

ELECTRONIC WASTE MANAGEMENT IN SRI LANKA



Report No. PER/2016/EW/01



AUDITOR GENERAL'S DEPARTMENT
PERFORMANCE AND ENVIRONMENT AUDIT DIVISION



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1. Executive Summary

Sri Lanka which is a splendid gift of the nature is an island in abundance with extremely rare resources of the world. An invaluable mineral sand deposit enriched with raw materials used for the numerous productions created for the benefits of the people living all around the world has been bestowed upon the Sri Lanka by the nature.

It has been brought to light by the researches that the composition of this mineral sand which is also known as the Black Gold consists of extremely heavy composition as compared with the mineral sand found in other countries of the world.

Ilmenite and Rutile contained in the composition of this mineral sand are mainly used for the production of Titanium Dioxide. It is a raw material required for the productions of paints, plastic and paper industries. An another benefit obtained from this mineral sand is the production of Titanium metal. Although this Titanium metal is as strong as Steel, it is half in its weight than that of the Steel and remain unchanged under a heat ranging from 431 Fahrenheit Degrees to 1000 Fahrenheit Degree. Hence, this metal is used as a raw material in the manufacture of Air Crafts. Moreover, since this substance resists the corrosion, this is used for the production of welding sticks. Ceramics and sanitary wares are made out of another substance called Zircon contained in this mineral sand and due to its resisting capacity to heat and corrosion, it is used in the Steel and Stove industries.

With the objective of mining, processing and exporting this mineral sand, Sri Lanka Mineral Sand Corporation was established under the Industrial Corporation Ordinance No.49 of 1957 and the construction of the Plant near the Pulmoddai costal belt had been initiated in the year 1958.

For the enhancement of productivity and the efficiency, this was converted into a Government fully owned company in the year 1992 under the name of Lanka Mineral Sand Limited.

This Government Company in which around 700 employees are currently engaged in the service has become an institute earning profits sufficient enough to pay annual dividends of Rs.500,000,000, Rs.1,700,000,000, Rs.43,000,000, Rs.14,000,000 and Rs.158,000,000 to the Treasury have been earned during the years 2011,2012,2013,2014 and 2015 respectively.

For the evaluation of present operations of this Government company which made contribution to strengthen the domestic economy while generating foreign exchange to the country and dividends to the General Treasury even amidst the terrorist conflicts prevailed in the past thirty years, a performance audit was carried out.

The objectives of this performance audit were to evaluate as to whether the activities such as mining, processing and sale of mineral sand as well as utilization of human/ physical resources of the Company are taking place in an effective, efficient and environmental friendly manner and further, to evaluate whether a maximum contribution is made to the National Economy by generating foreign exchange.

It is a responsibility of a Ministry to protect, maintain and exploit the maximum benefits of all the resources belonging to the Government. Nevertheless, the activities which are detrimental to the going concern of the Company such as changing the Line Ministry of the Company from time to time, utilization of financial resources of the Company for irrelevant activities and recruitment of employees contrary to the scheme of recruitment had been effected by the Line Ministry. Further, obtaining licenses for mineral sand mining, infrastructure facility development, seeking buyers through the relationships of the foreign embassies, failure in overcoming the obstacles faced in directing towards new mineral sand deposits and the minimum level of the efficiency of the Plant were the main recognized audit observations.

Further, even under the different circumstances such as the price policies not considering the cost, poor financial management, underemployment of the employees, poor procurement methods, not properly identifying the issues prevailed in the factory and giving timely solutions thereon and the political interferences, the Company had continuously engaged in a long journey while preserving its production process without being a burden to the Government Treasury.

However, due to the reasons such as absence of a proper marketing plan, determination of price without based on the cost , failure in implementing proper standards in sales and not seeking the direct buyers , the lack of proper market for the production was distinguished.

In order to minimize these issues, more attention should be paid and contribution should be made at the Line Ministry level to the Company. Further, through the adoption of methods such as providing opportunities to access to new mining areas by eliminating obstacles find in obtaining

mineral sand from the deposits, improvement of the capacity of the Plant immediately, obtaining infrastructure facilities such as electricity and water under a minimum cost, adoption of favourable procurement methods and proper utilization of assets and human resources, the vision of the Company to be the pioneer in earning foreign exchange to the Sri Lanka will be a realistic without further remaining it as a dream.

2. Introduction

2.1 Background

Sri Lanka can be recognized as a country enriched with numerous natural resources and out of that, the mineral sand resource which is found in large scales along the North-East costal belt can be identified as a resource capable of making an immense contribution towards the National Economy. The valuable mineral sand known as Ilmenite, Rutile and Zircon extracted from these deposits situated centering around the Pulmoddai area is exported to the countries such as China and India as a raw material. The mineral sand deposits of this nature can be found in other areas of the island, too. Out of that, the areas from Arisimale to Kokilai Lagoon and Nillaveli to Mulathive in the Eastern costal belt are the main areas. The mineral sand deposits in Sri Lanka have been recognized as the most valuable mineral sand deposits in the world and as the composition of the mineral sand of those deposits exists at a high value from 70 per cent to 80 per cent, the production of mineral sand can be maintained at its maximum level.

2.1.1 Lanka Mineral Sand Limited

With the objective of mining, processing and exporting mineral sand in the deposit in the Pulmoddai costal belt, the Lanka Mineral Sand Corporation was established under the Industrial Corporation Ordinance No.49 of 1957 and the construction of the Plant located near the Pulmoddai costal belt had been commenced in the year 1958. As the initial exportation, 2,800 tons of Ilmanite had been exported to Japan in the year 1961 and thereafter, export had gradually increase annually. Subsequently, it had been decided to extract Rutile an Zircon from the mineral sand and the Yan Oya Pump house was constructed in the first half of the 70th decade in order to obtain pure water required for that purpose.

With the objective of harnessing the Pulmoddai deposit at its maximum level, this had been established as a Public Company in the year 1992 under the name of Lanka Mineral Sand Limited under the Conversion Of Public Corporations Or Government Owned Business Undertakings Into Public Companies Act No. 23 of 1987. Subsequently, this industry is maintained as a Government fully owned company under the Companies Act, No.07 of 2007 with a Share Capital of Rs.8,000 million.

Even though a progress was shown in the production up to the year 2013, a decline in the production was reflected in the year 2014. Specially, the issues found in obtaining mining licenses, use of limited area of the deposit despite the lapse of a long period, the minimum

efficiency level of the extremely obsolete machineries had resulted in the decline of the production. Nevertheless, the overall contribution made by the Company to the National Economy remained at a significant level.

2.1.2 Contribution made to the National Economy

According to the Central Bank Report, 2015 the contribution made to the Gross Domestic Production as per the industries was as follows.

	<u>Economic Affairs</u>	<u>Contribution to the G.D.P</u>			
		2014		2015	
1.	Agriculture, Afforestation and Fishing Industry		7.8		7.9
2.	Industries				
	i. Mining and Excavations Industries	2.5		2.3	
	ii. Production Industries	15.7		15.7	
	iii. Supply of Electricity, Gas, Steam and Air conditioners	1.0		1.0	
	iv. Purification and Distribution of water	0.1		0.1	
	v. Sewage activities and Waste Management	0.2		0.3	
	vi. Construction industries and related services.	7.2	26.7	6.8	26.2
3.	Services		56.3		56.6
			-----		-----
	The total value addition according to the basic prices		90.8		90.7
	Tax, subsidies		9.2		9.3
			-----		-----
			<u>100.00</u>		<u>100.00</u>

(Source: Central Bank Report, 2015)

According to the above data, the activities relating to the mining and excavations had decline in the year 2015 as compared with the year 2014. Nevertheless, it is implied according to the Central Bank Report that, the material increase in the Ilmanite production had resulted in a positive improvement in the mineral sand production in the year 2015. Accordingly, it is apparent that this Mineral Sand Limited makes an immense contribution to the Sri Lankan Economy.

2.1.3 Providing Funds to the Government Institutions

It was also observed that the Lanka Mineral Sand Limited extends a steady support to build up the domestic economy by providing funds to each Public institution as indicated below.

- (i) A sum of Rs.500,000,000, Rs.1,700,000,000, Rs.43,000,000, Rs.14,000,000 and Rs.158,000,000 had been paid to the General Treasury as the dividends in the years 2011,2012,2013,2014 and 2015 respectively.
- (ii) Investments in the Treasury Bills had been Rs.160,279,246, Rs.359,564,354 and Rs.205,000,000 in the years 2013,2014 and 2015 respectively.
- (iii) The Company has paid a sum of Rs.53,758,943, Rs.59,341,234 and Rs.119,325,172 as the royalty and Rs.2,230,702, Rs.365,157 and Rs.3,579,953 for the mining licenses to the Geological Survey and Mines Bureau in the years 2013,2014 and 2015 respectively.
- (iv) Income tax amounting to Rs.9,939,295, Rs.1,882,402 and Rs.45,984,813 had been paid to the Inland Revenue Department in the years 2013,2014 and 2015 respectively.
- (v) The Company had granted a sum of Rs.500,000,000 to the State Resources Management Corporation Limited in the year 2011, a sum of Rs.25,000,000 to the State Plantation Corporation in the year 2012 to solve its financial issues, a sum of Rs.5,000,000 to the National Paper Corporation in the year 2012 to settle the salaries in arrears of the employees and a sum of Rs.15,000,000 to the Janatha Estate Development Board in the year 2013 as a temporary loan.

2.2 Authority for the audit

The audit was carried out under my directions in terms of provisions in the Article 154 (1) of the Constitution of the Democratic Socialist Republic of Sri Lanka.

2.3 Selection of the Title for the audit

Due to the matters such as standing the heavy composition of the mineral sand in Sri Lanka at a higher percentage as compared with the mineral sand found in the other countries and existence of a high demand in the world market for this mineral sand, the contribution made by this Company to the national economy can be further increased. Accordingly, the objective of this performance audit was the evaluation of the contribution made to the domestic economy by the Lanka Mineral Sand Limited which can exert a great influence to the national economy.

2.4 Scope of Audit

I conducted my audit in accordance with International Auditing Standards of Supreme Audit Institutions (ISSAI 3000-3200). Our audit was not confined solely to the basic areas of mineral sand mining activities, production and the marketing. In addition, the optimum utilization of the resources of the institution, the impact posed to the environment in the events of mining and processing and the activities of the other institutions engaged in regulating those activities were also taken into consideration in this regard.

The audit was conducted based on the research report issued by the National Engineering Research and Development Centre relating to the capacity and the present operability of the machineries in the Pulmoddai Plant and the clarifications made by the officers of the Engineering, Mechanical and Laboratory Divisions of the Company.

2.5 Objectives of the Audit

The objectives of this audit were as follows.

- (i) To evaluate whether the mining of mineral sand is taking place effectively with economic value, efficiently and environmental friendly manner.
- (ii) To evaluate whether the mined mineral sand is subjected to economical, effective, efficient and environmental friendly processing system.
- (iii) To evaluate whether a maximum contribution is made to the National Economy by generating foreign exchange by the sales prices with a profit margin based on the cost.
- (iv) To evaluate whether the financial, physical and human resources are used properly.

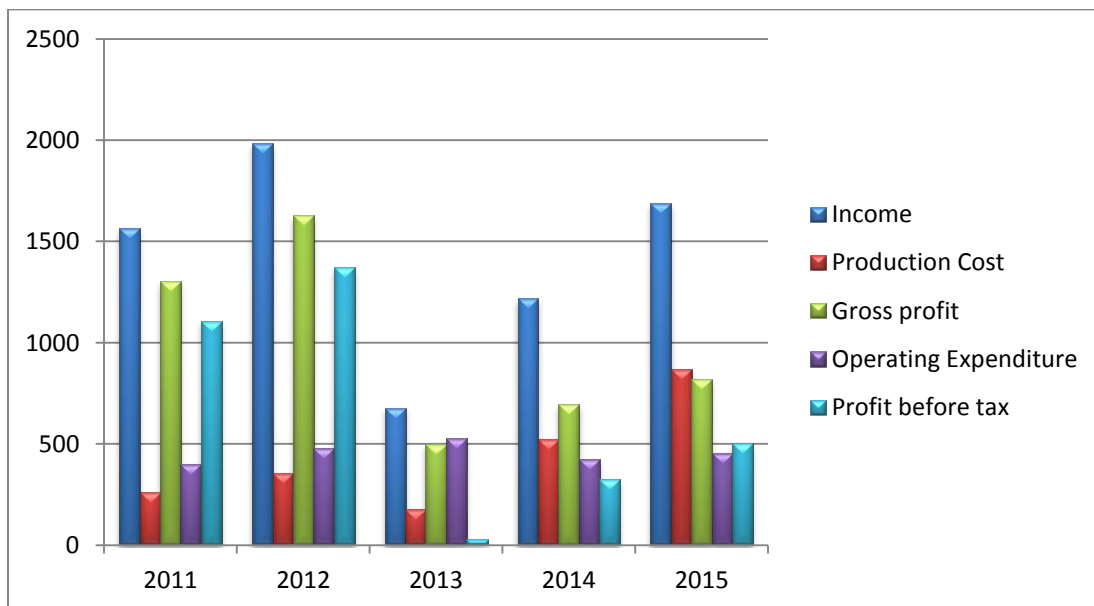
3. Detailed Audit Findings and Recommendations

3.1 Financial Review

(a) The financial performance of the Company during the period of past several years was as follows.

	2011	2012	2013	2014	2015
	Rs. Millions	Rs. Millions	Rs. Millions	Rs. Millions	Rs. Millions
Income	1567.2	1984.5	678.9	1219.8	1688.1
Production Cost	262.8	356.8	178.9	525.6	866.4
Gross Profit	1304.4	1627.7	500.1	694.2	821.5
Percentage of the Gross Profit	83	82	74	57	49
Operating Expenditure	397.0	478.4	526.5	422.4	454.3
Profit Before tax	1,107.2	1373.1	29.8	327.6	502.8
Percentage of the Profit Before tax	71	69	4	27	30

The graph relating to the above financial performance is as follows.



Accordingly, the following matters were observed.

- (i) As the Company had maintained a high income and minimum production cost in the years 2011 and 2012, the gross profit had increased.
- (ii) As the production cost of the Company had increased in the years 2014 and 2015 as compared with the year 2013, the gross profit earned had been at a minimum level.
- (iii) The Company should further take steps to minimize the production cost and the operating expenditure.

Recommendation

The management of the Company should take adequate steps to gradually decrease the production and operating expenditure and to improve the financial security by way of increasing sales income.

3.2 Mineral Sand Mining

According to the Committee appointed to consider the Cabinet Memorandum No.16/2012, mineral sand deposits are located in the areas such as Pulmodai, Nayar, Thevikkallu, Puduwakattu, Thevikkovil, Vakarei and Mannar.

Out of those locations, mining activities of the Pulmodai deposit are carried out by the Lanka Mineral Sand Limited. The mineral sand of this deposit contains 70 to 75 per cent of Ilmenite, 8 to 10 per cent of Zircon and 8 to 10 per cent of Rutile and the percentage of Ilmenite had declined from 55 to 40 per cent at present.

3.2.1 Optimum utilization of the areas for which the mining licenses were obtained

Under the provisions of the Mines and Mineral Act, No.33 of 1992, The Geological Survey and Mines Bureau issues licenses for mining and a permit issued for the development activities under Section 14 of Part III of the Cost Conservation Act No.57 of 1981 is also required to be obtained.

Accordingly, the company had obtained licenses for mining of mineral sand in the following areas.

- i. Poduwakattu area in the Kuchchaveli Divisional Secretariat Division.
- ii. Kevikkallu area in the Kuchchaveli Divisional Secretariat Division.
- iii. Pulmodai in the Kokilai Divisional Secretariat Division.

Although licenses had been obtained as indicated above, mining had not been properly carried out during the past several years. Details are as follows.

Year	Poduwakattu (Tons)	Pulmodai (Tons)	Kevikkallu (Tons)
2011	97915	108841	Mining had not been carried out
2012	Nil	181928	-Do-
2013	Nil	220383	-Do-
2014	44723	153672	-Do-
2015	Nil	180612	-Do-

The reasons attributed to carry out mining at Pulmodai area and not doing mining at Poduwakattu and Thevikkallu areas were as follows.

a. Poduwakattu Area

Mining had not been carried out in this area of 06 hectares in extent. The dilapidated condition of the bridge situated on the road used for the transport of mineral sand from Poduwakattu to Pulmodai had been cited as the reason attributed therefor. Accordingly, it had been a main activity to repair the above bridge in collaboration with the Road Development Authority. Although it had been discussed at the meeting of the Staff Officers held on 21 March 2016 that there was an alternative road for the transport of sand, the Company had not interested in transporting sand along the said alternative road. Instead, productions had been carried out depending on the Pulmodai mineral sand deposit and as such it had not been possible to reach to the maximum capacity of the factory.



(The bridge that has been an obstacle to the sand transportation)

b. Thevikkallu area

The extent of this mine is 4.5 hectares. The construction of a hotel complex in close proximity to its coastal belt had been cited as the major impediment to carry out the mining activities therein. Therefore, mining had not been done at the check carried out, although the licenses had been obtained.

c. Pulmoddai Area

Only the mineral sand deposit located at Pulmoddai had been used after the time of establishment of the Mineral Sand Limited. As mining had been continuously carried out in Pulmoddai area consisting of 18 hectares in extent, the mineral sand depositary had dwindled and as a result, further obtaining of high quality mineral sand had become limited. Accordingly, a dire need of moving towards the alternative deposits had cropped up in order to maintain the capacity of mineral sand production at the maximum level.

After mining is carried out on the shore, it is natural to fill those locations with sand. Yet, it takes a certain period of time. Similarly, in order to keep the functions of the Plant continuously at its maximum capacity, there should be a sufficient quantity of mineral sand without scarcity. Therefore, as a solution, excavations had to be widened from the Pulmoddai shore to the land area. Accordingly, it was observed in audit that excavations were being carried out even in the absence of 40 percent minimum composition that is required to be contained in mineral sand.

The machines of Spirals shape in the Wet Gravity Upgrading Plant had been designed so as to segregate the mineral sand with 40 per cent minimum weight. Nevertheless, according to the laboratory reports obtained within 23 days in September 2016 on the composition of the mineral sand, the composition of the heavy mineral sand had stood at less than 40 per cent during 16 days and the composition of magnetic mineral sand had stood at less than 40 per cent during 22 days.

3.2.2 The Methodology of Mining

After being mined, the mineral sands should be transported to the Plant. The deposits of mineral sands spread over distant areas from the Plant. Hence, it is essentially necessary to effectively and productively transport the mineral sands from the areas where the new mineral sand deposits are located, to the Plant. The following matters were observed during the audit in respect of mining mineral sands.

- i. With the objective of providing job opportunities for the villagers nearby the Plant in Pulmoddai, the tractors owned by the villagers had been made use of in transporting the sands between the coast and the Plant. As the sand being brought in this manner is wet, it weighs heavily, thus necessitating to pay a higher price to the sand suppliers. As a solution to this, it had been decided at the meeting of the Staff Officers held on 21 March 2016 that the sand should be allowed for 2 days to dry up before being brought since the date of mining.
- ii. However, the stocks of sand were piled at a place where waves were braking on. As such, the field inspection carried out on 14 July 2016 revealed that the wetness remained unchanged as the waves often broke thereon.



(The mineral sands piled up after being mined)

- iii. Although the activities of the external parties engaged in mining had not been supervised before, it had been decided at the aforesaid meeting that the mining should be carried out under the supervision of the officers hereafter, and the areas of high mineral concentration should be inspected as per research data thereby mining such places.

3.2.3 Cost of Heavy Mineral Sands

The Plant should be maintained in accordance with environmental laws and rules whilst steps should be taken to collect raw mineral sands with high concentration under low cost. The primary raw material of the mineral sand industry is the raw mineral sands obtained through mining. Except for the costs incurred on the mining of underground mineral sand deposits and

transportation, it is a highly favorable situation in this industry that no other direct costs incur in the production of mineral sands. Accordingly, it was revealed in the analysis on the data relating to the first month of the year 2016 that, as compared with the total cost for the production of mineral sands, the cost on raw sand had remained at a level as low as 7.5 per cent to 2.5 per cent. Hence, the production of mineral sands is a profitable industry that offers higher contribution to the national economy. Particulars are as follows.

The expenditure incurred on collecting raw mineral sands during several preceding years.

Year	Amount Mined (MT)	Sum Paid to the Collectors of Mineral Sands Rs.	Total Expenditure on Mining Rs.	Mining Cost per MT
2011	206756	50,024,036	56,641,045	274
2012	181928	31,437,035	38,819,512	213
2013	220383	41,916,216	47,180,599	214
2014	198395	49,797,068	56,736,848	286
2015	180662	30,371,431	50,583,747	280

Accordingly, the amount of mineral sands mined annually had gradually declined as compared to the year 2013. But, the cost per Metric Ton of sand had gradually increased by the year 2014, and slightly decreased by the year 2015.

3.2.4 Environmental Issues

The mining license had been issued with the period of validity from 18 December 2016 to 31 December 2016 for this company under the licenses issued on development activities mentioned in Section 14 of Part III of the Coast Conservation and Coastal Resource Management Act, No. 57 of 1981.

Under the special conditions of this license, mining should be carried out with minimum environmental impact. A field inspection was carried out in this connection on 14, 15 July 2016, and 4, 5, 6 October 2016 at the deposit in Pulmoddai. It was revealed therein that mining had been carried out beyond the perimeter in this area from the date of inception of the Plant up to the present day. Hence, it was observed that the mineral sands of higher weight in the composition had been diminished. To rely solely on this deposit due to various difficulties in obtaining mineral sands from the deposits located at distant areas, had paved way for environmental issues. It was hence observed that the following conditions of the mining license had been violated.

<u>Condition</u>	<u>Nature of Violation</u>
Condition No. – 04	Plants growing at the coastal areas should not be harmed when extracting mineral sands. However, it had not been so done.
Condition No. – 05	After being mined for mineral sands, the areas should be filled with sea sand to bring the coast back to normalcy. However, it had not been so done.
Condition No. – 06	It is necessary to allow sand to accumulate naturally over the areas once mined for mineral sands, and then only such places should be mined again, but failed to do so.

3.2.5 Exploration of New Mining Areas

The company had identified deposits of high mineral sand concentration in the areas from Kokilai lagoon to the north of Mulativu, and the areas of Nayaru and Chenmalei, located towards Kokkuthuduwai South from the Kokilai lagoon. According to the report presented on the exploration carried out by the Geological Survey and Mines Bureau in response to a request made by the company, it was verified that deposits of higher mineral concentration existed in the areas near the Kokilai lagoon.

Due to reasons such as, the Plant belonging to the company had been older than 50 years, and the composition of weight had decreased as the deposit in Pulmoddai had been continuously mined during that period, it had been planned to establish a new Plant in Kokilai. Particulars are as follows.

- a. Obtaining Approval for the Project

Approval for this project had been granted in June, 2010 by the Secretary to the Ministry of State Resources and Enterprise Development whilst the recommendation of the Department of Public Enterprises had been received on 24 May 2010.
- b. Acquisition of Lands

The following matters were observed in this connection.

 - i. A request had been made to take measures necessary for the acquisition of the relevant land by considering the matters such as, in case the area with high

concentration of mineral sands beyond the Kokilai lagoon, becomes populous in the future, it would not be possible for the area to be made use of for this objective, the machinery required for extracting mineral sands had already been imported, and the initial steps required to recruit staff for the company had been taken. As such, the Divisional Secretariat, Muhudubadapattu had vested the said land in extent of 17.6958 hectares with the General Manager of the Lanka Mineral Sands Ltd. by a letter dated 13 February 2013 through the Gazette Extraordinary, No. 1780/24, dated 19 October 2012.

- ii. By deviating from the general procedure of acquisition, this land had been acquired as an expedited acquisition of land under the Sub Section 38 (a) of the Land Acquisition Act.
- iii. A sum of Rs. 2,250,000 being the value of this land, had been credited to the account of the District Secretary, Mulativu in the year 2012.

c. Uneconomic Transactions

Particulars were as follows.

To establish a new Plant by identifying new mining areas, or continue the manufacturing process with the existing Plant should have been done following a compressive study. As such, it was expected to improve the turnover of the company by increasing the production at full throttle of the Plant after fulfilling the required physical and human resources.

Nevertheless, the following measures taken by the company had paved way for this project to be unsuccessful.

- i. Machinery valued at Rs. 39,339,473 had been purchased in August 2013 even before the acquisition of the land for establishing the new Plant.
(The detailed audit observations in this connection have been shown in Paragraph 3.6.1)
- ii. Despite the difficulties in obtaining license for this project, 117 persons had been recruited for the post of Labourer since June 2015.
(The detailed audit observations in this connection have been shown in Paragraph 3.8.3)

- iii. This area could not be mined due to difficulties in obtaining licenses. It was observed in the field inspection carried out in Kokilai on 14, and 15 July 2016 that this land is used for fishing at present whilst all the adjoining lands have become populous.



(The land in Kokilai)

3.2.6 Granting Licenses Continuously for Mining Mineral Sands and Value Addition.

Having considered the Cabinet Memorandum, No. 16/2012, dated 20 April 2012 presented by the Ministry of Environment, the Cabinet of Ministers had decided on 09 May 2012 to appoint a Committee to extract mineral sands and add value, and formulate a regulatory mechanism and a policy for the preparation of a methodology to select investors. It was the observation of the said Committee that licenses should be issued continuously to the company whilst the company too should approach for value added products.

Nevertheless, based on the condition that direct exports and value addition should be done as per the said Cabinet Memorandum, granting mining licenses to this company had been restricted by the Ministry of Mahaweli Development and Environment, Geological Survey and Mines Bureau, and the Department of Coast Conservation. However, the said institutions had taken measures to grant mining licenses with effect from 24 February 2016, but granting export licenses had been restricted.

The following matters were observed in this connection.

- a. The Geological Survey and Mines Bureau that had turned down granting annual mining licenses to this company being a Government entity, had granted such licenses to a private company for a period of 10 years in the following manner.

Year / License No.	Period of Validity	Area of Mining	Area of Land (Hectares)
2014 (IML/A/HO/8489)	2014.12.09 – 2024.12.08	Vakarai, Palchenai	06
2014 (IML/A/HO/8490)	-Do-	-Do-	19

The institutions that had obtained licenses for exporting mineral sands from the Geological Survey and Mines Bureau had been examined, and it was revealed that the said private company too had been a buyer of mineral sands from the Lanka Mineral Sands Ltd. As such, during the period from the year 2011 up to September 2016, the said private company had exported mineral sands without value addition in the following manner.

Year	Ilmenite (Metric Tons)	Rutile (Metric Tons)	Zircon (Metric Tons)
2011	10,422	474	33,031
2012	2,187	149	459
2013	-	-	216
2014	-	135	513
2015	-	25	297
Up to September 2016	9,850	-	135

As such, it was observed in audit that the other state institutions do not cooperate adequately with the Lanka Mineral Sands Ltd which is the only Government company established for mining and exportation of mineral sands.

b. Value Addition

The company had identified the following trilogy of production for the process of value addition.

- 1) Production of synthetic rutile.
- 2) Production of zircon flour.
- 3) Production of titanium slags.

However, as for the other countries in the world, the wastes being generated when the value added products are made, specially titanium slags, and synthetic rutile, are deposited deep underneath the barren lands such as deserts. But, for a small country like Sri Lanka, it is not possible to act in such a manner. Hence, it was revealed during the examination on files, and the discussions held with the officers of the company that the environmental impact is highly detrimental, and the following difficulties do exist in respect of approaching the process of value addition.

- Non availability of local and private partners with cutting-edge technology for mining and processing of mineral sands, entry to international market, and adequate investment capacity.
- Foreign investors do not obey the condition that 51 per cent of the shares should be held by the Lanka Mineral Sands Ltd.
- The financial difficulties faced by the Lanka Mineral Sands Ltd. in holding the Partnership Capital with other parties.

As such, it is the opinion of the audit that the company should access for producing the value added products without an environmental impact.

Recommendations.

Taking action on alternative deposits of mineral sands.

- i. To mine in Poduwakattu area by promptly repairing the dilapidated bridge in that area through the Road Development Authority, or making use of alternative roads.
- ii. To seek involvement of the Line Ministry in respect of the obstruction to making use of the mineral sand deposit in Kokilai, thereby obtaining the cooperation of all the state institutions involved therein.
- iii. To take the following matters into consideration in case of further dependence on the mining in Pulmoddai area.
 - To identify the locations of higher concentration through laboratory tests, and collect raw mineral sands from those locations under the supervision of the staff officers.

- To transport the collected mineral sands after a delay of several days when dried-up.
- To mine in compliance with environmental rules.

iv. To access for an environmentally-friendly process of value addition.

3.3 Analysis on Production Activities

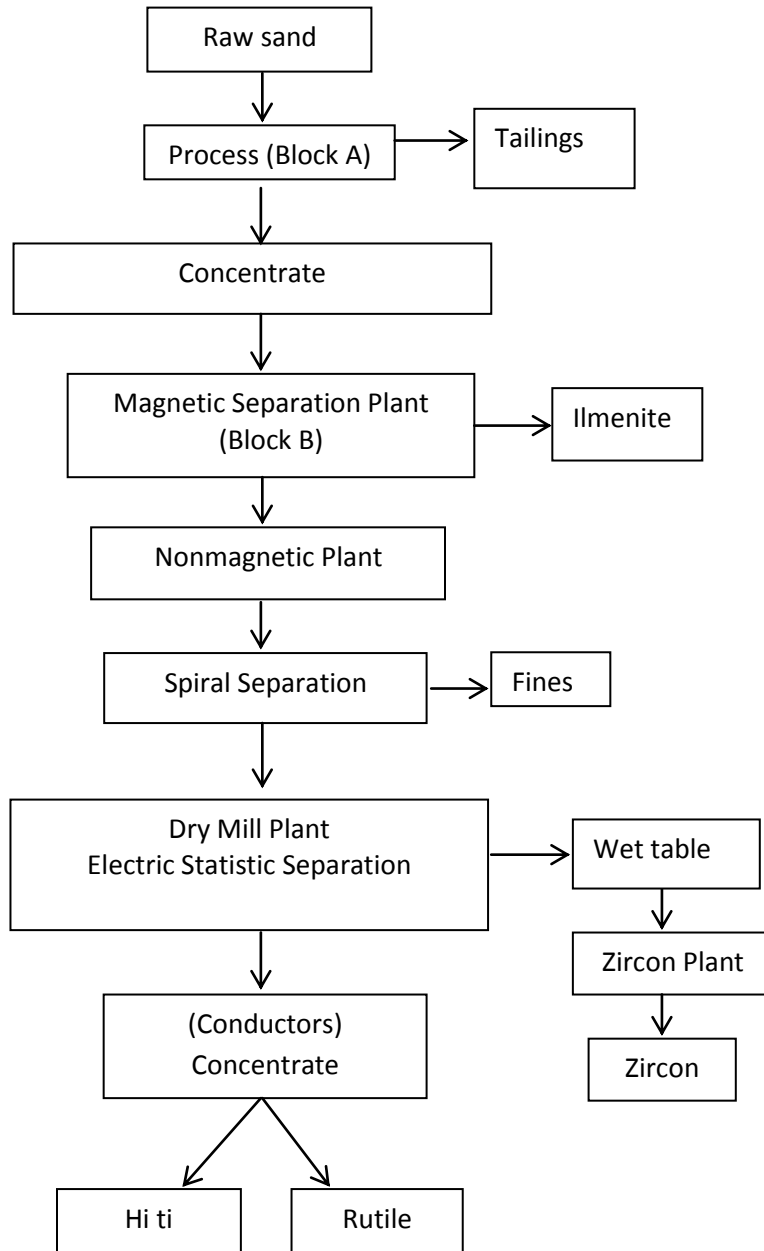
The following matters were observed on production activities of the Lanka Mineral Sands Ltd, Pulmoddai, carrying out a continuous production even in a war situation of 30 years since the commencement of production activities in the year 1951.

3.3.1 Main Sections of the Production Process and their Products

Five main sections can be identified in the production process and details thereof appear below.

Sea water Pump House for refining mineral sands	Block A
Wet Magnetic Separation Plant	Block B
Ilmenite Dry Plant	Block C
Wet Plant	
Dry Plant	

The production process carried out by these Sections can be illustrated by the Flow Diagram below.



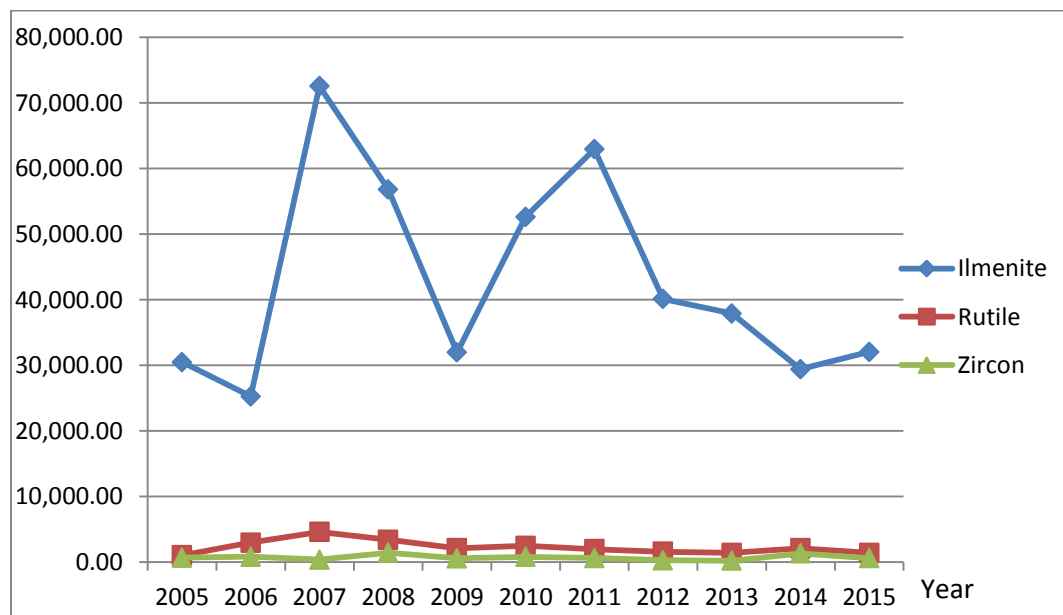
The three main output of this production process are Ilmenite, Rutile and Zircon and non-magnetic heavy minerals while Hi-Ti- Ilmenite and Crude Monazite can be illustrated as by-products of this process.

The position of these products during the past decade is as follows.

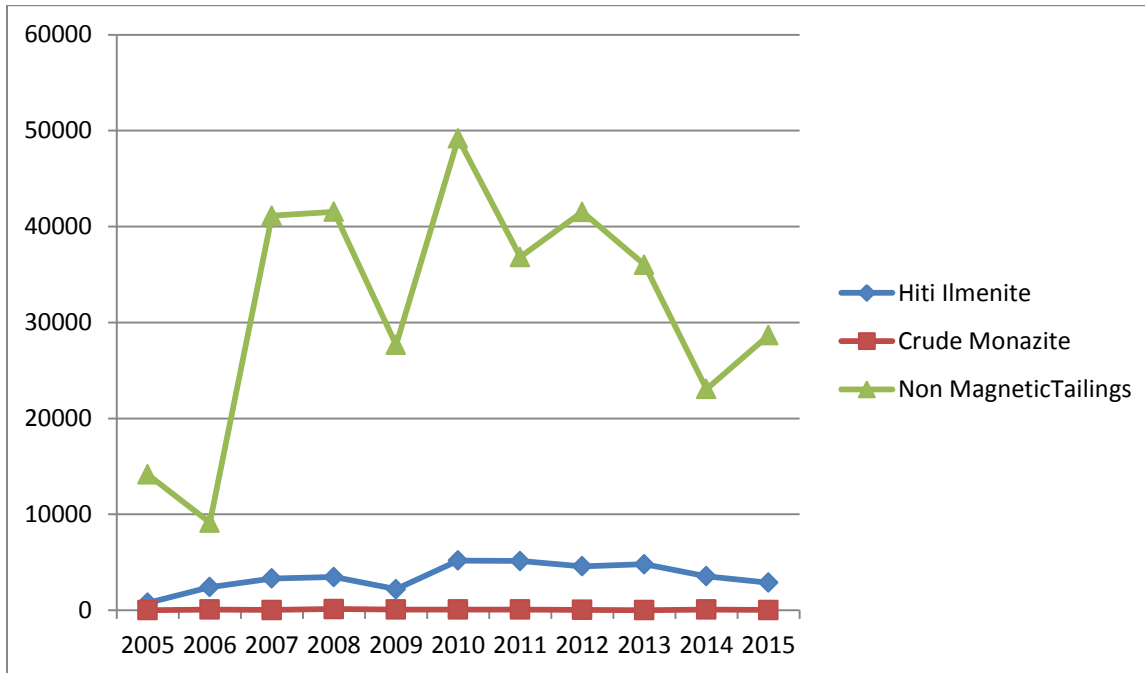
Year	Main Products				By-products	
	Ilmenite	Rutile	Zircon	HI-Ti- Ilmenite	Crude Monazite	Non Magnetic Tailings
	(M.T.)	(M.T.)	(M.T.)	(M.T.)	(M.T.)	(M.T.)
2005	30,487.00	1,055.00	688.96	789.00	24.28	14,155.00
2006	25,261.00	2,964.00	818.88	2,425.00	75.44	9,145.00
2007	72,560.00	4,607.00	381.28	3,318.00	38.88	41,134.00
2008	56,824.00	3,405.00	1446.91	3,465.00	140.48	41,550.00
2009	31,967.00	2,133.00	591.06	2,200.00	74.65	27,670.00
2010	52,637.00	2,493.00	795.76	5,184.00	85.99	49,177.00
2011	62,955.00	1,970.00	640.74	5,130.00	84.84	36,820.00
2012	40,118.00	1,590.20	293.18	4,588.00	46.58	41,536.00
2013	37,903.00	1,406.00	227.62	4,795.00	21.09	36,023.89
2014	29,420.00	2,111.39	1,334.78	3551.87	74.80	23,066.63
2015	32,059.00	1,408.45	614.89	2,888.55	32.14	28,674.11

The position of these products is given in the following Graphs as well.

Main Products



By Products



The following matters are observed in respect of this position of production.

- i. The annual production of Ilmenite and Rutile had shown a decline in the period of years between 2014 and 2015 as compared with the period of years between 2007 and 2011 and the production of Zircon as well had shown a decline in the year 2015 as compared with the year 2014.
- ii. Even though the production of by-products such as Hi-Ti-Ilmenite and Crude Monazite had declined by the year 2015, the production of Non-Magnetic Tailings had improved.

Both factors such as gradual decrease in the main products and increase in other by-products of the Company had mainly affected the going concern of the industry. The main reason for the increase in certain products is the operation of Plants of the Company and the unfavourable composition of the mineral sands used as raw materials and it is further discussed in detail in following paragraphs.

3.3.2 Underutilization of Machines

The Ilmenite Processing Plant at Pulmoddai is about 50 years old. It had been installed in the year 1961 and the production of Rutile and Zircon was commenced at commercial level in the year 1968. The investigation report dated 30 June 2016 issued by the National Engineering Research and Development Centre in respect of the performance of this Plant, had confirmed that the existing plant is not equipped to deliver the expected output as at present condition of the Plant. Details on the Design Capacity and the Current Capacity of each production Section were as follows.

Plant	Function	Production Capacity	Current Capacity	Percentage Variance
-----	-----	-----	-----	-----
		(M.T per Hour.)	(M.T. per Hour.)	(%)
Plant A (Up Grading Plant)	Washing of raw mineral sands.	100	25	75
	Separation of fine sand from heavy sands by using Spiral Plants	100	50	50
Plant B	Separation of Ilmenite through the Magnetic Separator	50	30	40
	Drying of Ilmenite	32	16	50
Non Magnetic Up Grading Plant- Wet Mill	Separation of fine mineral sand particles by using Wet Tables and Spiral Plants	12	07	58
Rutile Plant	Separation of Rutile	08	02	25
Final Non Conductor Plant	Production of Rutile	03	1.5	50
Zircon Plant	Production of Zircon	03	0.8	27

Accordingly, the deterioration of the utilization of the capacity of the Plant ranged between 25 per cent and 75 per cent.

3.3.3 Wet Gravity Upgrading Plant – Block A

The production process is commenced from this Plant. The raw mineral sand is placed in a mechanical strainer by Excavator Dragline Machines therein for the separation of waste in sand. Subsequently, mineral sand is sent through wet spiral separation plants for the separation of light quartz and small seashells from heavy mineral sand. Thereafter, this sand is pumped to the main Plant for further processing.

- a. The following problems have arisen at present due to weaknesses in Plants.

<u>Plant</u>	<u>Problem arisen</u>
Sea Water Pump	This system did not contain a foot valve or external priming system to facilitate quick starting on a power failure. As such, this plant is inoperative even in an instant power failure and this will cause lots of time over 4 hours to restart the pump. Even though the installation of an Auto on Generator is appropriate, the Company had not paid attention on such an alternative remedy.
Sand Washing Plant	This Plant was being operated manually. However, it was observed that the Plant is not operated in an effective manner as in an automatic operation..



(Cleaning of raw mineral sand)

- b. Relationship between Input and Output of the Plant Block A
- The input of the Plant is raw mineral sand and the output is concentrate mineral sand. The expected input is 50 Metric Tons per Hour and the expected output is 16 Metric Tons per Hour. The relationship between the expected and actual position of input and output in 3 preceding was as follows.

Year	Standard Input	Actual Input	Percentage of the Variance	Standard Output	Actual Output	Percentage of the Variance
	(M.T.)	(M.T.)	(%)	(M.T.)	(M.T.)	(%)
2013	430,800	211,302	51	137,340	78,624	42
2014	430,800	216,815	49	137,340	64,793	53
2015	430,800	200,158	53	137,340	71,292	48

It has been assumed that the standard input per year is 430,800 Metric Tons at a rate of 50 Metric Tons per Hour and the standard output per year is 137,340 Metric Tons at a rate of 16.50 Metric Tons per Hour.

The following matters were observed.

Only 50 per cent of the Design capacity of this Plant is utilized at present. The expected output could not be achieved due to failure in using input so as to suite the Design Capacity. As this output is used as an input for next Plants, it was observed that receipt of a low output from a low input adversely effects the function of the entire Plant.

c. Chemical Analysis

The spiral plants of the sea water pump house (Block A) which is for the processing of mineral sand, are designed so as to separate the mineral sand of which the minimum percentage is 40 per cent. Accordingly, the following samples are analyzed the laboratory.

- Feed materials
- Concentrate
- Tailings

- d. The data on chemical composition that should be contained in input and output of this Plant, obtained within 3 days was as follows.

Input/Output -----	Due Composition -----	Present Composition		
		2016/08/06 -----	2016/08/10 -----	2016/08/11 -----
Feed materials	The heavy mineral sand percentage should be higher than 40 per cent.	46.58	54.49	62.53
Concentrate	The heavy mineral sand percentage should be higher than 95 per cent.	95.59	92.61	97.60
Tailings	The heavy mineral sand percentage should be less than 05 per cent.	05.38	03.18	05.72

Even though the percentage of the heavy mineral sand of the Concentrate sand should be maintained in proper standard daily, it was observed on 10 August 2016 that the composition was not up to the proper standard.

According to the Reports on Laboratory Analysis, the percentage of the heavy mineral sand available in the mining area has declined by August 2016 and as such, it had been indicated that the mineral sand of 30 per cent as well is extracted. Moreover, it was observed in audit that the said position affected the absence of the standard composition concerned.

3.3.4 Wet Ilmenite Separation Plant – Block B

Separation of Magnetite and Ilmenite from Magnetic Minerals through a permanent magnetic separator is carried out in this Plant.

Even though the expected capacity was 20 M.T. per hour in the establishment of the Plant, it was observed that the present capacity is 30 M.T. per hour. The matters observed in this connection are as follows.

- a. The optimum quality of products and the efficiency of Plants could not be maintained due to following weaknesses of Plants.

Plant -----	Problems arisen -----
Magnetic Field Controller	A strong magnetic force is required to separate ilmenite from the sand. However, the power supply unit of this separator is malfunctioning and as such, the expected output has been reduced. As such, Ilmenite and Non-Magnetic are not separated properly.
Panel Board of 04 machines	The condition of the existing Panel Board is outdated.
Wet high intensity magnetic separators (WHMS)	Magnetic coils used for the separation of Ilmenite are in very weak condition and variable units as well used for adjusting magnetic field strength as necessary remained in an idle position.

b. Relationship between Input and Output of Block B

The input of this Plant is the output of Block A Plant, that is, concentrate heavy mineral sand. Ilmenite and Magnetite are separated and obtained as the output. Accordingly, the standards and actual positions of the input and output to be maintained are given below.

Year -----	Standard Input -----	Actual Input -----	Percentage of the Variance -----	Standard Output -----	Actual Output -----	Percentage of the Variance -----
		(M.T.)	(%)	(M.T.)	(M.T.)	(%)
2013	262800 M.T. per year at a rate of 30 M.T. per hour	77758	70	For Ilmenite 16 t/h	37850	73
2014		56721	78	(140160 M/T per year)	30818	78
2015		76349	71		37144	73
2013				For non-magnetic 12.5 t/h	36023	67
2014				(109500 M/T per year)	23065	79
2015					35661	67

Accordingly, it was observed that the expected input and output of the Plant has dropped by a value higher than 67 per cent.

c. Block B- tailings (Non Magnetic Heavy Mineral Concentrate)

This non-magnetic heavy mineral concentrate contains Rutile, Zircon, Garnet, Monazite, Hi-Titanium Ilmenite, Quartz and Sillimanite. In case of production of this sand as per the standard, the percentage of Ilmenite contained in non-magnetic minerals should be very low. Moreover, the total percentage of magnetic mineral sand therein (Garnet + Magnetic +Hi-Ti Ilmenite and Ilmenite) should be maintained at a value of 18 per cent or less than that. However, according to the report on laboratory analysis issued on 06 August 2016, the magnetic percentage thereof was 30.26 and 33.97 at day and night respectively. As such, it is observed that high quality Rutile and Zircon cannot be produced therefrom. Even though there was a high price for Rutile and Zircon in the World Market, failure in producing high quality Rutile and Zircon, had been an obstacle in meeting that demand.

d. Chemical Analysis

The following matters were observed in the comparison of the chemical composition to be contained in input and the chemical composition contained as at 06 August 2016 of this Plant.

	Standard Position -----	Actual Position -----
Feed materials Concentrate of Block A	The percentage of heavy mineral sand should be higher than 95 per cent.	62.54 at day shift 64.56 at night shift
Concentrate	Ninety nine per cent Magnetic should be removed.	98.81 at day shift 97.85 at night shift

According to the above position, the standard of the output of Concentrate had been of a less value than the expected level due to substandard mineral sand sent to this Plant.

3.3.5 Wet Mill

This Plant consists of two parts, as Spiral Plant and Zircon Tabling Plant.

a. Spiral Plant

The Design capacity of this Plant is 12 M.T. per Hour and the current capacity is 6.5 M.T. per Hour. The output capacity is 3.4 M.T. per Hour.

i. Relationship between the Input and Output

The Feed material of this Plant is the tailings of the said Plant, that is, non-magnetic heavy mineral. First, this Feed material is sent to the Spiral Classifier and formed a pulp by mixing with water and then pumped to the Plant called Hydrosiger. Then, the output is sent to the Spiral Separators and subsequently, stored separately as coarse concentrate and spirals fines concentrate.

According to the current position of the Plant, it is concluded that the standard input per year has been 56,940 M.T. as the standard input has been 6.5 M.T per hour and the standard output has been 2,984 M.T. per year as the standard output has been 3.4 M.T. per hour. As such, the following variances were observed.

Year	Actual Input	Percentage of the Variance between the Standard Input and the Actual Input	Actual Output	Percentage of the Variance between the Standard Output and the Actual Output
	(M.T.)	(%)	(M.T.)	(%)
2013	19121	66	13966	53
2014	32128	44	22235	25
2015	25610	55	171139	42

According to the above matters, it is observed that input ranging from 44 per cent to 66 per cent and output from 25 per cent to 53 per cent has been deviated from the standard position.

b. Zircon Tabling Plant

The Feed material of this Plant is Non Conductors of the Rutile Plant, that is, Crude Zircon. Mineral sand is separated into parts by the Wet Table.

- Quartz
- Sillimanite
- Magnetic

Condition of Wet Tables of this Plant is outdated and the process of separation could not be done properly through those Tables.

The standard input of this Section is 1.2 Tons per hour and the standard output is 0.4 Tons per hour. As such, the standard input per year is 10512 Tons. The standard output per year is considered as 3504 Tons. Accordingly, the data on input and output in 3 preceding years is as follows.

Year	Actual Input	Percentage of the Variance between the standard Input and the Actual Input	Actual Output	Percentage of the Variance between the standard Output and the Actual Output
-----	-----	-----	-----	-----
	(M.T.)	(%)	(M.T.)	(%)
2013	4532	(57)	1132	(68)
2014	12494	19	5214	49
2015	13180	25	4099	17

Accordingly, it was observed that there was an improved input and output in the years 2014 and 2015 as compared with the year 2013.

3.3.6 Dry Plant/Dry Mill

This Plant consists of two parts.

a. Rutile Plant

Even though the Design capacity of this Plant was 8 M.T. per Hour, the Current Capacity had declined as 2 M.T. per Hour.

The Feed material of this Plant is the Concentrate of the Spiral Plant. The main product is Rutile and had the minimum percentage of Tio2 been 95 per cent, production activities should be carried out in compliance with proper standards.

All machineries used in this Plant are worn out and that had affected the minimum production thereof. Separation of Rutile and Zircon is done by the machine called High Tension Roller Separator. Further, it was revealed that this machine is malfunctioning due to unavailability of proper Hi tension electric supply.

The number of units of standard input of this Plant is 2 Tons per Hour and the number of units of standard output of Rutile is 0.30 Tons and Hi-Ti-Ilmenite is 0.48 Tons. Accordingly, the standard input per year is 17,520 Tons and the number units of output of Rutile is 2,628 Tons and Hi-Ti-Ilmenite is 4,205 Tons.

Year	Actual Input	Percentage of the Variance between the Standard Input and the Actual Input	Actual Output of Rutile	Percentage of the Variance between the Standard Output and the Actual Output	Actual Output of Hi-Ti	Percentage of the Variance between the Standard Output and the Actual Output
-----	-----	-----	-----	-----	-----	-----
	(M.T)	(%)	(M.T)	(%)	(M.T)	(%)
2013	13644	55	1406	46	4781	14
2014	17419	0.2	2111	20	3552	16
2015	13694	22	1808	31	2889	31

Accordingly, it was observed that the production of Rutile and HI-Ti-Ilmenite had decreased by a considerable level than the expected position.

b. Zircon Plant

The Feed material of this Plant is Zircon Table Concentrate. In this Plant, sand is separated into parts through the Wet Table. All machineries used in this Plant were worn out and that affected the minimum production thereof.

i. Relationship between the Input and Output

The input of this Plant can be identified as Concentrate mineral of the Tabling Plant and the final output is Zircon. The data on several preceding years was as follows. The number of units of this Plant is 1 Tons per Hour. As such, the expected input per year is 8,760 Tons. The expected output is 0.31 Tons per Hour and 2,716 Tons per year.

Year	Actual Input	Percentage of the Variance between the Standard Input and the Actual Input	Actual Output	Percentage of the Variance between the Standard Output and the Actual Output
-----	-----	-----	-----	-----
	(M.T)	(%)	(M.T)	(%)
2013	675	92	228	91
2014	2306	74	1335	51
2015	1441	84	615	77

According to the above table, there is a considerable decline in the actual input and output than the expected input and output. It was observed that the decrease in the production of Zircon for which a high price can be fetched from allied mineral products in the World Market, has directly affected the profit of the Company.

3.3.7 Production Time

The said Plant undergoes two shifts daily throughout 24 hours. The following matters were observed in respect of the operational and loss hours of the time of production in several preceding years.

Plant

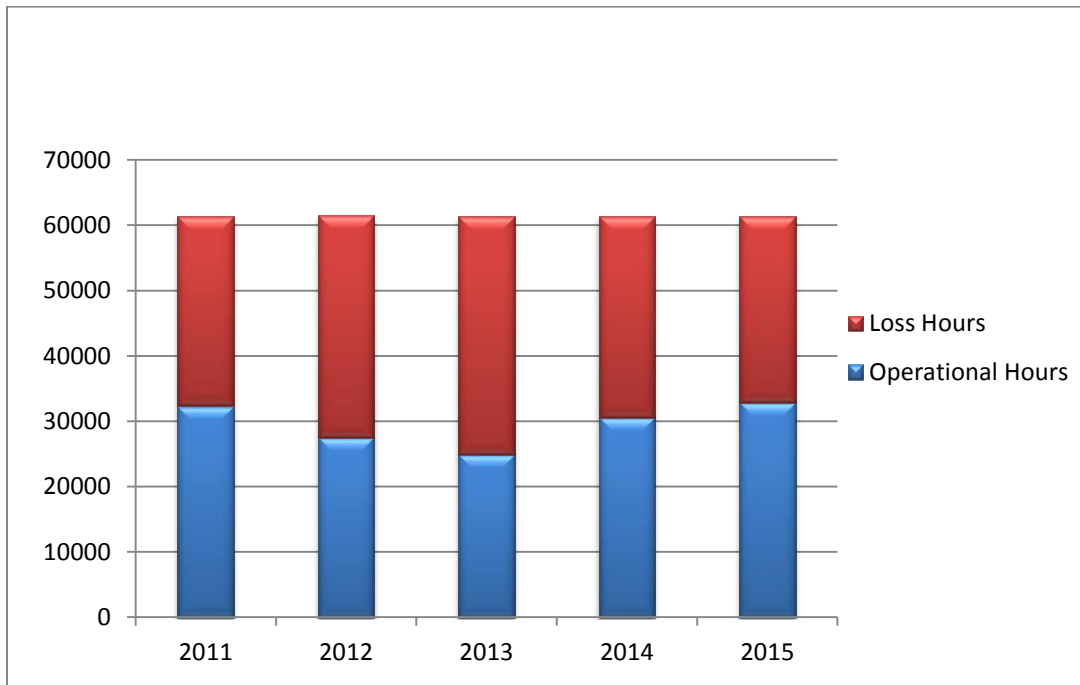
(The total production hours per year are 8760.)

----- Plant	2011		2012		2013		2014		2015	
	Operational Hours	Loss Hours	Operational Hours	Loss Hours	Operational Hours	Loss Hours	Operational Hours	Loss Hours	Operational Hours	Loss Hours
Block A	5638	3122	5467	3317	6410	2350	4908	3852	6630	2130
Block B	4676	4084	3752	5033	3868	4893	4616	4144	4729	4032
Block C	3876	4885	2646	6139	2858	5902	2034	6726	2587	6174
Rutile plant	7177	1583	6458	2326	6237	2523	7551	1209	7225	1535
Dry Zircon plant	2629	6131	1390	7394	629	8131	2496	6264	2180	6580
Spiral plant	2817	5943	3306	5478	2220	6541	3853	4907	3487	5273
Zircon Tablony plant	5498	3262	4451	4334	2672	6088	5116	3644	6016	2745
	32311	29010	27470	34021	24894	36428	30574	30746	32854	28469

The following matters have been attributed to minimize the operational hours of the production.

- Power failure from time to time.
- Unavailability of adequate water supply for functioning of machines.
- Carrying out frequent maintenance due to breakdown of machines.
- Lack of adequate Input (Raw materials).
- Loader problems.

Production Time



According to the above graph, it is observed that about half of the annual production time remained as loss hours.

3.3.8 Uncovering the Production Cost

Taking into consideration the position of the sales of products in 3 preceding years of the Company, it was observed that sales of products had been carried out with losses.

		Zircon	By-products			Spiral Fine Concentrate
			Hi-Ti-Ilmenite	Magnetic		
		2013	2014	2015	2014	2015
Sales	Units	1.23	5000	6722	5	11,780
	(M.T.)					
Cost of Sales		687,782	118,027,118	144,202,750	52,963	131,790,627
Sales Price Rs		345,563	74,802,628	53,901,136	40,788	22,891,646
Gross Loss Rs.		(343,218)	(43,224,490)	(90,301,613)	(12,175)	(108,898,981)
Percentage of the Gross Loss		99	58	167	30	476

Accordingly, it was observed that the Company had sold mineral sand in preceding years in such a way that even the production cost was not covered.

3.3.9 Rapid Decrease in the Percentage of Profit

In the examination of sales of products of the Company in the 5 preceding years, it was observed that the percentage of profit of the main products earned, had decreased rapidly. Details appear below.

Production	Details	Years				
		2011	2012	2013	2014	2015
Rutile	Selling Price Rs.	290	420	256	297	92
	Cost of Sales Rs.	33	39	56	81	32
	Profit Rs.	257	381	201	216	60
Ilmenite	Gross Profit Ratio	89%	91%	79%	73%	65%
	Selling Price Rs.	1,175	694	691	279	284
	Cost of Sales Rs.	203	152	218	117	254
	Profit Rs.	972	541	473	162	30
Zircon	Gross Profit Ratio	83%	78%	68%	58%	11%
	Selling Price Rs.	36	136	Loss	158	78
	Cost of Sales	5	13		43	19
	Profit Rs.	31	122		115	59
	Gross Profit Ratio	86%	90%		73%	76%

Accordingly, it was observed that the percentage of profit earned was dropping due to the fluctuation of prices of Ilmenite, Rutile and Zircon in the foreign market during certain periods.

3.3.10 Production of more profitable Items

The profit/loss from sales of the Company in the year 2015 is analyzed as follows.

Product	Number of Sales Units	Profit/(Loss)	Profit/Loss per Unit
-----	-----	-----	-----
	(M.T)	Rs.	Rs.
Ilmenite	39447	29,528,665	749
Rutile	945	59,948,722	63,438
Zircon	664	59,328,455	89,350
Hiti Ilmenite	6722	(90,301,613)	(13,433)
Non Magnetic	54172	871,873,306	1,609
Spiral fine concentrate	11780	(108,898,981)	(9,244)

As such, it is apparent that Rutile and afterwards Zircon earn a high profit margin over Ilmenite, which is the main product of the Company. However, the production of Rutile and Zircon remain at a very low level.

The production of Non Magnetic, H-Ti- Ilmenite and Spiral fine concentrate takes place after the production of Ilmenite due to the problems in the Production Flow Charts of the Company as well as inadequate water required for production.

Therefore, the production of Zircon and Rutile as much as possible is advantageous to a company while further sale of Hi-Ti- Ilmenite and Spiral fine concentrate reflects a highly disadvantageous situation.

3.4 Infrastructure Facilities effecting the Production

The following observations are made on the infrastructure facilities of electricity and water, mainly required for production purposes of the Plant.

3.4.1 Electricity Supply

The Pulmoddai Plant comprises 05 sub plants and an office complex including about 8500 square feet for administrative purposes, 210 official quarters, a bachelors' quarters complex and a twin housing complex as accommodation for officers and employees as well.

The Ceylon Electricity Board provides a Bulk Supply of electricity for all these sections and electricity is supplied to the Plant, office, official quarters, street lamps and other places by 5 generators installed in the Pulmoddai premises. As a Bulk Supply is provided, there is no categorization as Domestic and Commercial.

The expenditure on electricity for many preceding years appears below.

Year	Expenditure
-----	-----
	Rs.
2010	56,986,682
2011	60,458,584
2012	64,374,777
2013	72,574,493
2014	78,922,298
2015	76,563,103

It was observed in audit that production was obstructed due to frequent power failures that arise as a result of distributing the electricity obtained as a Bulk Supply to each Plant. Details of power failures during a period of 6 months in the year 2015 were as follows.

Year and Month	Number of Days of Power Failures	Number of Times of Power Failures	Number of Hours of Power Failures
-----	-----	-----	-----
2015 January	19	46	09
February	17	47	33
March	21	43	35
April	16	10	03
May	20	18	30
June	24	56	32

The effect on the dropping of production of the Company and their quality due to power failures in such a manner was as follows.

- i. In the washing of mineral sands by the Sea Water Supply, all production activities weaken as 2- 3 hours is taken to restart the process due to the breakdown in electricity.
- ii. Damage in the equipment of the Plant, switch gears and other electrical equipment due to instant power failures and sudden starts.

3.4.2 Water Supply

Sea water is used for the basic purposes of the Plant while the water of Yan Oya is obtained through pipelines for other purposes such as Rutile and Zircon. The following problems had arisen due to the inadequate supply of water and other reasons.

Section	Details
-----	-----
Block A	Wastage of production time of 3,884 hours during a period of 09 months in 2016
Wet mill	Wastage of production time of 3,623 hours during a period of 09 months in 2016
Zircon Table Plant	Wastage of production time of 2,250 hours during a period of 09 months in 2016

3.4.3 Role of the Laboratory

The following matters were revealed during the course of Audit on the Laboratory established for chemical tests carried out in all instances of production and sales of the Company.

- a. The opinion of the Laboratory officers on the lack of space of the laboratory of 2560 square feet in extent which is used at present and the existing requirement of a laboratory of approximately 4000 square feet in extent.
- b. As a part of the laboratory is non-air conditioned, the equipment and chemical compounds could be adversely affected.
- c. As sales are operated targeting the foreign market, it is the opinion of the Laboratory officers that the following modern laboratory equipment is required.
 - i. X ray Fluorescence/XRF machine
 - ii. Induced Magnetic Roll Separator
The machine used at present for this purpose is a machine purchased in the 70's. It was observed that this machine was under malfunction and frequent repairs.
 - iii. High Flux Tester
It was observed that this machine purchased for quality control in the 70's as well is unsuitable for the present requirement.

- d. A lack of 5 persons in the Laboratory Assistant Staff existed as at 05 October 2016 and here was a requirement of laboratory training for them.

Recommendations

The following recommendations are proposed for minimizing the weaknesses existing in each Plant.

<u>Section</u>	<u>Recommendations</u>
1. Block A	<ul style="list-style-type: none">i. i. Using non-wet mineral sand.ii. ii. Adjustment of the generator to operate automatically due to frequent electricity breakdowns.
2. Block B	<ul style="list-style-type: none">i. i. The quantity of Ilmenite obtained from Block A is 70 per cent and taking action to improve it up to 90 per cent. As the 4 machines in this Block are old, getting their panel boards repaired.ii. As water is a main factor for production, expediting the laying of pipelines supplying water from Yan Oya.iii. Providing electricity by separate transformers for the Hi Tension Roller Separator in the Plant.iv. As the Magnetic Coils used for separating Ilmenite are of very weak level, the control cubes with variac used for changing the Magnetic field strength should be replaced.
3. Rutile Plant	<ul style="list-style-type: none">i. Inability of adjusting High Tension separators as required and weakening of the Wet High Intensity Magnetic Separator (WHIMS) and as it is difficult to supply mineral sand to the market in the required standard, speedy replacement of these machines.ii. As Hi tension feeding gates are not properly closed, mineral sand is wasted. As such requirement of speedy repairs.iii. Proper adjustment of Hi tension electricity systems.iv. A composition of 53 per cent of Tio₂ is required for Ilmenite. However, speedy repairs of the Rutile plant are necessary as such a product cannot be obtained under the prevailing situation.

4. Zircon Section Sand removed from the Rutile Plant is used in production of Zircon. The function of only 07 out of 12 Tables used for inserting sand to the machines had affected the decrease in production of Zircon. As such, those Tables should be repaired and all machinery should be replaced due to old condition.

5. Paying more attention to increase products such as Rutile and Zircon for which a high price can be fetched at the foreign market.

6. Paying attention to obtain the expected output by maximum use of the input.

7. Maintaining the laboratory compositions that should be contained in input and output in every section of the Plant.

8. Preparation of plans for minimizing the production cost.

9. Taking action to provide electricity under domestic unit system for official quarters.

10. Taking action to fulfill electricity requirements of the plant by generation of solar electricity.

11. Carrying out an Energy Audit by identifying the deficiencies in the existing electricity system and taking action accordingly.

12. Speedy completion of the pipeline system which is undergoing construction that carries water from Yan Oya.

13. Identifying the necessity of a new laboratory and obtaining equipment of modern technology therefor.

14. Fulfilling the requirements of the Laboratory staff and to provide proper training.

3.5 Sale of Mineral Sand Products

Even though the Company had shipped and directly exported mineral sand from the Pulmoddai jetty up to the year 2004, the Pulmoddai jetty was destroyed due to the Tsunami disaster. As such, mineral sand had been shipped and directly exported from the Cod Bay jetty, Trincomalee up to the year 2007. However, direct exportation had to be discontinued and carried out through intermediaries due to the terrorist threats that prevailed in the areas of Pulmoddai and Trincomalee. Mineral sand is sold to the intermediary who submits the highest quotation by following the Government Procurement Guidelines. Even though mineral sand is exported through intermediaries in this manner, according to Letter No.03/02/03/MSLGS of the Secretary to the Ministry of Mahaweli Development and Environment of 19 February 2016, it was informed that direct exportation should be recommenced in 03 months. Accordingly, the Company had made an attempt to approach direct exportation. Nevertheless, favourable results could not be obtained thereby. The following observations are made in this connection.

3.5.1 Exportation of Mineral Sand through Intermediaries

Tenders are invited from local and foreign buyers by the Company for sale of mineral sand. Tenders are awarded by considering the quotations submitted by tenderers for Ilmenite, Rutile and Zircon which are main products and the market prices shown in the website www.indmin.com. as well.

a. Focusing on Direct Exportation

The price of mineral sand is decided for buyers who purchase mineral sand based on the Ex-factory price. The buyers are provided with the facilities of loading sand into containers and storing for a period ranging between 90- 180 days. In addition to the tender value, the buyers have to pay only transport fees, additional royalty, Government tax and custom duty for exporting the products.

It was observed according to the relevant file that the stocks purchased by buyers are exported from time to time through one or several foreign intermediaries to foreign buyers.

The buyer involves only in sale of goods at the foreign market and freight of goods. In the exportation of mineral sand products as small stocks by these buyers to foreign intermediaries and foreign buyers, they had been carried out on various prices. The Company had not continuously focused on direct exportation despite having the possibility of carrying out both those functions.

b. Maintaining documents relevant to Exportation

Lanka Mineral Sands Limited involves in all issues arising until the embarkation of mineral sand products exported under the name Lanka Mineral Sands. The Company should keep records of data on the manner in which mineral sand issued from the Pulmoddai plant was exported. However, it was observed that customs documents relating to certain exports had not been obtained from the buyers.

c. Sale of By-products

In addition to main products of mineral sand, by products as well had been exported and the following matters were observed in that connection.

i. Exportation of the mineral Spiral Fine Concentrate

This mineral sand contains a significant quantity of minerals of high value such as Ilmenite, Rutile and Zircon and according to Laboratory reports, Zircon was contained within a range of 11-56 per cent. These minerals had been exported stating that a re-processing is not possible by the existing machines. As the international prices of such products cannot be obtained, the fairness sales prices could not be evaluated. According to the financial statements of the year 2015, it had been disclosed that a loss of Rs.108,898,980 had occurred by these sales.

ii. Exportation of the Mineral Crude Zircon

The Mineral Crude Zircon as well had been sold stating that a re-processing is not possible. However, Zircon is a product of high value and demand. According to Laboratory reports, the composition of Zircon in this mineral exists within a range of 21 per cent and 40 per cent. As such, selling it in the raw state is unprofitable to the Company. The difference between the sale price of Crude Zircon and the sale price of Zircon in the year 2016 was nearly 200 per cent.

d. The Standard of Mineral Sand

Even though the quality of products is essential for attracting buyers in the foreign market for products of mineral sand, in the examination of laboratory reports on stocks sold, it was observed that their standards are not up to the expected level. The following matters were observed in this connection.

- i. Twenty one tons of Rutile had been sent as samples to a Korean Company by Tender Number LMS/MKT/DS/2016/01. They had pointed out that the samples were not in compliance with the specific standards and they had not been interested in entering into another transaction as well.
- ii. Even though it is important to properly pack the products as a sales promotion strategy, it was observed in checking the relevant electronic mail that the packing had been damaged in the above tender.

3.5.2 Planning the Marketing

Mineral sand produced by the Company cannot be used as a direct raw material in industries and a value should be added to them again. As these products cannot be used in industries of Sri Lanka, buyers for this can only be found from the foreign market.

a. Marketing Research and Marketing Plan

A high price can be obtained for products of mineral sand by carrying out a market research for matters such as selection of successful buyers, deciding on a minimum price for products of mineral sand and deciding on an appropriate time for tendering and designing a marketing plan accordingly. Nevertheless, at the questioning by the Audit, sales budget had been presented as the marketing plan and the price details published in the www.indmin.com web site as the market research report. The following observations were made in this connection.

- i. The Marketing Division of the Company comprises a Marketing Manager, a Marketing Assistant and five Management Assistants in the examination of their duty list, it was observed that they had not been assigned with the functions related to carrying out a market research and to prepare a market plan. Information on such market researches can be obtained from the internet and soft

copies of such reports can be purchased as well. As all officers from the post of Management Assistant to the top post in the Marketing Division had been provided with computer facility, that function could have been well performed. However, steps had not been taken to use such facilities effectively.

- ii. Hi-Ti Ilmenite which is a product of the Company, contains the minerals such as Ilmenite and Rutile and Hi-Ti Ilmenite is a name given by the Company itself. The opportunity of fetching a high price at the foreign market for that production had lessened. A gross loss of Rs.43,224,490 and Rs.90,301,613 were observed for these productions in the years 2014 and 2015 respectively.
- iii. The quantity of mineral sand sold in the year 2015 and the income earned from foreign sales had been compared with the Sales Budget prepared by the Company. Accordingly, except the two products Hi-Ti Ilmenite and Non Magnetic Tailing, the quantity of sales of the productions of other Ilmenite, Rutile and Zircon were less than the estimated quantity as 18 per cent, 58.5 per cent and 56.7 per cent respectively. It was observed that the decrease in the production of mineral sand had been the reason therefor.

b. Seeking New Buyers

The following matters were observed in the examination of activities carried out by the Company in search of new buyers.

- i. The assistance of the Ministry of External Affairs had been requested for seeking new buyers by the Letter issued by the Ministry of Industries and Commercial Affairs of 02 December 2015. As such, information of institutions engaged in various industries in those countries had been provided by Embassies and High Commissions and out of them, information on the Company and the productions of mineral sand had been provided to about 20 institutions by electronic mail. Nevertheless, no favourable response had been received therefor.
- ii. The Company had registered in the website “Industrial Mineral”. This website publishes prices of over 70 types of Minerals in the world and other important information. By registering in this, advantages such as prices of minerals of 02 years, access to the latest global information even through a mobile phone and the publication of a monthly printed magazine could be obtained. Moreover, Ruidow Information Technology Co. Ltd., located in Beijing, China which is a

main buyer of mineral sand productions of the Company, owns a website as well and many facilities such as finding buyers can be obtained by registering in that. However, it was observed that the Company had not been interested in looking out for such other institutions.

- iii. It was not observed whether mineral sand products had been presented at international exhibitions and conferences relating to resources or that any officer had participated in such conferences.

3.5.3 Using Marine Facilities

The products of the Company had been directly exported from the Pulmoddai dockyard up to the year 1997 and it had been discontinued due to terrorist threats. Nevertheless, mineral sand products had been directly exported up to the year 2007 using the Cod Bay jetty, Trincomalee.

- a. **Re-vesting of the Cod Bay Jetty**

In the shipping of mineral sand from the Pulmoddai Jetty, the barges and tugs used therefor had been docked in the Cod Bay Jetty located at the Trincomalee harbor and a relevant staff as well had been attached. However, due to the Tsunami disaster that occurred in the year 2004, the Pulmoddai Jetty had been destroyed and the State Engineering Corporation had given an estimate of Rs.29 million for normalization. As the Company was not in a financial position to incur such a cost, the Cod Bay Jetty could not be made use of. As a result, salaries of Rs.4 million per year had been paid to the staff of the Jetty between the period from the years 2004 – 2012. The Board of Directors of the Company had recommended that it is suitable to re-vest the Cod Bay dockyard with the Government pointing out that improvement of facilities of shipping from the Trincomalee harbor, maintenance of vessels, machinery, normalization etc. of the Pulmoddai jetty are of no economic productivity. As such, the land of 12.5 acres in extent belonging to the Cod Bay sea dockyard had been vested with the Tokyo Cement Company on 21 August 2013 in accordance with the letter dated 06 September 2013 issued by the Divisional Secretary, Trincomalee Town and Gravets.

- b. **Sale of assets of the Cod Bay Jetty**

After the Company had lost ownership of the Cod Bay Jetty, action had been taken to sell its assets. The tug boats and barges specified to be auctioned according to the letter of the Manager – Supplies, had been valued at Rs.32,320,000 by the Valuation Department.

c. Destruction of Assets of the Cod Bay Jetty

According to bids invited on 25 October 2013 for these assets, a high bid of Rs.65,836,774 had been received. Even though it was a value higher by Rs. 33,516,774 as compared with the assessed value, the assets had not been sold as the bidder had not made the payment as due. Calling of tenders had not been repeated and it was observed at the physical verification that these assets had remained idle and subject to decay from a period of 3 years up to the date of audit on 25 October 2016.



(Cod Bay harbor and Jetty)

d. The significance of the Trincomalee Harbour

The Company had joined with a Korean Company and exported 21 Metric Tons of Rutile as samples of mineral sand in the year 2016 as a tryout for direct exports. As the distance from China to the Trincomalee harbor is less than the distance to Colombo, the Korean Company had enquired on loading of mineral sand from the Trincomalee harbor. Moreover, the distance from Pulmoddai to Trincomalee harbour is 239 kilometres less than the distance from Pulmoddai to Colombo harbor and less time taken and low cost of internal transport in this country had been the other reasons. As such, it was observed that the Company could earn more profit if infrastructure facilities required for exportation of mineral sand are established at the Trincomalee harbor.

3.5.4 Procedure of Sale of Mineral Sand

a. Adherence to Government Procurement Guidelines 2006

It was observed that the Government Procurement Guidelines 2006 which is used as a guideline for the purchases in Government institutions had been adhered by the Company in the sale of mineral sand without adhering to a correct guideline in this connection.

b. Recalling the Cancelled Tenders

As the prices of eight tenders received in the year 2014 were less than the expected prices, the Ministerial Tender Board had cancelled them.

Even though a price of US\$ 102.99 had been received for 01 Metric Ton out of 4,000 Metric Tons of Hi-Ti Ilmenite of Tender No. LMS/MKT/TDR/14/09 dated 03 July 2014, the tender had been cancelled due to non-submission of the expected price. However, that stock of mineral sand had been resold in the year 2015 by Tender No. LMS/MKT/TDR/15/01 at a low price of US\$ 58.68 per Metric Ton. As such, the Company had been deprived of a sales income of US\$177,240.

Recommendations

- i. Arrangement of a proper procedure in the sale of mineral sand by discussions with the Department of Trade and Investment Policy of the Ministry of Finance.
- ii. Updating the knowledge of the marketing staff on marketing.
- iii. Installation of a proper data system to obtain market information and updating it.
- iv. Seeking new buyers and connecting with more effective institutions for obtaining information on market behaviour and connecting the marketing division with international mineral sand exhibitions and seminars.
- v. Preparation of the production process in compliance with international quality standards and use of appropriate packing in exportation.
- vi. Obtaining facilities required for shipping of mineral sand for the Trincomalee harbor and auction of idle assets at the Cod Bay jetty.

3.6 Implementation of Projects

3.6.1 Purchase of the Spiral Gravity Concentrators

The Spiral Gravity Concentrators had been purchased at a cost of Rs.39,339,473 to install at the Mineral Sand Upgrading Plant proposed to be newly constructed in the area of Kokilai and the following matters were observed in this connection.

- a. In terms of Guideline 2.3.1 (a) of the Procurement Guidelines, it should be satisfied with the fulfillment of all other matters required for the implementation of the relevant project without any obstacle. Nevertheless, the land in Kokilai area where the project is proposed to be implemented had not been vested and this equipment had been purchased before the construction of the Plant.
- b. The due date of handing over the relevant goods had not been mentioned in the application No.013109 dated 12 November 2010 submitted for this purchase and none of the Store Keeper or the Applicant or the Plant Manager had signed it. Further, it was observed in audit that, this application had been issued by the Head Office of the Lanka Mineral Sands Limited.
- c. The General Manager of the Company had informed the Procurement Committee on 18 August 2010, to call quotations only from the selected suppliers for the purchase of these machines and it was not necessary to publish newspaper advertisements as the suppliers were limited. Accordingly, the procurement process had been carried out without transparency.
- d. Even though review of the Procurement Time Schedule and compliance with it should be done in terms of Guideline 2.5 (a) of the Procurement Guidelines, a time schedule for this procurement process had not been prepared in terms of Guidelines 4.2.2 and 4.2.3. An incomplete application for the purchase of goods had been forwarded on 12 November 2010 and those goods had been received to the Stores only on 23 August 2013. Thus, approximately 33 months had been consumed for this procurement process.
- e. Even though the goods should be supplied within 90 days in accordance with the Invoice No.PZ/MUL/10/001 dated 24 February 2011 pertaining to the aforesaid purchase, the relevant institution had not taken action accordingly. Thus, even though the supplier had not taken action in terms of the Agreement signed on 09 February 2011, the liquidated damages thereof had not been recovered.

- f. It was observed that machines and fittings valued at Rs.18,928,713 of these machineries had been fixed in other Plants without an approval. For Example, the Wet Magnetic Separation Plant had been so installed in the premises. Further, in case of inoperative parts of old machines, those had been removed and the parts of new machines purchased had been fixed, thus the new machines had become unserviceable.
- g. According to the Invoice relating to the purchase of these machines, the expenditure on the relevant purpose totaled USD 299,000 equivalent to Rs.33,488,000 approximately as at that date. However, a long period had taken to complete these purchasing process and during that period the value of Rupee had depreciated as compared to the Doller, thus resulting in an exchange loss of Rs.5,851,473 sustained by the Company.

3.6.2 Construction of the Wet Gravity Upgrading Plant

This Plant was planned to be constructed in the Block A of the Pulmoddai Site. The contract for this construction work had been awarded at Rs.39,481,066 being the lowest price received according to the advertisement in the newspaper published on 05 and 06 January 2014 in this connection.

The following matters were observed in the examination of file pertaining to this construction.

- a. According to the Letter of Acceptance referred to the construction firm by the Company, the relevant construction work should be commenced on 14 August 2014 and completed within 180 days and handed over to the Company. Nevertheless, action had not been taken to complete the relevant construction work and hand over it even by 01 November 2016.
- b. A sum of Rs.18,500 or a penalty of 10 per cent of the contract value should be recovered from the construction company as liquidated damage per one day of delay in the relevant constructions in terms of relevant agreements. Nevertheless, action had not been taken accordingly.
- c. Even though the construction work of this building had been commenced on 14 August 2014, machinery and equipment costing Rs.171,436,898 required to be installed therein had been purchased and stored before 2 years.

3.6.3 Laying of Water Line at Yanoya Project

The lack of clean water required for the production activities of the Pulmoddei Plant had hindered the functioning of those machines. Therefore, an agreement had been entered into with the Central Engineering Consultancy Bureau on 02 April 2015 at an estimated amount of Rs.32,073,852 for Laying Water Lines Project to carry water from Yanoya up to the Plant.

The following matters were observed in the audit examination carried out in this connection.

- a. According to the Letter of Acceptance dated 30 December 2014 issued to the contract firm by the Company, the work should be commenced on 13 January 2015. Nevertheless, the agreement in this connection had been entered into only on 02 April 2015.
- b. According to the said letter, the work should be commenced on 13 January 2015 and completed within 180 days from that date. However, the work had not been completed even by 01 October 2016.
- c. Liquidated damages had not been recovered in terms of Section 49-1 of the said agreement.
- d. Even though this project was commenced due to the necessity of maintaining a high quality in production activities of the Pulmoddai Plant, those constructions had not been completed as yet. As such, disregarding other sections, it was observed that the production activities in the Zircon Table Plant alone had been hindered for 110 hours only in August 2016 due to the lack of clean water.

3.6.4 Installation of a Drier in the Plant

A newspaper advertisement had been published on 08 May 2014 by the Company to purchase a drier for the installation at the premises of Pulmoddai Plant. According to that advertisement, only one firm had submitted a quotation and its total value amounted to Rs.62,370,234. The following matters were observed with regard to this purchase.

- a. These quotations were called for the planning, production and the installation of driers in the Plant. Even though the only quotation received therefor had been approved by the Technical Evaluation Committee on 26 August 2014, this supplier had no experience whatsoever in supplying such a machine.

- b. Significant discrepancies were observed between the conditions set out in the agreement and the implementation thereof. The details were as follows.

As per the Letter of Acceptance of Tender dated 29.10.2014	As per the information contained in tender documents submitted by the supplier	As per the conditions on foreign currency (C-Contract data –CC 15-1)
80% after receiving of shipment to Pulmoddai	80% payment must be received before equipment can be cleared for shipments	On delivery – 80% of the foreign currency portion of the goods shall be paid through irrevocable confirmed letter of credit in favour of the supplier in a bank in Sri Lanka.
20% after submission of acceptance certificate by the Plant Pulmoddei	20% after successful test run	On delivery – 20% of the foreign currency portion of the goods shall be paid within thirty days of receipt of the goods upon submission of claim supported by the acceptance certificate issued by the purchaser

According to the above information, there are three modes of payment of 80 % of the foreign currency portion. That is, after receiving of shipment to Pulmoddai as per the Letter of Acceptance of Tender, before equipment can be cleared for shipments as per the Shipping Documents of the foreign supplier, and after receipt of the goods upon submission of claim supported by the acceptance certificate as per the conditions on foreign currency. It was observed that payment had been made on 24 August 2016 after receipt of the said machine supported by the acceptance certificate.

- c. Payment of Tax and Custom Charges

In terms of Condition No.16 of the agreement signed on 09 December 2014 relating to the said purchase, the Tax and Custom Charges etc. should have been borne by the supplier. Nevertheless, the Letter of Acceptance of Tender dated 29 October 2014 stated that the Tax and Custom Charges should be borne by the Company and in terms of paragraph (d) of Bid submission form dated 08 July 2014, the supplier is exempted from Tax and Custom Charges. Even though three mode of payments of Tax and Custom

Charges were mentioned in 3 places in the agreement, a sum of Rs.10,584,424 had been paid as custom charges without resolving the discrepancies.

d. Performance Bond

The validity period of the Performance Bond submitted in respect of this procurement had expired on 01 June 2016. However, the relevant Drier had been received to the Pulmoddai Plant only in September 2016. Accordingly, it was observed that the Performance Bond had already expired even by the time of receipt of this machine to the Stores.

Recommendations

- i. Preparation of a Procurement Plan considering the requirements of purchases.
- ii. Purchase and utilization of assets in compliance with the Procurement Guidelines and other relevant laws and rules.

3.7 Loans given to External Institutions

Money amounting to Rs.545 million had been released to various Government Institutions in several instances external to its objectives as given below by the Company within the period of which the Secretary to the Ministry of State Resources and Enterprise Development had been serving as the Acting Chairman of Lanka Mineral Sands Limited and that money had not been settled even by September 2016.

- a. A sum of Rs.500 million had been given to State Resources Management Corporation Limited on an interest of 0.5 per cent on 09 November 2011 for releasing employee liabilities of the Ceylon Porcelain Corporation. A sum of Rs.11,666,666 as the interest receivable for it and that loan had not been refunded by September 2016.
- b. Even though a sum of Rs.25 million had been given on 10 August 2012 on the basis of completing the payment within a period of 5 months for solving the financial crisis remaining in Sri Lanka State Plantations Corporation, that money had not been recovered.
- c. A sum of Rs.15 million had been given on 13 June 2013 as a temporary loan according to a request made by the proper authority of the Janatha Estate Development Board and that loan had not been settled.

- d. Even though a sum of Rs.5 million had been given to the National Paper Corporation on a request made to provide that money for the payment of outstanding salaries of the employees of the National Paper Corporation, it had not been settled even by September 2016.
- e. A sum of Rs.40 million had been given to the Ministry of Defence and Urban Development in the years 2012 and 2013 for the development activities of the Hambantota Beach Garden. The relevant vouchers were not under the custody of the Company and that amount had not been settled even by September 2016.

Recommendation

Not spending funds extraneous to the Objectives of the Institution.

3.8 Human Resources Management

The following matters were observed relating to the recruitment of staff and the deployment of service for the service in the Pulmoddai Factory, the Head Office and in the Cod Bay Jetty.

3.8.1 Deciding on the Staff Requirements

The Approved Cadre for the Head Office of Lanka Mineral Sands Limited, Pulmoddai Office and Cod Bay Office had been stated by the Letter dated 09 November 2011 of the Director General of the Department of Management Services. As such, even though the maximum cadre that should remain in the Head Office was 64, a staff of 110 employees had been deployed in service by October 2016. Moreover, 16 officers recruited on the requirement of the Pulmoddai Plant had been attached. The salary paid from the year 2011 to September 2016 on which this staff was recruited had been a sum of Rs.26,828,494.

Moreover, 39 posts of Staff Grade Officers of the Pulmoddai Factory remained vacant on the inefficiencies remained in recruiting staff and a surplus of 80 posts of Labourers remained.

3.8.2 Deployment of Staff for duties external to the Permanent Place of Service

Nine officers and employees recruited on the duty requirement of the Plant located in Pulmoddai had been released to other external institutions and the total of the salaries and allowances paid to them by the Company for the period from the year 2013 to September 2016 had been a sum of Rs.5,101,892.

3.8.3 Recruitment of Employees on Casual Basis

One hundred and seventeen labourers had been recruited for a period of 6 months from 22 October 2015 on casual basis to the Kokilai Plant despite licenses had been issued for mining mineral sands deposits near the Kokilai Lagoon. The period of 6 months had been completed on 21 April 2016 and the licenses had not been received for the Kokilai Deposit even as at the date of audit. However, it was observed that the money in the Institution had been uneconomically deployed on making the payment of the salaries by further extending the service period of these labourers recruited contrary to the Scheme of Recruitment. A sum of Rs.32,958,798 had been paid as salaries from July 2015 on which these 117 employees were recruited, to July 2016.

3.8.4 Deployment of Employees for the Cod Bay Jetty

After loosing the ownership of the Cod Bay Jetty to the Company, the assets therein have been sold and the Tugs and Barges to be auctioned according to the letter dated 14 December 2013 had been valued at Rs.32,320,000 by the Department of Valuation. Nevertheless, those assets had not been sold even by the date of audit and four Security Officers and a Labourer had been deployed in service for the protection of these Tugs and Barges. The amount paid as salaries for that staff had been a sum of Rs.8,029,008 approximately.

3.8.5 Foreign Tours

The Minister in charge of the Subject, the Chairman/ the Managing Director and another Director had been engaged in foreign tours for observing that the machinery required for the Plant are correct machinery before loading to the ship and whether they had been manufactured according to the requisite specifications. A sum of Rs.2,390,613 had been spent for it by the Company. A report was not furnished for audit as to what is the machinery observed after the foreign tour and whether they had any inefficiencies and it could not be confirmed in the audit that the persons who travelled abroad had a competency for examining these machinery.

3.8.6 Employee Accidents

Thirteen accidents that occurred when employees were occupied in service had been reported to audit. It was observed that most of those accidents had been occurred due to not using safety equipment on instances where the employees were deployed in service, not using modern equipment for making the functions efficient and the employees not having a training on the execution of functions safely.

3.8.7 Training Programmes

Five officers had been referred to a one- day Training Programme within the period of 2 years of 2015 and 2016 and training had been given to 11 officers in other 5 instances. As such, it was observed that training provided for the staff of this Company which had deployed approximately 700 employees in service is insufficient and that the training programmes had not been conducted in a manner that enables the improvement of knowledge and competency of all employees.

3.8.8 Uniforms of the Officers of the Institution and Disciplinary Matters

The Institution had faced many administrative problems due to various reasons such as the restriction of duties which should be executed due to the decrease of production in each section, machinery being inoperative and the deployment of the excess cadre. Details were as follows.

- a. Even though money amounting to Rs.7 million approximately had been spent by the Institution annually to purchase uniforms for employees serving in the Factory, it was revealed at the physical audit test check that the majority of the staff was not dressed in uniforms.
- b. The manner that the staff of two sections engages in service in those places and the manner that they remain in their places of work were physically examined. Even though 21 employees had been initialed according to the Attendance Register, only 09 employees were deployed in service in that instance and 13 employees had left their places of work. It was reported that employees do not remain in their places of duty on the machinery of the Factory being inoperative, not having a function to execute due to factors such as the insufficiency of the raw materials for the production activities.

3.9 Use of Vehicles

- a. The company had paid a sum of Rs.24,683,949 to obtain 43 vehicles on lease basis within the period from the year 2011 to the year 2014 and a sum of Rs.1,865,110 to obtain 8 similar vehicles in the years 2015 and 2016. It was confirmed that changes had been occurred to the administration in the years 2015 and 2016 and that changes had been occurred even in the use of rented vehicles, in analyzing the expenditure.

- b. Payments amounting to Rs.5,094,600 had been made mentioning that 02 vehicles of the Company had been given to the Presidential Secretariat from the period from the year 2011 to the year 2014. However, it had been stated that any vehicles obtained from Lanka Mineral Sands Limited had not been deployed for duties in the Presidential Secretariat, according to the undated Letter sent on May 2016 by the Additional Secretary to the President (Internal Control) of the Presidential Secretariat to the proper authority of Lanka Mineral Sands Limited.
- c. The following registers were not furnished to audit.
- The approval received for obtaining vehicles on lease basis and agreements made relating to it
 - Documents including the approval given for the use of vehicles to the officers, running charts and gate passes
- d. Fuel amounting to Rs.4,119,869 had been obtained by the officer who held the posts of Acting Director and the Chairman from the year 2010 to the year 2015 contrary to the circular provisions, in addition to his fuel allowance.

Recommendations

- i. Deploying the employees who had received the approval of the Department of Management Services in the relevant service and preparing a proper procedure to deploy the excess employees in service efficiently.
- ii. Deploying qualified officers for examining the machinery in purchasing the machinery.
- iii. Training officers in a manner that suits with the requirements of the Company.
- iv. Subject the Disciplinary Procedure relating to the officers to strict supervision.
- v. Using the vehicles belonging to the Company and using vehicles obtained on lease basis and taking action in terms of Government Circulars, laws, rules and regulations.

04. Conclusions

- i. It is concluded that optimum utilization of areas for which licenses had been obtained by now for mining of mineral sands by the Company, failure in carrying out long term mining in the same area and further identification of new mining areas and approach of a process of eco-friendly value addition therefor should be made by the Company.
- ii Minerals with a high market value cannot be separated as expected due to use of outdated machinery. As such, by-products had been sold in an unprofitable manner to the Company. It is concluded that modern technology and machinery should be used in the process of mineral sands for obtaining products of high quality by minimizing wastage.
- iii The Company had been unable to export mineral sands directly due to matters such as failure in carrying out a proper market research and preparing a market plan and following an effective methodology for finding new buyers and the loss of opportunity in shipping of products of mineral sands by the Company. Accordingly, it is concluded that the Marketing Division of the Company should be strengthened in direct approach to the International market.
- iv It is concluded that positive assistance of other Government institutions such as the Geological Survey and Mines Bureau which issues relevant licenses, Department of Coast Conservation and Coastal Resource Management and adequate intervention by line Ministries should be provided to this Company, which contributes highly to the General Treasury as dividends.

H.M. Gamini Wijesinghe
Auditor General

January 2018