

**Coconut Research Board - 2011**

1. Financial Statements  
-----

1:1 Qualified Opinion  
-----

In my of opinion, except for the effects of the matters described in paragraph 1.2 of this report, the financial statements give a true and fair view of the financial position of the Coconut Research Board as at 31 December 2011 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Accounting Standards.

1:2 Comments on Financial Statements  
-----

1.2.1 Sri Lanka Accounting Standards  
-----

The Capital Grants amounting to Rs.672,167,259 received from the Government had not been brought to account according to the income approach or the capital approach in terms of Sri Lanka Accounting Standard No.24.

1.2.2 Accounts Receivable  
-----

Receivable balances amounting to Rs.1,729,881 old between 01 year to 2 years and a sum of Rs.592,623 older than 03 years receivable mostly from Co-operative Societies had not been recovered by the Board.

1.2.3 Non-compliance with Laws, Rules and Regulations  
-----

A stock of 227 old tyres which should have been handed over to the Department of Coast Conservation in terms of the Public Finance Circular No.PF/FS01/04 of 21 July 2009 had been auctioned for Rs.273,399 on 08 July 2011.

2. Financial Review

2:1 Financial Results

According to the financial statements presented, the working of the Board for the year under review after taking into account the Treasury Grant of Rs.137,250,000 received from the year under review had resulted in a deficit of Rs.7,998,680 as compared with the corresponding deficit of Rs.14,715,170 after taking into account the Treasury Grant amounting to Rs.140,500,000 received for that year, thus indicating a favourable improvement of Rs.6,716,490 in the financial results. The increase of the income from estates in the year 2011 by a sum of Rs.24,279,136 as compared with that of the year 2010 had been the major factor for the favourable improvement in the financial results.

2:2 Analytical Financial Review

- (a) The income earned from the operating activities had covered only 50 per cent of the overall expenditure of the Board.
- (b) The Government Grants represented 47 per cent of the overall income of the Board.
- (c) Several significant accounting ratios relating to the year under review and the preceding year are given below.

	<u>Year Under Review</u>	<u>Preceding Year</u>
Current Ratio	4.2:1	5.9:1
Quick Assets Ratio	2.9:1	4.5:1

The average current ratio and the quick assets ratio of an institution should be 2:1 and 1:1 respectively, but the current ratio and the quick assets ratio of the Board are unusual. As such it was observed that the Board had not acted prudently in the management of funds.

3. Operating Review

3:1 Performance

3:1:1 The Genetics and Plant Propagation Division (Crop Improvement).

(a) Supply of Coconut Seeds

A key function of the Coconut Research Board is the recommendation of seeds suitable for cultivation purposes and the establishment of Seed Coconut Gardens for the supply of seeds. Nevertheless, it had not been possible for the Seed Coconut Gardens themselves of the Coconut Research Institute to supply the overall seed coconut requirement of the country amounting to 3 to 3.5 million nuts. As such a recommendation of mother trees and plus coconut trees had been introduced for obtaining seed coconuts to create a coconut cultivation of advanced genetic potential. Selections of 40,386 mother trees and plus trees had been done during the years 2002 to 2008 is shown below.

Year	2002	2003	2004	2005	2006	2007	2008	Total Number of Trees
Number of Trees	2,521	1,859	4,038	16,135	4,108	6,953	4,772	40,386

The following observations are made in this connection.

- (i) Even though the identification of the annual seed coconut requirements of the country and the establishment of adequate Seed Coconut Gardens and increase the reserve of mother trees and plus trees for that purpose is the key function of the Coconut Research Board, strategic courses of action had not been taken since the year 2008 for increasing the reserve of mother trees and plus trees.
- (ii) The quantity of 3,152,728 seed coconuts required for the accelerated programmes for production of 04 million coconut seedlings had not been obtained from mother trees or plus trees.
- (iii) The attention of the Board had not been paid to the possibility of increasing the reserve of mother trees and plus trees through the selection of mother trees and plus palms from the lands in the Northern and Eastern Regions.

(b) Introduction of New Varieties of Coconut

According to the Coconut Development Act, No.46 of 1971, a major function of the Coconut Research Board is the production of improved cultivar resistant to plant rust for increasing the national coconut crop. Nevertheless, only one variety of coconut had been introduced in the 13 preceding years. This variety of coconut introduced in the year 2004 had been introduced as “Kapruwana”. Even though 07 years had elapsed after the introduction, 12,500 seed coconuts of the variety only had been issued for planting.

Even though there is a very high demand for this variety of coconut among the coconut cultivators, the Research Board had failed up to the year under review to establish a new Seed Garden for increasing the quantity of seeds supplied. Even though a sum of Rs.15 million had been allocated for this purpose in the year under review the establishment of the Seed Garden could not be proceeded with due to the problems confronted in the acquisition of the land.

3:1:2 Crop Conservation Division  
-----

According to the Coconut Development Act, No.46 of 1971 the foremost function of this Board is the improvement of technology needed for the protection of coconut lands from plant rust to minimize the damage to the crop. As such a Crop Conservation Division was established for the achievement of this objective. The following observations are made in this connection.

(a) Control of Coconut Maita

The coconut Maita known by the scientific name Azaria Guronis reported in Sri Lanka for the first time or the latter part of the year 1988 had spread over all the districts in Sri Lanka and at present 12 to 13 per cent of the coconut crop had been subjected to the maita damage.

According to the use of the mixture of palm oil, sulphur and soap powder previously introduced to eradicate the maita damage, the crown of the tree has to be washed by climbing the coconut trees and as such it could not be done practically. As such the predator maita had been recommended for the biological control of maita. The Board had constructed laboratories for the production of predator maita and release them.

The following difficulties in the practical implementation of this methodology were observed.

- (i) The need to release of 5,000 predator maitas per tree every 04 month continuously over several years.
- (ii) As the predator maitas do not have wings, and migration from tree to tree had to depend on wind or other insects and as such releasing the predators had to be done manually by climbing trees.

Thus it was observed that this eradication method was also affected by the practical difficulties confronted in the chemical method introduced previously.

(b) Control of Weligama Leaf Wilt Disease

The Weligama Leaf Wilt and Leaf Rotting Disease rapidly spreading in the Galle, Matara and Hambantota Districts at present was identified in the Weligama area in the latter part of the year 2006.

The Coconut Research Board had failed to find a treatment to cure the plants affected by the disease since the identification of the disease in the year 2006 up to date. Courses of action to disease control and spread of the disease only had been recommended.

(i) Disease Control

Wherever a tree affected by the disease is reported in the affected zone or in whatever place outside that zone in the Island felling and removal of such trees on the payment of compensation as a control measure had been done by Coconut Cultivation Board after such trees are recommended as affected by the disease by the officers of the Coconut Research Board. The progress on marking trees after such trees are recommended as affected by the disease, licenses issued for the removal of disease affected trees and the payments made from the year 2008 had been as follows.

Year	Number of Trees Marked by the Coconut Research Board	Number of Trees felled and removed	Amount paid Rs. (millions)
2008	1,052	876	1.55
2009	6,754	3,475	6.54
2010	14,843	12,975	22.56
2011	<u>156,086</u>	<u>75,535</u>	<u>133.35</u>
Total	<u>178,740</u>	<u>92,861</u>	<u>164.60</u>

As the above table indicates a rapid annual increase in the number of trees recommended for felling and removal it was observed that risk of the spread of the disease had not been abated.

The Chairman informed that the large number of trees marked in the year 2011 had been done due to a revised recommendation.

(i) Prevention of the spread of the Disease to other Areas

According to the Notification under the Plant Protection Act, No.35 of 1999 published in the Gazette No.1542/7 of 24 March 2008, the Weligama Leaf Wilt and Leaf Rot Diseases had been declared as disease causing heavy damage to the coconut Industry of Sri Lanka and carrying coconut and other plants of the palm family out of the disease affected zone had been prohibited.

Accordingly 04 watch huts had been constructed in the Tangalle, Walasmulla, Akuressa and Galle areas to check the transport of the prohibited items. Eight Inspectors had been recruited on 01 June 2010 for this purpose at a monthly allowance of Rs.10,000 each. The co-operation of the Police had also been obtained for the inspections carried out by those Inspectors.

The following observations are made in this connection.

- (i) The inspections carried out at the 04 watch huts had become inactive since 25 March 2011.

- (ii) This disease had already spread to the following areas outside the disease affected areas either due to the inaction of watch barriers or due to the nature of the disease.

Area	Number of Lands	Number of disease trees fallen and removed
-----	-----	-----
Baddegama	07	87
Elpitiya	01	01
Ratgama	03	27
Poddala	<u>10</u>	<u>85</u>
Total	<u>21</u>	<u>200</u>

(c) Eradication of the Red Weevil Pest

The red weevil had been identified as a pest causing destructive damage to the coconut seedlings of coconut plantations. As such the pest control chemical Monocrotopus Pesticide had been recommended as the chemical eradication system to prevent the death of trees caused by the weevil.

As this chemical had been prohibited in several countries at it contains deadly poison, the supplier of the chemical had stopped the supply of the chemical to the Coconut Research Board.

Nevertheless, the Penthoate Pesticide had been introduced recently as an interim recommendation. Awareness of the injection of the pesticide to the trunk of the tree among the cultivators was being conducted.

3:1:3 Tissue Culture Division

-----

The Tissue Culture Division was established in the year 1985 with the objective to create a successful method for coconut cloning for the production of a large number of coconut seedlings and production of homozygous lines through anther culture and anther culture to reduce the time taken to produce new hybrid varieties.

A sum of Rs.4.3 million had been spent on researches in this field from the year 2000 to the year 2010. An examination of the progress thereon revealed the following matters.

- (i) The initial experiments under the coconut cloning had been done by using the tender leaves of the coconut tree from the year 1985 up to the end of the year under review and no results had been achieved through those experiments up to the end of the year under review.
- (ii) The immature inflorescence had been used for experiments under the second step of cloning. Even though these experiments had been conducted from the year 1986 up to the year under review even, those experiments had not produced results.
- (iii) Even though meristem culture had been used for subsequent experiments, those also had not produced any results.
- (iv) Even though a number of homozygous coconut seedlings had been produced by Anther Culture through Invitro Regeneration those also could not be planted in the field due to various reasons.

3:1:4 Coconut Processing and Development Division

-----

The identification of the technology relevant to the production of different products relating to coconuts and the dissemination of the technology is the key function of this Division. An examination of the functions performed by the Division revealed the following matters.

	Category of Product and Objective	Research Period	Status of Recommendations made	Utilization of the Technology and Observations
	-----	-----	-----	-----
(i)	Bakery Products from Coconut Powder	2003 – 2009	Nil	Even though various researches had been conducted in this connection, any appropriate technology had not been introduced.



- |       |   |             |     |  |
|-------|---|-------------|-----|--|
| (ii)  | Coconut Cream<br>Yoghurt  | 2009 – 2010 | Nil | Researches are in progress   |
| (iii) | Expediting the<br>soaking process<br>of coconut<br>husks by using<br>microbes | 2006 – 2011 | Nil | Failed to introduce<br>recommendations even by the end<br>of the year 2011 |

### 3:1:5 Biometrics Division

-----  
The key function of this Division is the annual forecast of the Natural Coconut Crop for identification in advance the changes in the overall coconut production in the country. Nevertheless, it had not identified the large scale drop in the coconut production the year 2010. The price of coconuts had increased sharply in the preceding year due to the grave shortage experienced in the coconuts required for the domestic consumption and the industrial needs.

According to the forecast for the year 2010, the estimated crop had been 2,791 million nuts whereas the actual crop had been 2,317 million nuts. That represented a decrease of 474 million nuts as well as a decrease of 536 million nuts as against the actual crop for the year 2009.

The same methodology used in the preceding year had been used for the forecast of the coconut crop for the year 2011.

The forecast of the national coconut crop had been done by using the quarterly rainfall data obtained under the Agro-Economic Zone of Sri Lanka as the primary base, and the using the effect of fertilizer application, the introduction of methods for disease and pest control and the introduction of new varieties of coconuts as one variance. Nevertheless, the actual coconut crop had been computed by the multiplication of the actual crop according to the plucking seasons of 870 coconut lands in 152 Coconut Development Zones in 16 Districts and 252 selected coconut lands in the Coconut Triangle, by the number of acres in the coconut lands identified in the year 2002.

The following observations are made in this connection.

- (i) The negative impact on the national coconut crop caused by the Weligama Leaf Wilt disease, coconut maita damage and other pests had not been considered.
- (ii) The factors such as the photosynthesis potential and the varieties of soil which are critical determinants of the coconut crop had not been considered.
- (iii) Even though the coconut lands identified in the year 2002 had been used for the computation of the actual coconut crop, the decrease caused up to date due to fragmentation of coconut lands for housing purposes had not been considered.
- (iv) The Board did not have the updated data on the number of bearing coconut trees in Sri Lanka.
- (v) Even though actual coconut crop had been computed on the district basis separately according to the forecast methodology, the national coconut crop had been computed according to the plucking turns. As such it had not been possible to identify the variance between the estimated crop and the actual crop on the district or the plucking turn basis separately.

### 3:1:6 Estates Management

-----  
The Board had managed 04 Genetics Resources Centres and 06 Research Centres in the year 2011. The following matters were revealed in the analytical review of the crop and the income of those estates.

- (a) The data on the coconut crop of those Centres in the years 2010 and 2011 are given in the following table.

Genetic Resources / Research Centres	Estimated Crop		Actual Crop		Variance between the Estimated Crop and the Actual Crop for 2011		Variance of the Actual Crop as compared with the preceding year	
	Nuts		Nuts					
	2011	2010	2011	2010	Nuts	Percentage %	Nuts	Percentage %
Bandirippuwa	700,000	678,728	573,307	643,986	(126,693)	(18)	(70,679)	(11)
Pallama	518,000	482,000	436,483	471,026	(81,517)	(18)	(34,543)	(7)
Pottukulama	700,000	699,902	762,978	674,188	62,978	9	88,790	13
Ambakele	1,360,000	1,345,000	1,091,335	1,163,000	(268,665)	(20)	(71,665)	(6)
Ratmalagara	650,000	632,175	612,563	642,193	(37,437)	(6)	(29,630)	(5)
Walpita	80,000	85,768	76,209	72,436	(3,791)	(5)	3,773	5
Makandura	400,000	400,000	415,915	503,951	15,915	4	(88,036)	(17)
Maduruoya	572,664	513,017	592,034	416,109	19,370	3	175,925	42
Dunkannawa	-	19,940	45,591	34,886	-		-	-
Middeniya		-	7,800	1,910	-		-	-
<b>Total</b>	<b>4,980,664</b>	<b>4,856,530</b>	<b>4,614,215</b>	<b>4,623,685</b>				

- (i) Even though the Coconut Crop of the preceding year had decreased drastically due to the vagaries of climate the decrease of the coconut crop in the estates of the Board during the year under review had decreased beyond that.
- (ii) The actual crop of the Bandirippuwa, Pallama, Ambakelle and Ratmalagara as against the estimated crop had decreased beyond the actual crop of the preceding year.

b). The crop per acre and the average annual crop per tree.

Genetic Resources / Research Centres	Land Extent with Bearing Cultivation (Acres)	Number of Bearing Trees	Fallen Coconuts (Nuts)	Total Annual Crop (Nuts)	Average Annual Crop Per Tree (Nuts)	Crop per Acre (Nuts)	Number of Nuts per Bunch (Average Crop per Tree per month)	Percentage of Fallen Coconuts %
Bandirippuwa	207	11,211	18,265	573,307	51	2,770	4	3
Pallama	432	14,091	36,035	436,483	30	1,010	3	8
Pottukulama	170.5	9,469	143,771	762,978	81	4,475	7	19
Ambakele	318.6	17,749	179,055	1,091,335	61	3,425	5	16
Ratmalagara	243.5	12,526	74,526	612,563	49	2,516	4	12
Walpita	44	1,357	15,078	76,209	56	1,732	5	20
Makandura	140.4	5,504	21,403	415,915	76	2,960	6	5
Maduruoya	147.4	6,869	115,769	592,034	86	4,017	7	20
Dunkannawa	20	767	6,225	45,591	59	2,280	5	14
Middeniya	45.5	350	-	7,800	22	171	2	-
<b>Total</b>	<b>1769</b>	<b>79,893</b>	<b>610,127</b>	<b>4,614,215</b>				

- (i) The average annual crop per tree of all estates other than in the case of Pottkulama, Ambakelle, Makandura and Maduruoya estates had been less than 60 nuts.
- (ii) Even though the annual crop per acre should exceed 4,500 nuts the crop of Pallama, Walpita, Middeniya and Dunkannawa estates had been less than 2,500 nuts.
- (iii) The number of fallen coconut of the following estates had been very high and as such it was observed that the plucking of the crop had not been done on time.

<u>Genetics Resources/ Research Centre</u>	<u>Percentage of fallen Coconuts %</u>
Pottukulama	19
Walpita	20
Maduruoya	20

### 3.2 Management Inefficiencies

The Board had failed up to the date of this report to recover the sum exceeding Rs.17.4 million due to the Board from the 08 scholarship recipients who had not completed the compulsory service period from the respective officers or the sureties.

The Chairman informed me that enquiries had been made from the Controller of Immigration and Emigration as to whether anything could be done in this connection as those officers are subjected to a judicial process and also defaulted payments due to the Government.

### 3.3 Idle and Underutilised Assets

The following observations are made in this connection.

#### (a) Pure Coconut Oil Extraction Machine

This machine had been purchased in the year 2003 for Rs.1,507,975 for the introduction of the technology for the production of virgin coconut oil and the technology for the production of virgin coconut oil had been introduced at the commencement of the year 2006. The machine with a capacity of producing 100 to 120 liters per day, had produced 1,630 litres only during the period from the year 2006 to the end of the year under review.

#### (b) Heat Control Unit

The Heat Control Unit had been established in the year 2008 at a cost of Rs.2,416,978 with the objective of producing quality charcoal and using the heat produced in the process for drying copra without releasing the heat to the environment. The machine remained idle up to the end of the year under review due to the problems in operating the machine.

### 3.4 Personnel Administration

The position of the approved cadre of the Board as at the end of the year under review and the actual position as at that date are given below.

<u>Grade</u>	<u>Cadre as at 31 December</u>		
	<u>Approved</u>	<u>Actual</u>	<u>Vacancies</u>
Staff Grades	80	48	32
Non-staff Grades	169	111	58
Junior Grades	140	82	58
	----	----	----
	389	241	148
	-----	-----	-----

Vacancies in 148 posts relating to the operating activities existed as at the end of the year under review.

4. Systems and Controls

-----

Deficiencies in systems and controls observed during the course of audit were brought to the notice of the Chairman of the Board. Special attention is needed in respect of the following areas of control.

- (a) Accounting
- (b) Research
- (c) Estates Management
- (d) Human Resources
- (e) Budget