00	Revitalization of Cardamom
	12.80	8.33	Munnar Eco-tourism

H. Disclaimer

This Inspection Report has been prepared based on the records furnished and made available by the Company. The Office of the Principal Accountant General (Audit)-II, Kerala, Thiruvananthapuram disowns any responsibility for any misinformation and/or non-information on the part of the audited entity. It is certified that only audit observations which merit inclusion in the Inspection Report are included in the Inspection Report.

PART-II

Audit Findings

PART-II-(A)

Significant Audit Findings

Nil

PART-II-(B)

Other incidental Audit Findings

Para I:- Management of plantations

The Company develops and manages commercial plantations of economically important species. As of 31 March 2024, the Company maintains 8931.183 hectares of plantations growing different species (**Annexure I**). The major species, based on plantation area were Teak, Eucalyptus, Bamboo, Rubber, Cashew, Coffee, Pepper, Cardamom, and Medicinal plants.

Key actionable areas that influence the healthy growth of plants and trees, maximizing yield, and ensuring sustainability *etc.* include site and species selection, planting techniques, operational practices, maintenance activities, harvesting, and regeneration. Proper operation and maintenance of plantations enhance productivity and profitability.

A test check of transactions by the Audit to assess the management and operational practices followed by the Company for its various plantations revealed the following shortcomings.

(i) Lapses in maintaining Teak Plantations

The Company owns and manages 1387.890 Ha of teak plantation. Effective maintenance of teak plantation involves a comprehensive approach that addresses weed control, irrigation,

fertilization, pruning, thinning, pest and disease management, soil conservation, fire protection and environmental considerations. Regular monitoring and record-keeping are crucial to adjust management practices as needed and to ensure the long-term health and productivity of the plantation.

(a) Inadequate thinning operations

Thinning is a felling made in an immature stand for the purpose of improving the growth and form of the trees without permanently breaking the canopy. Thinning is aimed at reducing root-shoot competition. Since teak being a light demander, thinning ensures its health, vigor and stability thereby ensures the best timber on final felling.

As per the working plan for teak plantations, silvicultural system prescribes timely thinning viz. mechanical thinning at the end of five years, first, second and third silviculture thinning at 10th, 15th and 20th years and penultimate thinning at the age of 30 years and final thinning at 40 years. The final felling age is 50.

To carry out mechanical thinning, stock requirement in the plantation is 85 to 90 *per cent*. In the first thinning (mechanical), all plants in the alternate diagonal planting lines shall be felled, thus reducing the stock to 50 *per cent*. Second thinning will be taken up in the 10th year to reduce the stock favoring the promising trees, removing congestion to ensure better growth for the remaining trees. In the subsequent thinning of the 20th, 30th, and 40th year the aim is to reduce competition and to provide uniform space for growing crowns.

The purpose of silvicultural thinning is to ensure optimum use of space for the retained trees for production of more timber of good quality. During this operation, only the required number of trees of very good quality is retained. However, heavy openings in the canopy should be avoided.

Test check of thinning activities, however, revealed that timely thinning activities were not carried out at the Punalur and Thrissur Divisions. Out of the 1034.690 Ha of teak planation at Punalur division, no thinning activity was done at 836.55 Ha where the age of the tree was in the range of 9 to 22 years. Similarly in respect of Thrissur division, out of the 313.750 Ha, no thinning activity was done at 134.35 Ha with range of age of tree 8 to 21 years. Details are given in **Annexure 2**.

(b) Lapses in maintenance activities at SS Kodamala, Achenkovil Teak Plantation

The Company planted 370,000 teak seedlings in 121 Ha during 2008. Audit noticed lapses in weed control, application of fertilizers, pruning & thinning, monitoring mechanism to assess the health of the plant and its growth rates *etc.* as discussed below.

- Three weeding operations were carried out in the first three years and two in the fourth and one in the fifth year. The plants were showing a fair rate of growth in its first four years. However, after 2012, no periodic weeding activities except one climber cutting in April 2015 was carried out.
- Application of fertilizer was done in the first three years only.
- As against this requirement of first mechanical thinning in the fifth year it was done in the sixteenth year (2024). Even after the thinning operations, the presence of 2m X 2m espacement² in the plantations existed indicating that the thinning operations did not yield the intended result.

² The distance between a series of things that have been or are to be spaced (in planting).

- During the period between 2012 and 2023, inspection of plantation was carried out only on five occasions.

The above lapses led to below par growth as it is evident from the fact that during thinning, the Company could collect only 13.52 m³ teak timber from an area of 26.9 Ha in addition to various category teak poles. The entire teak timber collected was in class 'C'. During the sample plot analysis in the year 2022 (before thinning), the stock percentage in the 26.9 Ha was 46.25 *per cent* and 31.47 *per cent* in the balance area. Further, the girth of most of the teak trees were less than 50 cm. During a joint verification of the plantation with the officials of the Company in May 2024, the Audit team noticed that the size of the teak leaves was small and most of the leaves were dried up and the trees with green leaves were less. In addition to this, the presence of canopy was not visible in the plantation. Thus, Audit observed that if the Company maintains the plantation at the present level of operations, the chances of timber growth meeting the expected level on its maturity is remote.

(ii) *Non-compliance to the agricultural management practices at Mahogany Plantation at Karavoor, Punalur*

The Company planted 10500 mahogany seedlings in 9.4 Ha during 2016. Audit noticed lapses in site selection, weed control, pest and disease control, physical protection of the plants, casualty, replacement *etc.*, as discussed below.

- The site selected was used for plantation of *Acacia auriculiformis* during the period 1999 to 2008 and thereafter till 2016 for *Accacia Mangium*. As such the Company was aware that natural growth of acacia trees was invasive and therefore frequent weeding work was required in the mahogany plantation. However, sufficient weeding operations were not carried out after the first three years.
- The field officer of the Karavoor sub-unit reported in 2020 & 2021 that the growth of the mahogany trees was hampered by the growth of the *Acacia* trees. In March 2021, the manager reported presence of heavy weeds in the plantation and slow growth of mahogany plants due to manjium plants and climbers. For clearing this, line weeding or heavy weeding was required. However, no remedial action was taken by the Company. During joint verification of the plantation with the officials of the Company in May 2024, the Audit team noticed fast growth of acacia and manjium.
- Initially the mahogany plants were attacked by shoot borer insects for which pesticides were applied. However, timely application of pesticides for the control of insects was absent in the subsequent period leading to a low survival rate (30 *per cent*).
- As per the report of the Manager, plants were damaged by Sambar deer and small wild animals.
- *Acacia* and manjium plants were retained against the casualty espacement of mahogany plants. The reasons for causality replacement of mahogany trees with naturally grown acacia were not on record.

The above lapses led to below par growth as the sample plot analysis (April 2020) revealed the stock percentage at 32 *per cent* in sample plot 1 and 12 *per cent* in sample plot 2.

(iii) *Inappropriate site selection and inadequate agricultural practices in Cardamom plantation at Pakuthipalam*

The Company started Cardamom plantation in 2.5 Ha in Pakuthipalam sub-unit under Thrissur Division during 2020 with 2500 tillers of Nallani species from Vagamon. The plantation area is in the Nelliampathy range surrounded by the reserve forest on three sides. It was planted after forest clearing and by cutting branches of trees for shade regulation. The planting was completed

on 3 August 2020 with espacement of 3m X 3 m. The total expenditure incurred by the Company for the plantation was '3.51 lakh.

On inspection of the site, the Divisional manager, Thrissur certified (6 August 2020) that overall plantation activity was satisfactory. Subsequently, the Manager reported (18 September 2020) that the sprouting observed in few tillers and twelve tillers found to be damaged by monkeys. In December 2020 instances of wild animal induced damages were noticed. This indicated that the area selected was a wildlife prone area. Slow growth to shoots due to heavy shades was also noticed (October 2022) in different parts of the plantation. Therefore, the Managing Director instructed that no further planting of cardamom to be done in Nelliampathy. On 24 March 2023, the Divisional Manager reported that only 1200 plants were in good condition. As such, 1300 plants were damaged or in shunted growth.

Audit observed that;

- The site selection was done without conducting any assessment on wildlife induced damages in the proximity.
- The Company did not carry out the soil test in the plantations area.
- No irrigation facilities identified.
- No agricultural activities including application of fertilizer were carried out except for some weeding activities.
- Solar fencing erected for the protection of the plantation from wildlife remained defective.

(iv) Low yield and lack of rejuvenation efforts in Cashew Plantation (OBS 1333047)

The Company has been maintaining cashew plantations since 1987 under the Centrally Aided Scheme in Thiruvananthapuram and Punalur Divisions. The total area of cashew plantation of the Company was 324.063 Ha. under the division – Thiruvananthapuram (159.063 Ha.) and Punalur (165 Ha.). A cashew tree starts bearing fruit after the third year of planting and the economic life span of a cashew tree is about 20 years. Cashew plantations till yielding stages were maintained by carrying out regular operations like weeding, manuring, spraying etc.

Audit reviewed the details of cashew plantations and expected yield (**Annexure 3**) under the Punalur division and observed that the yield per tree was very low from cashew plantations and only around 30 *per cent* of cashew trees were flowered during the period 2022-24. The average productivity of cashew plantations in India (published by the Cashew Export Promotion Council of India) was recorded 684 kg/Ha during 2020-21. The productivity of cashew plantations of the Company was far below the average i.e., 304.25 Kg/Ha. The shortfall in yield was mainly due to absence of maintenance like manuring, pest and disease control, Prophylactic Cleaning etc., given to cashew plantations and also due to the old age of the cashew trees.

As per the current management plan, a rejuvenation plan was proposed in which the Company has to identify diseases affected and low yielding cashew plantations. Thereafter the identified areas have to be clear felled and replanted with other suitable species raised with graft varieties capable of giving higher yield and other disease tolerant local varieties with better crop record. However, no action was taken by the Company for rejuvenation of cashew plantation. This led to uneconomic utilization of leased land.

(v) Sandalwood plantation management practices and security measures at Vettiyl Estate

The Company planted sandal wood trees in Vettiyl Estate, Malampuzha under Thrissur Division in 9.97 Ha during 2010. The 9000 trees were planted 3 x 3 distance (1111 per Ha) along with plantation of 500 gooseberry. The sandal tree attains full maturity in 100 years. The sandal tree attains a height of 10 to 15 m and average girth of 100 cm at BH. At present the Sandal Division, Marayur is fetching more than Rs 20,000 per KG of sandal wood through auction.

The Company takes enumeration of the trees once in two years. At present most of the trees were more than 30 cm GBH. As per 2022 enumeration there are 1257 such trees. No agricultural activities were carried out in plantation except weeding and climber clearing.

Audit noticed that:

- As per the approved working plan of the Mannarcad Forest Division, 'when sandal plant reaches sapling stage, help is given by providing overhead light. Hence the tending operations are aimed at giving enough lateral shade during the early stage and plenty of overhead light after the sapling stage. Climber cutting is being done at all stages of growth'. It was noticed that the top layer of the sandal plantation was covered with miscellaneous trees and most of the plants were deprived of direct sunlight in the top layer which is vital for the growth of the sandal trees.
- The Kerala Forests and Wildlife Department (the Department) has classified the Sandal plants as seedlings, saplings, poles and trees above 30 cm GBH. However, such classification has not been done by the Company except above 30 cm GBH sandal trees to ensure proper care to the sandal wood plantations.
- As sandalwood is rare and costly, all the sandal trees need to be properly identified, numbered and proper record should be maintained. This will help in identifying loss and damage and can help in monitoring as well. The procedure followed by Marayoor Sandal Division under Kerala Forests and wildlife Department for marking of sandal trees, include assigning a unique number and fixing a number plate with a unique number for a sandal tree. The Company at present tagged the sandal trees with GBH of 30 cm and above. Further, the Company needs to ensure GPS reading in respect of all sandal plants to ensure their survival/existence which are followed by the Department. Such a system is not followed by the Company.
- The Company has collected (August 2022) a windfallen sandal tree with GBH of 38 cm which is in dried condition. The sandal tree is kept in the Company estate storeroom. Action has not been taken to transfer the sandalwood to the Marayur Sandal Division of the Department.
- There are chances of creating deep cut at the sandal plants by trespassers to assess the maturity of the wood. Since the plantation is situated in a human populated area a clear demarcation with chain fencing is required. There is a narrow pathway through the middle of the plantation and the local people are using the pathway. Further, a natural pond close to the sandal plantation is existing and local/tourist are visiting the natural pond on daily basis. At present only one watcher is deployed for the security of the trees, given the security concerns stated above this is inadequate.
- Management plan does not include the working circle detailing the intensive agricultural activities of the sandal wood trees.

(vi) Challenges at Melia Dubia Plantation, Thrissur.

Melia dubia is a soft/pulp wood with the rotation age of seven years. In 2021 the Company planted Melia Dubia for the first time along with Matty in 8.6 Ha at Chempamkandam. Later, in

2022 and 2023, the Company planted Melia Dubia at Mayannur (5.52 Ha³) & at Thozhupadam (5.18 Ha⁴ and 15.7 Ha).

Audit noticed that the plants at Chempamkandam plantation was attacked severely by wild animals. Based on an analysis conducted in sample plots in December 2022, only 54 per cent of the Melia Dubia trees were survived as against the 89 per cent survival of Matty trees. It was seen that Melia Dubia is prone to browsing attacks by herbivores causing heavy damage to its barks. To safeguard plantation from wildlife attacks power fencing and application of neem oil were done. These efforts reduced the browsing, but still small animals like porcupine were able to cross the fence and damage the plants. It was also noticed that the plants have started developing lateral branches. Lateral branches in the early years will have a negative impact on the quality of timber.

Thus, the Company was not able to protect Melia Dubia plants and therefore the stock attained is not as per expectation.

Para II:- Maintenance of Bamboo Plantation with the assistance from National Bamboo Mission

The Company expressed its willingness to plant bamboo in 60 Ha. in collaboration with the Kerala State Bamboo Mission (KSBM), the Implementing Agency (IA) of National Bamboo Mission (NBM)⁵ during 2022-23. KSBM approved the proposal and permitted the Company to plant bamboo in 40 Ha.⁶ with the financial assistance of NBM.

As per NBM guidelines, the financial assistance of ₹1 lakh/Ha. was available over three years i.e., 50 per cent 1st year, 30 per cent in 2nd year & 20 per cent in 3rd year through PFMS portal⁷.

Under the scheme, the Company planted bamboo in 20 Ha. during the period 2022-24 in Thrissur division. Up to date details of cost incurred for planting and maintenance of bamboo plantation under the scheme of NBM is shown in Table 3.

Table 3

Financial year	Nature of work	Total cost of planting and maintenance (lakh)	Financial limit sanctioned under scheme (lakh)	Cost utilized from own fund (lakh)
2022-23	Planting and first year maintenance of plantation (13.5 Ha)	₹18.80	₹9.77	₹9.03
2023-24	Planting and first year maintenance of plantation (6.5 Ha)	₹6.80	₹3.25	₹3.55
	Second year maintenance of plantation (13.5 Ha)	₹4.98	₹1.03	₹3.95
Total (20 Ha)		₹30.58	₹14.05	₹16.53

As per NBM norms, the Company is eligible to get reimbursement of ₹14.05 lakh only and the balance cost ₹16.53 lakh (so far) were met from own funds.

³ a cost of ₹9.98 lakh

⁴ a cost of 10 lakh

⁵ under the department of Agriculture, Cooperation & Farmers Welfare, Govt. of India

⁶ in Thozhupadam block under Mayannur Subunit of Thrissur Division

⁷ The fund was available for release to IA as per requirement with withdrawal limit in PFMS portal from the State Nodal Account. The IA was to release the payments through PFMS portal by adding the concerned vendors in the portal by issue of Print Payment Advice to Bank.

Audit observed that:

1. The Company was maintaining its own bamboo plantation (725.676 Ha planted during the period 1999 to 2008). The bamboo extraction age was five years, and all plantations were matured for cultivation. The Company hold an expected yield of 3970 MT bamboo from these plantations (**Annexure 4**). It was noticed that the Company was not able to sell any bamboo since 2016-17, even though regular attempt was made for auctions. The Company is yet to analyze the reasons for lack of response to the auction. Under these circumstances the decision to go for the scheme under NBM by investing own funds amounting to Rs 16.53 lakh was not financially prudent. This has resulted in uneconomic utilization of leased land.
2. The Company has not taken prior approval from Ministry of Environment, Forests & Climate Changes (MoEF), Govt of India for any of its bamboo plantations.

Para III:- Non-compliance with the management plan

A Management Plan in a plantation company is a comprehensive document that outlines the strategies, practices, and procedures for managing and operating the plantation. An effectively implemented management plan is crucial for the success and sustainability of a plantation company. Audit, however, noticed the following instances of noncompliance to the management plan 2020-21 to 2024-25.

1. The Company maintains 2600.97 Ha of Eucalyptus plantations. The rotation age of the tree was nine years for the original crop and 18 and 27 years for two coppice crops⁸. As per the current management plan, disease affected plantations, plantations having less than 40 *per cent* coppice stock, and those with less coppice vigour, to be replanted. This was not followed in Punalur - Kumaramdudy II plantation (41.20 Ha) where plant density was less than 40 *per cent*. The plantation was maintained as coppice plantation instead of opting for replanting with suitable fast growing native species.
2. Shortfall in felling as targeted in the current management plan/yearly action plan for the Eucalyptus plantation during the period 2022-24 as shown in Table 4. Non extraction of eucalyptus plantation in time will hamper the replantation activity and affect the future yield.

Table 4

(Area in Ha.)				
Year	Plantation proposed for felling in current management plan	Approval taken for felling of the plantation through yearly action plan	Actual felled area	Shortfall
2022-23	172.45	143.56	102.97	40.59
2023-24	367.9	55.34	14.74	40.6

3. *Acacia Auriculiformis* is a fast-growing timber species and maximum productivity can be achieved, only if they are harvested at two stages: first for pulpwood by way of thinning and next for timber. *Acacia Auriculiformis* to be retained for timber is proposed for thinning in the sixth year by which the retained trees will be facilitated

⁸ Coppice crops refer to a traditional method of woodland management where trees are periodically cut down to ground level to promote the growth of multiple shoots from their stumps or roots for producing a continuous supply of wood.

for better growth as timber. Accordingly, Acacia plantation was proposed for thinning in the current management plan during the period 2022-24. Table 5 indicates the status of compliance to the proposal.

Table 5

(Area in Ha.)					
Year	Year of plantation	Proposed for thinning in current management plan	Approval taken for thinning in yearly action plan	Actual thinned area	shortfall
2022-23	2016	24.55	0	0	24.55
2023-24	2017	40.40	40.40	0	40.40

Non-thinning of the plantation will hamper the growth of trees which are earmarked for timber extraction.

Para IV:- Expansion of eco-tourism activities at Arippa

GoK accorded AS (GO (Rt.) No. 69/2020/TSM) for the project "Expansion of ecotourism activities at Arippa", at an estimated cost of ₹1.87 crore to be executed by Director, Ecotourism through the Company within 12 months. The projects include civil works (renovation of existing buildings), purchase of safari vehicles, beautification works *etc.* at Arippa. As the project could not be started during 2020 due to Covid pandemic, the Company requested (05 August 2021) the Department of Tourism to extend the duration of the project till 31 March 2022. The Company received a sum of ₹1.50 crore under the project so far.

As per the Govt. directions, all public works will be executed through Accredited Agencies. Accordingly, the Company requested Accredited Agencies to express their interest against which only two agencies submitted their interest.

M/s. Habitat Technology Group was selected as PMC for execution of work. The work order was issued on 06 September 2021 at an estimate cost of ₹1.06 crore. As per the agreement (20 October 2021), the first phase of the work (Manager's office, Kambakom Mansion, Field Officer's Quarters, 3-Huts and Dining area in Shankali Mansion) to be completed on or before 31 March 2022. Second phase of the work (2 huts) was also awarded to Habitat Technology Group at a cost of ₹26.12 lakh and the balance work with an estimated cost of ₹54.88 lakh was directly executed by the Company.

During the site inspection, the Divisional Manager reported that 90 *per cent* work was completed and there were some discrepancies in the construction. In this connection, a meeting was held on 07 January 2023 with Habitat Technology Group for rectifying the defects which they agreed. The Company so far released ₹1.03 crore to Habitat Technology Group. The work, however, has not been completed.

Audit observed that: -

1. The Company purchased two safari vehicles at ₹23.94 lakh for Arippa Eco-tourism stay-programme (to carry the visitors) under the expansion project. As per the GoK direction, the fund will be utilized only for the purpose for which it was allocated. As against this, the Company transferred one vehicle (Mahindra Scorpio) to Divisional Manager, Gavi and other vehicle (Mahindra Bolero) to Divisional Manager, Thiruvananthapuram for official purpose. None of the vehicles were used for tourist purpose.

2. As per GO, the project had to be completed on or before 31 March 2022, but the project has not been completed till now. The Company detected many discrepancies in the work executed by the Habitat Technology Group, however, which has not been rectified so far.

Para V:- Internal Control and internal audit

(i) Internal Control System

The following internal control lapses were noticed during the audit;

1. Plantation journals:- The Plantation Journals at various Divisions were not updated. The plantation journal in respect of various Plantations in the Pakuthipalam sub-units were not maintained except 2020 Cardamom Plantation.
2. Preparation of Management Plan:- For the management of Plantations, an approved Management Plan is required. However, the initial work for the preparation of the Management Plan 2025-26 was not started by the Company for the timely approval of the Management plan from MoEF.
3. Replantation activities:- The old rubber plantation in Vettiyl extended in an area of 24.2 Ha. The economic yield of the plantation is over, however, the Company is yet to initiate the process for replantation.
4. Maintenance of Plantations:-
 - a. In the Teak plantation, Mayannur, the teak plants are in the early stage of growth. The teak trees were growing with lateral branches however, proper remedial action was not taken by the Company.
 - b. Timely/needed climber removal works were not assessed and assigned to the Plantations.
5. Inventory management:-
 - a. The eco-shop in Punalur division does not have earmarked space for the display of various items for sale. The forestry products are stored in a cupboard.
 - b. Shortage of honey:- The Company collects honey from the forest through the tribal communities and sells it through their shops. Recently there has been considerable decline in production/collection of honey. In addition to this, there was high percentage shortage in the stock of honey (average loss was 24 per cent during the last five years). Honey is one of the natural edible substances with the highest shelf life, if kept in normal conditions and requires very less/no maintenance as stock. The Company yet to analyze the reasons for such shortage of honey.
 - c. Non-disposal of stock of cardamom and coffee:- In previous audit, it was reported that the Company was maintaining huge stocks of Cardamom and coffee. As at the end of 2023-24, 7.143 tone Cardamom was lying in stock at Gavi Division. The Company also holds a stock of 21.50 tons of coffee as on the same date. Since the quality of Cardamom and Coffee decreases with the time lapse, it was prudent to clear the stock on a routine basis. To an audit enquiry, the Company replied that discussion was progressing with the Devaswom Board for the sale of cardamom. The stock of Coffee at Gavi has been transferred to Munnar for retail sale. Further progress was awaited.
6. Inadequate Financial Management and Resource Utilization in Estate Operations :- The Department entrusted the collection of usufructs from the estates of Beatrice, Rosary, and Miraflores in the Nelliampathy to the Company on November 26, 2011. This arrangement involves the Company having the right to collect and benefit from the usufructs (such as timber, fruits, or other natural products) from these estates while adhering to certain

conditions and responsibilities. Accordingly, the estates were handed over to the Company in December 2011. On a comparison of the financial performance of these estates, it was noticed that the revenue generated from Miraflores was not adequate to meet the corresponding expenditure. As against the total expenditure so far (2011-2024) amounting to `5.06 crore, the revenue generated was `2.86 crore only. In the other two estates, the revenue generated was more than the expenditure incurred. It was noticed that one of the reasons for negative contribution was the non-transfer of right of conducting eco-tourism activity in these estates. The Company, therefore, requested (February 2023) the Government of Kerala to allot Meeraflor estate for agricultural and ecotourism purpose while other two estates were to be returned to the Department. A final order in this regard was awaited.

7. Non-obtaining Organic Certificate for cardamom :- Since the Cardamom grown under General Management Areas was growing without human intervention, it should have been priced accordingly and marketed as an organic product after obtaining the Organic Certificate (OC). The OC was one of the most trusted certificate and its affiliation could have helped in increasing brand value and revenues significantly. The Company, however, had applied for Wild Collection Certificate (WCC) instead of OC and obtained it on 18 January 2024. To an audit enquiry, the Company replied that the WCC has more reach than the OC in the global market. However, the sale as expected has not been happening due to low prices offered by merchants. Regarding obtaining OC, it was stated that as per its condition, NPK could not be applied. Since non-use of NPK would reduce the yield, it was decided to restrict organic certification for 30 Ha alone for now and wait for further market consolidation for organic certified product before expansion.
8. Online sales:- The Company started online sales (Amazon/Flipkart/Kerala E Marketplace) to increase revenue, to connect with a large customer base and to reduce reliance on auction-based sales. The revenue earned during 2022-23 and 2023-24 was `3.33 lakh and `5.43 lakh, respectively. Audit noticed that the five products sold through online have only one fixed quantity pack. If more options were made available to the customer it could improve the sales. In reply to an audit enquiry the Company stated that they have adopted various product optimization strategies and marketing promotion techniques to improve its online visibility. Further progress in increasing the revenue through online sale is awaited.
9. Deployment of staff:- Total staff strength of peon grade I & II in the Company is 21 (5 in Head Office, four each in Thiruvananthapuram and Punalur divisions and other two each in four divisions. The number of clerks in each Division is only one or two. As such, the Company should conduct work study in respect the necessity of such number of Peons in the Division office as well as HO. Further, the work study in respect of the field staff in Divisions has not been conducted.

(ii) Internal Audit

Out of the seven divisions, the internal audit has been updated till 2023-24 by the Internal Audit wing of the Company in respect of two divisions (Gavi and Thiruvananthapuram) only.

PART-III

(Follow up on findings outstanding of previous Inspection Reports)

The pendency position of paras in the previous reports is as given below:


IR No. & year	Para no.	Subject
IR 2014-18	IIB – II	Failure to collect GST on ecotourism activities resulted in avoidable liability ₹152.37
	IIB-IV	Failure in obtaining prior approval from MoEF for sale of plantations and consequence blockage of revenue ₹37 lakh
	IIB – V	Non-realization of sale proceeds from Green tea lifted during 2013-14 ₹ 23.35 lakh
	IIB-VII	Non-realization of long pending dues from Debtors ₹ 271.04 lakh
IR 2018-22	IIB-I	Cardamom plantation at Gavi
	IIB-II	Sandal tree plantation
	IIB-III	Red sandal wood plantation
	IIB-IV	Functioning of sandal oil factory
	IIB-V	✓ Eco-tourism activities at Gavi
	IIB-VI	✓ Anayirankal Cottage and Kalypso Camp
	IIB-VII	Cashew plantation activities
	IIB-VIII	Melia dubia plantation
	IIB-IX	Internal Control

PART-IV (Best Practice)

Nil

PART-V (Acknowledgement)

Audit acknowledges the co-operation and assistance extended by the officers and staff of the Company in the conduct of Audit.


Senior Audit Officer



Annexure 1

Statement showing species wise details of plantations (division wise) as on 31 January 2024
(Para I)

Sl. No	SPECIES	TVM (Ha.)	PNLR (Ha.)	TCR (Ha.)	MNR (Ha.)	GAVI (Ha.)	MTDY (Ha.)	Total Area
1	Teak	39.450	1034.690	313.750				1387.890
2	Eucalyptus	1345.819	575.580	101.302	525.620	50.500		2598.821
3	Bamboo	415.846	199.190	82.040	14.500	28.000		739.576
4	Rubber			57.936				57.936
5	Cashew	159.063	165.000	10.100				334.163
6	Coffee			457.427	76.840	71.900		606.167
7	Pepper	3.800						3.800
8	Cardamon			38.000	115.700	841.010		994.710
9	Red Sanders	36.640		44.337				80.977
10	Sandal	8.000		9.970				17.970
11	Tea						100.670	100.670
12	<i>Acacia auriculiformis</i>	864.549	466.800	339.125				1670.474
13	<i>Acacia manjium</i>	7.690	6.080	17.210				30.980
14	<i>Acacia crassicaarpa</i>	28.903	11.480					40.383
15	<i>Mahagany</i>		9.400					9.400
16	<i>Ailanthus triphysa</i>			10.050				10.050
17	<i>Melia dubia</i>	27.212	27.800	31.750				86.762
18	<i>Macaranga peltata</i>	3.000	10.550					13.550
19	<i>Euodia lunuankenda (kanala)</i>	2.000						2.000
20	<i>Anthocephalus cadamba (Kadambu)</i>	2.000						2.000
21	<i>Acrocarpus</i>			2.050				2.050
22	<i>Albizia lebek</i>			2.720				2.720
23	<i>Toona ciliata</i>				2.000			2.000
24	Casuarina		6.020					6.020
25	Gmelina	19.564	7.430	26.090				53.084
26	Pine				18.080			18.080
27	<i>Alnus nepalensis</i>				1.000			1.000
28	Albizia	6.950	51.000					57.950
29	Area felled during 2023-24 & proposed for planting in 2024-25 season	12.050	1.000	6.740	8.000			27.790
	TOTAL	2982.536	2571.020	1543.857	753.740	991.410	100.670	8958.973

Annexure 2

(a) Statement showing absence of thinning operations (Para I)

Year	Block	Area (Ha)	Age of the Plantation
	Division Punalur		
2005	I/NS Chittar	65.51	19
2006	III/ NS Chittar	146.82	18
2006	II/ SS Kodamala	72.00	18
2008	II/ SS Kodamala	162.28	16
2010	I/SS Manalaar	46.00	14
2011	I/SS Manalaar	46.37	13
2002	Vilakkuvattom II(Failed)	8.72	22
2003	Kudappanakulam-III	20.22	21
2009	Kudappanakulam-I	41.60	15
2010	Kudappanakulam-I	6.20	14
2010	Kudappanakulam-II	69.85	14
2011	Kudappanakulam-II	33.14	13
2012	Kudappanakulam-II (3bits)	46.24	12
2013	Kudappanakulam-III(3 bits)	7.60	11
2013	Kudappanakulam-IV(4 bits)	5.00	11
2013	Kudappanakulam-IV(1 bits)	17.00	11
2014	Kudappanakulam IV (bit 2)	7.50	10
2015	Kudappanakulam IV (bit 2 and 3)	34.50	9
	Total	836.55	
	Division Thrissur		
2003	Potta I	11.65	21
2003	Potta II	34.53	21
2010	Mayannur	6.25	14
2007	Chempamkandam	10	17
2008	Chempamkandam	9.2	16
2009	Chempamkandam	11.02	15
2010	Chempamkandam	13.04	14
2014	Chempamkandam	10.66	10
2014	Marottichal	8	10
2015	Chempamkandam	10	9
2016	Chempamkandam	10	8
	Total	134.35	

(b) Delay in thinning operations.

Year	Block	Area	Type of thinning	Year	Age during thinning	Precent age
2004	I/NS Chittar	32.04	Mechanical	Jan-Feb 2010	6	20
2007	II/ NA Chittar	87.5	First silvi (30 Ha only)	2019	12	17
2009	IV/NS Chittar	64.1	first silvi (26.9 Ha only)	Feb- March 2024	15	15
2001	Karavoor III	7	First thinning (silvi plus mech)	27-01-2009 to 08-02-2009	8	23
2001	Thozhupadam	56	First mechanical	2008	7	23
2009	Pota I	8.91	First mechanical	2016	7	15

Annexure 3

Statement showing details of cashew plantations and expected yield under Punalur Division (Para I)

Sl. No	Name of the plantation	Area	No. of trees		No. of yield/flouring trees		Expected yield in kg	
			2022-23	2023-24	2022-23	2023-24	2022-23	2023-24
1	1996 Cashew block III Padom	10.4	2105	2105	1000	950	3275	3250
2	1989 Cashew Punnala, II A Chellapally	10	2105	2105	970	950	2010	2605
3	2017 cashew matty, Block I Kadassery	11.6	3185	3185	76	60	19	60
4	2017 cashew matty, Block III Karavoor	1.8	380	380	100	125	40	160
5	1998 Cashew Block I Karvoor	9.67	2880	2880	900	750	2000	2300
6	2001 Cashew & Eucaly Block I Karavoor	10	2390	2390	1030	910	2380	2235
7	2000 Cashew Block III South	23.08	4945	4945	2250	2000	12275	12700
8	2000 Cashew Block III North	20.54	4255	4255	1900	1800	10750	11700
9	1987 Cashew Block I Kadassery	19.6	3820	3820	950	850	2725	2400
10	1989 Cashew Block IV Punnala	18.75	7700	7700	2030	1900	6310	5950
11	1989 Cashew Block I Karavoor	23.18	6570	6570	2400	2000	5600	4900
Total		158.62	40355	40335	13606	12295	47384	48260
Actual yield obtained							36215	
Average yield per tree							0.9	1.2

Average yield per Ha.						228.3	304.25
Percentage of trees floured				33.7 %	30.46%		

Annexure 4

Statement showing details of Bamboo plantation due for extraction in the Company's own plantation. (Para II)

Sl. No.	Division	Subunit	Year of plantation	Extend in Ha.	Expected yield in MT
1	TVM	Arippa	1999	5.92	20
2	TVM	Arippa	1999	17.527	100
3	TVM	Arippa	2001	191.54	200
4	TVM	Palode	2001	5.42	50
5	TVM	Palode	2001	50	250
6	6TVM	Anakkulam	2001	27.39	150
7	TVM	Anakkulam	2001	15.818	100
8	TVM	Anakkulam	2001	27.404	75
9	TVM	Anakkulam	2001	29.66	75
10	TVM	Palode	2001	26.197	500
11	TVM	Arippa	2005	17	450
12	TVM	Palode	2009	1.97	50
13	Punalur	Karavoor	2001	20	340
14	Punalur	Achenkovil III	2001	41.47	200
15	Punalur	Punala	2000	34.7	600
16	Punalur	Punnala	2001	22.12	200
17	Punalur	Achencoil	2001	90	100
18	Punalur	Achencoil	2001	50	25
19	Thrissur	Mayannur	1991	3.6	20
20	Thrissur	Chempamkandam	1991	2.8	50
21	Thrissur	Mayannur	2001	30.64	400
22	Munnar	Mankkulam	2008	14.5	15
Total				725.676	3970

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 AMG-II / An-II