Chapter II

Performance Audit relating to Government Company

2. Activities of Andhra Pradesh Forest Development Corporation Limited

Executive Summary

Introduction

Andhra Pradesh Forest Development Corporation Limited (APFDC) was set up in June 1975 as a wholly owned Government Company to develop land for raising forest plantations and in particular, eucalyptus, tropical pines, rubber, cashew nut, cocoa and such other suitable species in the State for the purpose of development of industries based on their produce.

The Performance Audit covered the activities of the Company in Andhra Pradesh for the period 2009-14.

Eucalyptus Plantations

Nurseries - Non-usage of new and cost-effective technology

The Company introduced (2009-10) Sand Bed Nursery (SBN) Technique (development of propagules at one place) with a capacity of 18.08 lakh propagules per annum on experimental basis. SBN avoids transportation of propagules over long distances and increases survival rate (80 to 90 per cent). The Company did not expand this successful technique to the total available capacity of 134.95 lakh propagules which resulted in increased cost of clonal plants.

Abnormal delay in replacement of gall infested plantations

The Company identified (2006) that eucalyptus plants were affected with gall infestation (a type of pest) and took a decision to destroy the nursery plants belonging to the clone 10 variety and replace them with a pest resistant clonal variety in 2007. But the Company had started destroying/replanting the affected plantations only in 2011. Abnormal delay in replanting led to a loss of realisable revenue of ₹31.69 crore.

Non-conversion of seed origin plants to clonal plants

At the beginning of 2009-10, an area of 27,350.37 ha was under seed origin eucalyptus plantations. During the period 2009-14, the Company had set a target for conversion of 14,367.85 ha of seed origin plants into high yielding clonal plants, against which it achieved 11,613.71 ha. The shortfall had far-reaching financial implications on the Company.

Non-upgradation to cost-effective harvesting methods

The Company planned (July 2010) for procurement of harvester to minimize harvesting expenses. Non-procurement of harvesters resulted in avoidable harvesting expenditure of ₹5.95 crore during 2010-14.

Insufficient EMD adversely affected the Sales process

The successful bidders had failed to enter into agreement because EMD was not fixed as a percentage of estimated sale value of pulpwood. The Company allotted these units to second highest bidders which resulted in a loss of ₹ 142.37 lakh.

Performance Security

Refund of Security Deposit along with interest in violation of tender conditions resulted in loss of revenue to the tune of ₹ 1.13 crore and undue favour to the contractors to that extent.

Bamboo

Poor yield due to delay in harvesting

The yield obtained from bamboo plantations in Rajahmundry Division and Eluru Division were not up to the standard. The standard yield was 2500 number of Long Bamboos (LBs) per ha and 12 MT of Bamboo Industrial Cuts (BICs) per ha. During the period 2009-14 the number of LBs yielded in Rajahmundry division ranged between 404 and 1461 and in Eluru Division it ranged between 1750 and 2509. In case of BICs, in Rajahmundry Division it ranged between 0.14 MT and 0.98 MT and in Eluru Division it ranged between 0.18 MT and 1.91 MT.

Cashew nut

Yield was low compared to standard yield

The average number of yielding plants was very low due to poor survivals and ranged from 20 to 29 trees per hectare as against the standard number of 204 trees per hectare. There were no rectification proposals on record. The yields from these trees during 2009-14 ranged between 13.52 Kg and 26.42 Kg per ha as against national average yield of 778 Kg per ha, indicating poor performance.

Gap plantation-Poor survival plantation due to lack of cultural operations

The Company raised 1,65,323 cashew grafts in gap plantations during 1993 to 2009 in 886.21 ha at 25 locations incurring an expenditure of ₹ 93.91 lakh. Of them, only 19 per cent survived due to lack of supervision and cultural operations. This resulted in unfruitful expenditure of ₹ 76.07 lakh.

Pine and Pepper plantations

Unjustified holding of pine plantations for 35 years

The Rajahmundry Division had raised Pine plantations in Maredumilli during the period 1976-1981 over an extent of 135 ha on experimental basis to study the viability of the species to provide homogenous long fibre for paper-making. These plants were being continued without generating any revenue for over 35 years.

Medicinal plants under Vanaspathi Van Programme

Amla plantations-Failure to ensure cost-effective collection charges

Vanaspathi Van Programme (VVP) was sponsored by GoI to promote Indian system of medicine and for development of medicinal plants. The Company raised amla plantations in Rajahmundry and Kadapa Divisions during the period 2001-04, at a cost of ₹ 5.81 crore including grant from GoI. During the 1st three years (2009-12) of harvesting, the Company earned an income of ₹ 8.22 lakh and did not take up harvesting from 2012-13 onwards on the ground that the collection charges are more than the expected revenue. Thus the expenditure of ₹ 5.81 crore proved to be unfruitful.

Development of eco-park without visitor amenities

The Company envisaged (November 2006) to develop an eco-park along with base camp with visitors amenities with the objective of making available an access to rich variety of plants and animal life to the urban populace. The eco-park was developed (January 2009) at a cost of ₹ 3.71 crore in an area of 228.52 ha. The Company decided (October 2009) not to construct the base camp as it would be unviable. This had resulted in non-attraction of visitors and led to earning of an income of only ₹ 2.88 lakh up to 2014-15 as against the projected income of ₹ 63.13 lakh per annum

Introduction

2.1 Andhra Pradesh Forest Development Corporation Limited (Company) was incorporated on 16 June 1975 as a wholly owned Government Company with an authorised capital of ₹ 25 crore, to develop land for raising forest plantations and in particular eucalyptus, tropical pines, rubber, cashew nut, cocoa and such other suitable species in the State for the purpose of development of industries based on their produce.

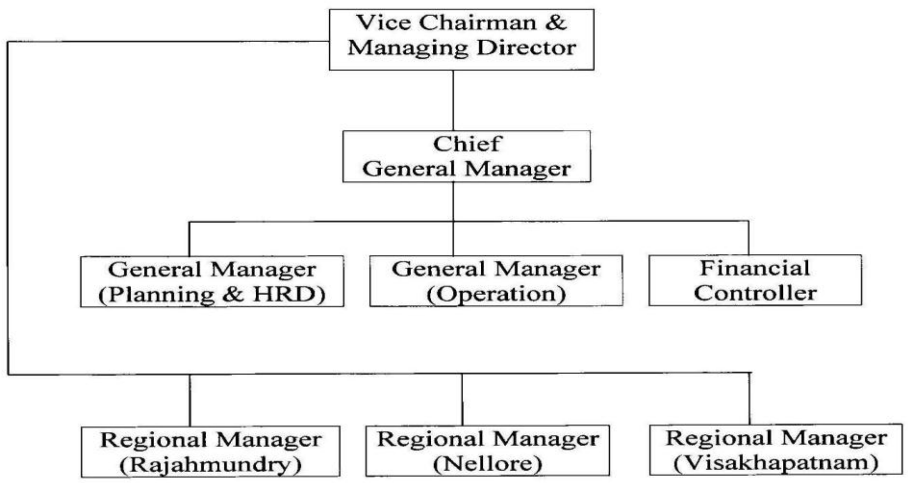
The Company, at the time of bifurcation of Andhra Pradesh (01 June 2014) had an area of 82,298.94 ha (Hectares). Upon implementation of Andhra Pradesh Re-organisation Act, 2014, the Company prepared a demerger plan. The Government of Telangana approved (22 April 2015) the demerger plan, but the Government of Andhra Pradesh (GoAP) was yet to accord (July 2015) its approval to it. Bifurcation and transfer of assets and liabilities between the two entities was under process. The present audit covers the activities of the Company in the residual state of Andhra Pradesh.

Core activities of the Company include raising nurseries, planting, harvesting and selling produce to industries. Activities which are incidental to the above, are maintenance, cultural (preparatory work before planting) operations, replacement of old, pest-infested, low-yield or uneconomical varieties with new varieties and gap plantation[8].

Organisation set up

2.1.2 The Management of the Company is vested with Board of Directors consisting of six (6) Directors including the Vice Chairman & Managing Director (VC&MD) who is the Chief Executive Officer of the Company (31 March 2015). The Company, with four Regional Offices and 22 divisions has been maintaining plantations in the erstwhile un-divided State of Andhra Pradesh. In the residual state of Andhra Pradesh, there were 3 Regional Offices and 15 divisions. The organisation structure of the Company was as follows:

Organisation Chart



[8] Transplanting seedlings into openings or gaps between trees to enrich the tree cover.

Manpower

2.1.3 As against the sanctioned strength of 713 employees, the un-divided Company had 316 (December, 2014) employees on its rolls.

The following table indicates year wise sanctioned strength of employees, actual strength and vacancies:

Table 2.1: Statement showing sanctioned, actual and vacancies of manpower

Remarks	As on 31st Dec	Sanctioned strength	Actual Strength	Vacancies	Vacancies *per cent*
Data pertaining to Un-divided APFDC	2010	713	546	167	23.42
	2011	713	499	214	30.01
	2012	713	449	264	37.03
	2013	713	374	339	47.55
	2014	713	316	397	55.68
Data pertaining to Residual APFDC	2014	470	216	254	54.04
	As on 31st March 2015	470	212	258	54.89

Source: information furnished by the Company

The vacancies as in December 2010 were 167 (23.42 *per cent*) and it increased to 397 (55.68 *per cent*) by December, 2014. Though the vacancies were increasing, the Management had not evolved any action plan to fill the same.

Failure of the Company to take timely action in recruitment of required staff adversely affected the activities like plantation and harvesting in achieving the targets, as discussed in subsequent paragraphs.

Financial results

2.1.4 The financial position of the Un-divided Company for the last five years was as follows:

Table 2.2: Statement showing sources of funds and application of funds

(₹ in crore)

		2009-10	2010-11	2011-12	2012-13	2013-14[9]
A	**Sources of funds**					
	Share capital	21.82	21.82	21.82	21.82	21.82
	P&L A/c – Surplus	84.96	108.45	132.43	164.34	288.10
	Replantation Reserve	31.51	39.90	48.46	59.86	104.06
	Fire Insurance Reserve	6.30	7.98	9.69	11.97	20.81
	Borrowings	120.46	97.92	84.88	63.02	20.61
	Trade dues & other liabilities	61.50	70.34	127.12	170.64	148.65
	Total	**326.55**	**346.41**	**424.40**	**491.65**	**604.05**

[9] For the years 2009-10 to 2012-13 the figures are up to 31 March and for the year 2013-14 up to 1 June 2014.

		2009-10	2010-11	2011-12	2012-13	2013-14[9]
B	**Application of Funds**					
	Net Fixed Assets	5.80	5.73	8.73	7.89	7.02
	Capital works in progress	3.96	3.85	0.80	0.15	0.10
	Current Assets	316.79	336.83	414.87	483.61	596.94
	Total	**326.55**	**346.41**	**424.40**	**491.65**	**604.06**
C.	**Capital employed**	**265.05**	**276.07**	**297.28**	**321.01**	**455.40**
D.	**Net Worth**	**144.59**	**178.15**	**212.40**	**257.99**	**434.80**

Source: Annual Reports of the Company

During 2009-14, the Capital employed increased by 70 *per cent* i.e. from ₹ 265.05 crore to ₹ 455.40 crore. The Net worth increased by 200 *per cent* i.e. from ₹ 144.59 crore to ₹ 434.80 crore.

The table below indicates the working results of the undivided Company for the five years ended 31 March 2014.

Table 2.3: Statement of working results

(₹ in crore)

		2009-10	2010-11	2011-12	2012-13	2013-14
A	**Income from Business**					
	Sale of Eucalyptus	15.00	49.90	54.70	75.73	202.40
	Cashew nut	1.81	2.47	1.97	2.61	3.42
	Bamboo	6.41	6.19	7.65	5.91	12.56
	Coffee seed	11.43	13.46	15.97	7.57	17.27
	Pepper	0.16	1.76	0.93	0.67	1.07
	Misc. items	3.04	2.70	7.42	2.37	3.61
	Business Income Total	**37.85**	**76.48**	**88.64**	**94.86**	**240.33**
	Other Income	4.34	4.42	4.79	4.70	13.96
	Total Income	**42.19**	**80.90**	**93.43**	**99.56**	**254.29**
B	**Expenditure**					
	Plantation & Maintenance	5.42	6.76	7.49	6.99	8.85
	Harvesting & Selling	5.67	10.94	10.57	12.25	22.08
	Cost of plantation-written off	2.75	8.91	10.74	14.58	25.11
	Accretion/decretion of stocks	(-) 0.25	(-) 5.20	6.70	(-)1.32	(-) 0.29
	Administrative Expenses	26.72	40.52	37.51	37.74	38.62
	Interest on borrowings	5.60	6.52	7.27	7.12	5.45
	Depreciation	1.12	0.99	1.23	1.02	1.02
	Total	**47.03**	**69.44**	**81.50**	**78.39**	**100.86**
	Less. Capitalisation on plantations	19.93	22.09	22.33	24.42	23.37
	Net Expenditure	**27.10**	**47.34**	**59.16**	**53.97**	**77.49**
	Profit for the year	15.09	33.56	34.25	45.59	176.80

Source: Annual Reports of the Company

During 2009-14 the profit increased by 11.7 times i.e. from ₹ 15.09 crore to ₹ 176.80 crore. The income from sale of Eucalyptus, the major revenue earner, increased from ₹ 15.01 crore to ₹ 202.40 crore.

Scope and Methodology of Audit

2.2 The Performance Audit was conducted during January 2015 to July 2015, covering the activities of the Company in residual Andhra Pradesh, for the period 2009-14. However, the financial results, targets and achievements of various activities of the Company were presented in a combined form covering both the states of residual Andhra Pradesh and Telangana as no separate figures were available. Records maintained at Corporate Office, all the three Regional Offices (Nellore, Rajahmundry and Visakhapatnam), six out of 15 divisions viz., Naidupet, Satyavedu, Visakhapatnam, Chintapally South, Eluru and Rajahmundry and an eco-tourism unit at Kadapa pertaining to residual Andhra Pradesh were test checked (based on judgement sampling). The Entry Conference was held explaining audit objectives, scope and methodology of audit, on 10 June 2015. The Exit Conference was held in March 2016. The replies from the Government were considered.

Audit Objectives

2.3 The performance audit was undertaken to assess whether:

i. the Company adopted proper measures for protection and conservation of forest land and raising plantations;

ii. the resources have been acquired, held and used economically and efficiently;

iii. the procedure followed in harvesting, processing and selling of the forest produce is systematic and to the best advantage of the Company;

iv. the Company's activities helped in protection of environment.

Audit criteria

2.4 The criteria adopted for achievement of audit objectives were:

i. Memorandum and Articles of Association of the Company;

ii. Agenda notes and Minutes of Board meetings;

iii. National Forest Policy 1988; and

iv. General Financial Rules (GFR) 2005.

Audit findings

Planning:

2.5 The Company prepared its Management Plan (MP) for the period 2011-16, covering the activities of plantation and harvesting. Based on the projections made in the five-year plan, annual plans were prepared every year. However, it was noticed that:

i) The Company was focusing on Eucalyptus alone and had not planned for diversification. No Research & Development was planned for alternative species from the resources available.

ii) Even though the Company's objective was to conserve forest and protection of environment to maintain ecological balance, these were not planned and taken up.

iii) The Company had no plan for human resource development to tackle the issue of increasing vacancies arising due to retirements.

iv) In the absence of sufficient manpower, no planning was made to address the alternatives like mechanisation, etc.

Eucalyptus

Eucalyptus is one among the species that produces quality pulpwood for paper and newsprint. It plays major role in the total activity of the Company as it occupies more than 70 *per cent* of its total plantation area. Normally the eucalyptus tree has a life cycle of 22 years with three rotations[10]. The Company raised eucalyptus plantation through seed origin till 1994 and, thereafter, the plantations were raised by adopting clonal technology[11] in order to increase the yield per unit of area and to reduce the harvesting period.

On review of activities of nursery, plantation, harvesting, selling of the produce and the related activities, the following were revealed:

Nurseries - Non-usage of new and cost-effective technology

2.6 The Company earmarked Clonal Multiplication Areas[12] (CMA) and established clonal nurseries at four locations[13] in residual Andhra Pradesh with a loading capacity of 134.95 lakh propagules[14] per annum for development of clonal plants of eucalyptus. The propagules are transported from CMA to nurseries for development. The Company introduced (2009-10) Sand Bed Nursery (SBN) Technique (development of propagules at one place) at Divancheruvu and Satyavedu with a capacity of 18.08 lakh propagules per annum on experimental basis. In SBN, sand beds were located within the premises of the nursery complexes for avoiding transportation of propagules over long distances and increase in the survival rate (80 to 90 *per cent*) and also to reduce the cost of production when compared to CMA method. Further, a saving of 8 ha of plantation area for every 10 lakh propagules was envisaged as per the Management Plan 2011-16.

It was observed that though the units at two locations[15] with SBN technology were working successfully, the Company did not expand these sand beds to the available capacity of 134.95 lakh propagules. This resulted in increase in cost of clonal plants. The savings in plantation area, as envisaged, were also forgone.

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[10] Harvesting of plants at standard intervals

[11] Developing plantation through stems

[12] Clonal Multiplication Areas are forest area earmarked for production of propagules

[13] Satyavedu (Chittoor), Bathalavallam (Naidupeta), Diwancheruvu (Rajahmundry) and Pullalapadu (Eluru)

[14] A plant part such as a bud, that becomes detached from the rest of the plant and grows into a new plant.

[15] Satyavedu and Diwancheruvu

Abnormal delay in replacement of gall infested plantations

2.7 The Company planted (1998-2006) eucalyptus clonal variety (clone 10) in an area of 1,022.80 ha. It identified (2006) that these plants were affected with gall infestation (a type of pest) and took a decision to destroy the nursery plants belonging to the clone 10 variety and replace them with a pest resistant clone variety in 2007. Audit noticed that the Company had started destroying / replanting only in 2011, but the work was not completed so far. Audit observed that had the pest prone plants been replaced in 2007, they would have matured in 2013 and yielded the first harvest (realisable revenue of ₹ 31.69 crore[16]).

The Government replied (December 2015) that curative and preventive steps like spraying of pesticides and clipping of affected tender leaves were taken up to prevent spreading of the infestation. The reply is not tenable, since the decision of destroying / replanting had been taken up in 2007, but the Company has not initiated action and delayed it till 2011. Abnormal delay in replanting led to the loss of realisable revenue.

Non-conversion of seed origin plants to clonal plants

2.8 During the 5 year period 2009-10 to 2013-14, the Company harvested an area of 8,321.20 ha seed origin plantations[17] and 17,773.98 ha of clonal plantations. The total yield obtained for seed origin plantations was 1,01,400.27 MT with an average of 12.18 MT per ha. For clonal plantations the yield obtained was 8,72,741.65 MT with an average of 49.10 MT per ha. The yield from clonal plantations was three times more (36.92 MT) than the seed origin plantations.

At the beginning of 2009-10, an area of 27,350.37 ha was under seed origin eucalyptus plantations. During the period 2009-14, the Company had set a target of 14,367.85 ha of seed origin plants for conversion into clonal plants against which it achieved 11,613.71 ha. A test check of records at Visakhapatnam Division revealed that the Division continued with old seed origin plantations of 1983-85 in 312.63 ha out of 778.83 ha. Non- replantation with new clonal plants by 2006-08, led to a loss of revenue to the extent of ₹ 5.47 crore (312.63 ha x 50 MT per ha x ₹ 3,500 per MT).

Audit observed that the above shortfall had far-reaching financial implications for the Company as the clonal variety can be harvested thrice in 19 years as against 22 years for seed origin variety, can be more densely planted (2,222 plants per ha. against 1,666 per ha.) and give thrice the yield.

The Government stated (December 2015) that the replantation was not carried out owing to workload, difficulty in accessing the plantation and anticipation that third harvest would yield very low quantities.

The reply is not tenable as these factors were known before setting the target.

[16] Calculated as Area under clone 10 cultivation (1022.80 ha)* Average yield per ha (50 MT/ha)* Cost per MT (₹ 6,197/MT)

[17] Tree plantations are of two types – seed origin plantations are grown the traditional way, by planting seeds and clonal plantations are grown from saplings produced from parts of trees with desirable qualities through micro propagation (tissue culture).

Non-achievement of harvesting targets

2.9 For residual AP, the Company set a target of 17,001.02 ha during the period 2009-14 for harvesting eucalyptus plantations. As against this, the Company achieved 13,747.21 ha (81 *per cent*) leaving a shortfall of 3,253.81 ha as follows:

Table 2.4: Year wise details of harvesting target and its achievement

Crop Year	Harvesting Target in ha	Harvesting achievement in ha	Shortfall in ha	Shortfall (Percentage)
2009-10	3,617.98	1,955.25	1,662.73	45.96
2010-11	2,672.80	2,163.36	509.44	19.06
2011-12	3,371.21	2,889.28	481.93	14.30
2012-13	3,255.53	3,166.82	88.71	2.72
2013-14	4,083.50	3,572.50	511.00	12.51
Total	**17,001.02**	**13,747.21**	**3,253.81**	

Source: Information furnished by the Company

The main reason for lesser achievement was attributed by the Government to deferment of harvesting due to various factors like getting lower sales price, high rainfall, presence of heavy thorny growth and shortage of skilled labour.

The reply is not tenable since deferment of harvesting has financial implications for the Company as the plantation cycle gets extended due to it. High rainfall, heavy thorn growth and fluctuations in availability of labour are normal operational constraints to be taken care of by the Company. Low sale price is part of business cycle and cannot be a reason to delay harvesting in plantation sector where productivity is linked to timely harvesting.

Non-upgradation to cost-effective harvesting methods

2.10 The Board authorized the VC&MD (July 2010) for purchase of one eucalyptus harvester initially to study its effectiveness. Its expected life was ten years and cost was ₹ 75.00 lakh (approx.). It could harvest 100 MT of pulpwood daily and 22,500 MT was expected to be harvested per year. As per the cost-benefit-analysis, the Company could save harvesting expenses by ₹ 120 per MT. However, it was observed that the Company did not initiate any action for procurement of the harvesters till date (July 2015). Reasons for non-procurement were not recorded and hence not brought to the notice of the Board. Non-procurement of harvesters resulted in avoidable harvesting expenditure of ₹ 5.95 crore on harvested pulp wood of 4,95,586 MTs during the 2010-14.

The Government replied that due to lack of expertise for operation and maintenance of harvester, its procurement was deferred. The Company proposed that in future the harvester can be taken on contract. The reply was not tenable as purchase of one harvester was to be made to study its effectiveness. The same could have been done by taking it on contract. As observed earlier (***para 2.8 & 2.9***) the Company was not able to achieve its harvesting targets due to lack of resources.

Insufficient EMD adversely affected the Sales process

2.11 The Company did not have a specialised marketing wing or any other mechanism to carry out the sales process.

The Company was inviting tenders for which the bidders had to submit Earnest Money Deposit (EMD) at a fixed rate of ₹ 25,000 (2009-10), and ₹ one lakh (2010-11 & 2011-12) per unit (unit means area demarked for selling eucalyptus pulpwood). During 2009-10 to 2011-12, there were instances where successful bidders had failed to enter into agreements and forfeited the EMD. The Company allotted these units to second highest bidders and the prices quoted by them were less than the prices quoted by the original bidders. The Company suffered a loss of ₹ 142.37 lakh on this account.

It was observed that the successful bidders had failed to enter into agreements because EMD was not fixed as a percentage of estimated value of pulpwood. In view of this, the Company was receiving insufficient amount of EMD.

The Government stated (December 2015) that EMD was enhanced to ₹ 10 lakh per unit from 2014-15.

The reply is not acceptable as the audit observation is about not fixing EMD according to the lot size. Fixing uniform EMD for a small lot and a big lot is not proper. This prevents bidders from competing in the case of low-yield units.

Performance Security

2.12 The Section II (condition No.3) of the tender for the sale of eucalyptus pulp wood (2013-14) specified that the successful bidder/purchaser, at the time of entering into agreement, has to submit Security Deposit (SD), equal to 25 *per cent* of the total sale value, in the form of Demand Draft (DD)/Fixed Deposit Receipt (FDR)/Bank Guarantee (BG), in favour of the VC & MD of the Company. As per the section II (condition No. 5) of the tender, the Security Deposit or the balance thereof, as the case may be, will be refunded to the purchaser at the end of the transaction.

During a test check of records of Nellore Region it was observed that during 2013-14, the Company refunded the Security Deposit along with interest amounting to ₹ 107.02 lakh to three contractors. Two FDRs (interest ₹ 5.77 lakh) were returned in original to the contractors, without encashing them, as the FDRs were held in joint name of the VC&MD and the contractor. The violation of tender conditions resulted in loss of revenue to the tune of ₹ 1.13 crore and caused undue benefit to the contractors to that extent.

The Government replied (December 2015) that the interest was never intended to be earned on Security Deposit. Reply is not correct. As per the tenders conditions, only the SD was to be refunded.

Bamboo

Non-achievement of plantation targets

2.13 The bamboo plantations were raised by the Company in Andhra Pradesh and at the beginning of 2009-10, the area under cultivation was

12,360.51 ha (3,237.41 ha relates to residual AP) which was reduced to 10,039.75 ha (2,155.63 ha relates to residual AP) by 2014-15. During the Management Plan period 2011-16, the Management proposed to convert the old plantations (1976 to 2000) with Eucalyptus in 2,142.10 ha and re-plantation of bamboo was planned in 651.42 ha. Further, an area of 711.93 ha of seed origin Eucalyptus plantations were also proposed for conversion to Bamboo plantations. The following are the annual targets set for planting and actuals achieved during the last 5 years ended 2013-14 (for un-divided APFDC):

Table 2.5: Statement showing plantation targets and achievements of Bamboo

Year	Target for plantation (ha)	Achievement (ha)	Achievement (*Per cent*)
2009-10	100	499.03	499.03
2010-11	300	152.65	50.88
2011-12	300	70.00	23.33
2012-13	300	82.50	27.50
2013-14	200	65.00	32.50

Source: Information furnished by the Company

Non-achievement of Harvesting Targets

2.14 The following table shows the annual targets set for harvesting of bamboo and actual harvesting achieved during the last 5 years ended 2013-14:

Table 2.6: Statement showing harvesting targets and achievement of Bamboo

Year	Targeted area for harvesting (ha)	Achievement (ha)	Achievement (*per cent*)
2009-10	5,288.93	2,591.35	48.99
2010-11	4,326.67	2,314.75	53.50
2011-12	3,117.61	1,608.56	51.60
2012-13	4,338.91	1,893.97	43.65
2013-14	3,123.79	2,207.45	70.66

Source: Information furnished by the Company

The targets set for the Divisions in residual Andhra Pradesh during 2009-14 were 5,287.45 ha for Long Bamboo[18] (LBs) and 5,087.65 ha for Bamboo Industrial Cuts[19] (BICs) against which the achievements were 2,612.11 ha (49.40 *per cent*) for LBs and 2,239.52 ha (44.02 *per cent*) for BICs. The Company could not achieve the targets due to non-suitability of soil and consequent plantation failure, as discussed in the subsequent paragraphs.

A review of the records in the field units revealed the following:

[18] Long bamboos have a minimum length of five metres and minimum diameter of five to seven centimetres and are straight. They are sold in numbers.

[19] Bamboo industrial cuts have a minimum length of one metre, do not have stringent diameter specifications and may not be straight. They are sold by weight.

Failure to convert uneconomical bamboo plantations

2.15 In the case of Nellore Region, during the period 1999-2001 a new variety of Bamboo plantation was raised in an area of 135.46 ha on experimental basis by incurring an expenditure of ₹ 10.14 lakh. During 2011-12, 42.20 ha of this variety was harvested which gave yield of 17.05 MT as against the estimated yield of 590.80 MT. The remaining area was not harvested. The reason attributed for not harvesting the remaining area in Nellore Region was poor and uneconomical yield.

In Kadapa Division, the Company had 1,497.22 ha of bamboo plantations, which were more than 30 years old (plantations of 1979-1981) and had become uneconomical to run. The Company retained 162 ha. of land and surrendered the remaining 1,335.22 ha (with bamboo) during 2012-13 stating that they were uneconomical and sought alternate land which had not been obtained till March 2015. Audit noticed that no income had been generated from the bamboo plantations in the retained land. The Company neither justified retention of the remaining land (162.00 ha) nor did it take any action to utilise the same purposefully.

Audit observed that though the experiment in raising Bamboo plantations in Nellore Region was a failure, Management did not take any action so far to uproot the failed Bamboo plantation and replant it. Even harvesting was not completed.

The Government replied (December 2015) that the failed plantations would be replanted with suitable species as per its Management Plan for 2016-21.

The Government reply confirms the fact that there has been an unreasonable delay in taking the decision to replant the plantation despite the failure of bamboo crop in 2012-13.

Poor yield due to delay in harvesting

2.16 As per the Management Plan, the Long Bamboos (LBs) are harvested initially which is followed by Bamboo Industrial Cuts (BICs) for supply to paper mills. The 1st harvest in the case of LBs was to be done at the 5th year of plantation and subsequent harvesting was to be done in every alternate year. The standard yield was 2500 number of LBs per ha and 12 MT of BICs per ha.

The average yield of Bamboo plantations at Rajahmundry (1976-1985) and Eluru (1989-2003) divisions was as follows:

Table 2.7: Statement showing average yield per ha for LBs and BICs

Season	Long Bamboo (Number)		Bamboo Industrial Cuts (MT)	
	Rajahmundry	**Eluru**	**Rajahmundry**	**Eluru**
2009-10	404	1,847	0.14	1.91
2010-11	1,287	1,941	0.33	0.88
2011-12	1,461	1,750	0.98	0.18
2012-13	857	1,913	0.24	0.25
2013-14	734	2,509	0.23	0.34

Source: Information furnished by the Company

It can be seen that the yield obtained from bamboo plantations in Rajahmundry Division and Eluru Divisions were not upto the standard. The number of LBs yielded in Rajahmundry division ranged between 404 and 1,461 and in Eluru Division it ranged between 1,750 and 2,509. In case of BICs, in Rajahmundry Division it ranged between 0.14 MT and 0.98 MT and in Eluru Division it ranged between 0.18 MT and 1.91 MT. The Company did not analyse the reasons for such wide variations and low yield and did not take any corrective action.

BICs are to be harvested immediately after harvesting long bamboos so that long bamboos will grow properly, it was observed that in Rajahmundry Division, Bamboo Industrial Cuts (BICs) were not harvested simultaneously with Long Bamboos. By postponement of harvest of BICs, the growth of long bamboos, which is the main product with high returns, was impeded.

The Government replied (December 2015) that due to age factor the plantations prior to 2002 gave less yield. Plantations from 2002 onwards would be developed well by second and third rotations. Further, it assured to issue instructions to streamline the harvesting. The reply was not tenable as the plantations at Eluru had crossed the second (7th year) and third (9th year) rotation stage without showing any significant improvement in the yield of BICs. Further, no action was proposed for the old plantations at Rajahmundry.

Cashew nut

2.17 The Company had Cashew plantations covering an area of 13,046.02 ha at the beginning of the year 2009-10 spreading to six districts of residual Andhra Pradesh under two regions viz., Nellore and Rajahmundry, which were in the age group of 30 to 36 years (planted during the period 1979 to 1985). After conversion to other plantations, the area during 2013-14 was 7,770.68 ha. The yield was expected from 8th year onwards and was expected to reach the peak by 15th year to 800 Kg per ha.

Yield was low compared to standard yield

It was observed that the average number of yielding plants was very low due to poor survival and ranged from 20 to 29 trees per hectare as against the standard number of 204 trees per hectare. The Company was not regularly monitoring and enumerating the trees. There were no rectification proposals on record. The yields from these trees during 2009-14 was ranging from 13.52 to 26.42 Kg per ha (which was at 68.23 kg. per ha in 2001-02) as against national average yield of 778 Kg per hectare, indicating poor performance. As per the Company, the reasons for low yields were on account of soil salinity and ill-suited climatic conditions – severe summer, hot winds, droughts in inland areas and cyclones in coastal areas.

It was noticed that the average income per hectare from cashew plantation was very low when compared to the income generated from other plantations viz., eucalyptus and bamboo. Some of the cashew plantations were also converted into eucalyptus clonal plantations in 2006-2015. As the Company was aware of the ill-suited climatic and soil conditions, continuation of old cashew plantations with such low revenue was not justifiable.

The Government stated (December 2015) that it would be converted into eucalyptus/other suitable plantations in future as suggested by Audit.

Gap plantation – Poor survival plantation due to lack of cultural operations

2.18 In gap plantation, seedlings are planted in the open spaces in the plantation to ensure maximum utilisation of space. Gap plantation was carried out to replace unproductive plantations with new cashew grafts in the existing cashew plantations. The Company raised 1,65,323 cashew grafts in gap plantation during 1993 to 2009 in 886.21 ha at 25 locations incurring an expenditure of ₹ 93.91 lakh. Only 31,436 plants (19 *per cent*) plants raised survived. This resulted in unfruitful expenditure of ₹ 76.07 lakh. Company stated that this was because they were planted in sandy soils with poor water holding capacity. Hot winds during summer, lack of supervision and poor cultural operations[20] also contributed to the low survival rate.

The reply is not tenable as old cashew plants were already existing in the area, and hence quality of soil and climate cannot be said to be the reason for poor survival. Adequate supervision and cultural operations should have been carried out.

The Government stated (December 2015) that it was proposed to discontinue the cashew grafts and proposed to replant the area eucalyptus clones / other suitable species.

Pine and Pepper plantations

Unjustified holding of pine plantations for 35 years

2.19 The Rajahmundry Division had raised Pine plantations in Maredumilli during the period 1976-1981 over an extent of 135 ha on experimental basis to study the viability of the species to provide homogenous long fibre for paper making. The Company proposed to harvest, based on enquiries from the market, an area of 65 ha (2011) and 70 ha (2012). But, no harvesting was done till date (March 2015) on the plea that harvesting expenses would be more than the revenue expected as it would be expensive to bring the material from hilly terrain to plain areas. These plants were continuing for over 35 years without generating any revenue. The Company did not explore alternative methods to use/sell the plantations.

Company also did not raise pepper plantations as proposed in its Management Plan since the area with high rainfall is conducive for development with the support of pine plantations.

The Government stated (December 2015) that it was proposed to harvest the crop in next plan period and replace the areas with suitable crop/pepper.

Medicinal plants under Vanaspati Van Programme

Amla plantations–Failure to ensure cost-effective collection charges

2.20 Vanaspathi Van Programme (VVP) was sponsored by Government of India to promote Indian system of medicine and for development of medicinal plants**.** Under this programme, the Company during the period 2001-04, raised amla plantations in Rajahmundry (303.89 ha) and Kadapa (201.15 ha) Divisions at a cost of ₹ 5.81 crore including grant from GoI (₹ 4.80 crore).

[20] These are preparatory works prior to planting and maintenance work, and include clearing the miscellaneous bush/other growth, pruning, weeding, tilling, applying fertilizers etc.

A test check of records at Rajahmundry Division revealed that though the plantations started giving yield from 2009 onwards, the yield was not economical. During the first three years (2009-12) of harvesting, the Company earned an income of ₹ 8.22 lakh and from 2012-13 onwards, it never took up harvesting on the ground that the collection charges were more than the expected revenues. Thus the expenditure of ₹ 5.81 crore proved to be unfruitful.

The Government stated (December 2015) that remedial measures would be taken up after analysing reasons for the poor results.

Failure to grow Red Sanders, an endangered and commercially viable specie

2.21 The Ministry of Environment and Forest, GOI advised (March 2008) the Company to promote and develop endangered medicinal and aromatic plants within the available area. The Company prepared a Project Report (November 2008), to raise Red Sanders in Seshachalam Hills (Kadapa and Chittoor) for the purpose of establishing model nurseries and production of quality planting material for cultivation of Red Sanders, which is an endangered and commercially viable species.

Based on the Company's project report, the Company planned raising of Red Sanders in 400 ha. The Project was to be completed within a period of three years, i.e., 2008-09 to 2010-11.

Government of India approved the Project (December 2008) with an outlay of ₹ 1.65 crore for raising Red Sanders in 400 ha of land. The main objective of raising the plantations was conservation of natural populations and to meet the medicinal and timber demands in the international market. GoI released (January 2009) an amount of ₹ 35.00 lakh towards first instalment (against its 50 *per cent* share of total Project cost).

Audit noticed that the Company could raise Red Sanders plantations only in 39 ha[21] incurring an expenditure of ₹ 21.89 lakh in 2008-10. GoI advised (August 2012) the Company to refund the released grant due to failure of the Company to furnish utilisation certificate. The Company refunded the unspent balance of ₹ 24.06 lakhs as it was unable to procure land for implementing the remaining part of the project.

The Government replied that as the Forest Department expressed inability to allot the Reserve Forest area and that the revenue wastelands were given to landless labour, hence planting could not be done.

The contention of the Company is not tenable as the Company, while preparing the DPR, had stated that red sanders were naturally occurring and were endemic to the area. Thus, due to lack of effort on the part of the Company to complete the project as envisaged, resulted in non-utilisation of grant.

Development of eco-park without visitor amenities

2.22 GoAP directed the Company (October 2006) to develop an eco-park at Idupulapaya (Kadapa) in 264 ha of Reserve Forest (RF) land along with 10 ha

[21] 12 ha Revenue wasteland and 27 ha of Reserve Forest

of revenue wasteland located adjacent to RF. It was to have an Eco-restoration area, a herbivore safari and a Bird Park. The Draft Project Report also proposed to have a base camp in an area of 63.74 ha with amenities for visitors in the Eco-Park. The project of constructing the base camp was given (August 2008) to Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC).

The Company envisaged (November 2006) to develop the park with the objective of making available an access to rich variety of plants and animal life to the urban populace. It envisaged participation of Van Samrakshana Samiti (VSS) in maintenance of the park, which would enable it to procure funds from international agencies. When fully developed, the park would serve as an important conservatory of local and exotic flora along with different animals and birds, besides being an important study centre for students, researchers and general public, apart from offering recreation.

The eco-park was developed at a cost of ₹ 3.71 crore in an area of 228.52 ha, and the same was inaugurated on 25 January 2009.

The Board decided (October 2009) not to construct the base camp as it would be unviable. This resulted in non-utilization of land measuring Ac. 63.74 (March 2015). As a result, the work awarded to APIIC was cancelled. APIIC refunded (September 2011) an amount of ₹ 1.08 crore duly deducting the expenditure ₹ 4.17 lakh incurred thereon.

Audit observed that:

1) the decision of the Board to declare the project unviable in less than a year of its inauguration lacked justification, as lack of visitors' amenities would defeat the basic objective of the project as the area is far from the nearest towns and cannot attract visitors without providing amenities. The Company had already incurred an expenditure of ₹ 1.84 crore towards maintenance of the Eco-park and had earned an income of ₹ 2.88 lakh (till 2014-15) as against the projected income of ₹ 63.13 lakh per annum.

2) there was no participation of the Vana Samrakshana Samithi (VSS), as envisaged in the project report, thereby depriving the Company of the opportunity to obtain funds under World Bank aided AP Community Forest Management Project. Besides, social benefits envisaged in the Project Report like employment to VSS, Research & Training for students were not achieved.

3) The eco-park has an eco-restoration area of 86.40 ha in which different types of animals (Chowsingha-8, Spotted Deer-50, Sambar-2 and Black Buck-7) and birds were brought and left without taking adequate measures for their protection in contravention of the Wild Life (Protection) Act, 1972 which provides for protection of wild animals, birds to ensure ecological and environment security. No records are being maintained relating to these animals by the Company. Company also did not prepare any action plan for protection (habitation work, census, data base preparation, fodder availability and vaccination) of these animals. In the absence of the same, the Company cannot ensure the survival of these animals. After Audit observation was raised, the Government proposed to

handover the animals to the Forest Department or take trained staff on deputation to comply with the provisions of the Act.

The Company handed over, on the orders of GoAP, an area of 6.7 ha, (RF) (2009) and 30.08 acres (patta land) (2009), for creation of a Memorial, to the Forest Department, Kadapa after incurring an expenditure of ₹ 23.74 lakh (on infrastructure development and raising of red sander plantations) which is yet to be received from GoAP (March 2015).

Environmental and social impact

Lack of measures for protection of Forest Land

2.23 Though the Company's objective is to conserve forest and protection of environment for maintaining ecological balances, it did not plan for these activities. The Company takes forest lands on lease from the Forest Department, GoAP. The forest area is subjected to loss due to biotic pressure like encroachments, illicit felling, fire etc. Soil erosion and degradation also contribute to the failure of plantations and deforestation. The protection measures include soil conservation, fire protection and action against illicit felling of trees. The Company did not have any comprehensive plan for protective measures. It did not plan for recruiting the required watchers either.

Test check of records revealed that the lands were encroached by private individuals at Eluru (12.54 ha) and Rajahmundry divisions (165.55 ha) as the same were kept without any activity on them. Though the Company initiated action to evacuate the encroachers in Rajahmundry (2007 and 2011), it could not succeed and the encroachers approached the Court. The matter was still pending (March 2015).

During the meeting with Regional Managers (September 2011) it was pointed out that the boundaries of the plantations were not properly demarcated resulting in encroachments by private parties. This indicated that the Management was acting only after identifying encroachments instead of taking preventive measures to avoid such encroachments. Thus failure of the Company in safeguarding its plantations led to encroachment of an area to the extent of 178.09 ha

Illicit felling of trees

2.24 The Company issued instructions (2005) to its field staff on illicit felling of plantations and steps required to be taken to avoid such activities. The absence of sufficient watchers and lack of regular supervision resulted in illicit felling of plantations. A scrutiny of records revealed that 41 cases involving illicit felling of 451 number of eucalyptus trees (2009-15) were reported upon by the APMs/ PMs during their surprise visits. The penalty was recovered at a uniform rate per tree.

It was observed that the levy of penalty at uniform rate was not correct and it should vary depending upon the girth size of the trees.

The Government (December 2015) assured to issue necessary instructions regarding penalty.

Failure to coordinate development of revenue land for employment of landless poor

2.25 District Collector, Kadapa handed over (February 2007) revenue land measuring 665.39 acres to the Company at Konduru (Kadapa) for maintenance of existing plantations (150 acres) and to raise/develop suitable plantations on the hillock area (515.39 acres) through landless poor beneficiaries.

The Company entered into MoU (April 2007) with Konduru Grama Samithi (KGS) with the objectives of development and conservation of land, protection of environment, ground water table, soil fertility and providing employment. The Company was the coordinator in these development works. The District Collector would release the funds under schemes like Andhra Pradesh Rural Employment Guarantee Scheme (APREGS) and funds so released would be kept in joint account in the name of KGS and the Company. The net revenue would be distributed in the ratio of 60:40 between KGS and the Company respectively.

Audit observed that as against undeveloped hilly area of 515.39 acres, only 100 acres were utilised (2007-09) for raising Red sanders and Kanuga plants (as gap plantation). The District Collector (Kadapa) released funds only upto 2009-10 for the Project. In this connection, it was observed that development and maintenance works were stalled from 2010-11 onwards and the members of KGS were not showing any interest to participate in the works, to protect plantations or to develop the remaining area of 415.39 acres. The Company did not take any action to coordinate with KGS / approach District Collector for funds. As a result, the core objective of providing employment to landless poor households and maintenance of ecological balance were defeated.

The Company stated (December 2015) that as funds were not provided, the project would require it to use its own funds, for which it had no mandate. It would hand over these lands to revenue authorities. However, audit did not find any evidence of pursuance of this case with District Collector.

Internal Control and Internal Audit

2.26 Internal control is designed for providing reasonable assurance for efficiency of operations, reliability of financial reporting and compliance with applicable laws and statutes essential for proper functioning as well as effectiveness of the organisation. Absence of suitable control mechanism for safeguarding plantations/land resulted in the following:

i) **Internal Audit** was not conducted at Head Office, Regional Offices and Eco-Tourism unit from 2009-10 onwards. In other units, internal audit was not conducted periodically in a systematic manner. Proper records of internal audit were not maintained indicating the details of number of Inspection Reports, number of pending paras and reasons for non-settlement. This indicated that no mechanism existed in the Company for periodical review of pending paras and prompt pursuance for settlement of objections with concerned offices. The Statutory Auditors of the Company in their report (2009-10) had also stated that the internal audit system was not commensurate with the size and nature of business of the Company.

Audit also observed that last internal audit of the Company was conducted in 2012-13.

The Government in its reply stated that this had happened due to lack of adequate and experienced staff and that it was planning to engage outside agencies for the same.

ii) **Audit Committee -** As per section 292 A of the Companies Act 1956, every Public Limited Company having paid up capital of not less than five crore rupees shall constitute an 'Audit Committee'. The Company had constituted the Audit Committee and meetings were being conducted only twice a year during the audit period, once before submission of accounts to the Statutory Auditor and once after receipt of the report of the Statutory Auditor. It is also supposed to ensure compliance with internal control systems. In spite of the existence of the Committee, no action was taken to strengthen Internal Audit in the Company and as per the Statutory Auditor's Report, the topic was not even discussed by the Audit Committee.

iii) **Unutilised reserves -** Analysis of the financial position revealed that Replantation Reserve and Fire Insurance Reserve were created every year by transferring 25 *per cent* and 5 *per cent* of its profits respectively. However, it was observed that every year, the expenditure incurred on replanting (₹ 3,549.93 lakh during 2009-14) and expenses/damages on account of fire accidents were charged to the Profit and Loss account as normal business expenditure instead of utilizing these reserves. Hence, the creation of these reserves lacked justification.

The Government stated (December 2015) that it was adopting the policy of capitalising the expenditure on new plantations till the period of harvesting and adjusting the capitalised costs (deferred expenditure) against its revenues at a later stage. The reply is not acceptable as the Company had created specific reserves for Replantation and Fire Insurance and was not meeting the related expenditure from these reserves.

iv) **Lack of Management Information System (MIS) -** The Company had not brought to the notice of the Board the extent of failed plantations and low yield. It had not maintained any Management Information System regarding allotment, possession, transfer/surrender and balance of land. The records maintained at divisions were not reconciled with the records at corporate office relating to area of land under operation, land surrendered and land under encroachment. The land details were also not reconciled with the Forest Department. The Government replied that it would develop separate web portal with MIS linking of all sub-offices to make the information available for the use of Management as well as other stakeholders.

Conclusions

The Company

- maintained uneconomical plantations for long periods and did not switch over to new and better yielding plantations in many cases;

- did not increase the use of technology (sand bed nursery and harvesters) and was thus deprived of the advantage they endowed;
- could not adhere to harvesting and replanting timelines owing to inadequate planning, delayed implementation of schemes, improper maintenance activities etc.; and
- did not collect Earnest Money Deposit based on the estimated value of sales.

Recommendations

The Company should

- conduct exhaustive study before taking up plantation in new area or planting of new species and should have an exit strategy in case targets are not met;
- adopt technology (sand bed nursery, harvesters, etc.) to reduce costs and increase the productivity of its plantations; and
- adhere to harvesting and replanting timelines to ensure maximum output.