

**Audit of the Effect of Irregular Waste  
Management on Community Life,  
Public Property and the Environment  
– Ratnapura Municipal Council  
2012**

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**Performance and Environment Audit Unit**



**Auditor General's Department**



## CONTENTS

	Page
Executive Summary	3
1. Introduction	
1.1 Significance of Waste Management	4
1.2 Background	4
1.3 Legal Background	5
1.4 Authority for Audit	5
1.5 Reasons for the Selection of the Subject of Audit	5
1.6 Criteria	5
2. Detailed Report	
2.1 Environmental Damage caused by the Irregular Disposal of Waste accumulating in the City and the City Limits	6
2.2 Adverse Effect on the Community living in the vicinity of Waste Disposal Area and the adjoining Roads Subjected to Landslides	7
2.3 Failure of the Solid Waste and Sewage Disposal Project	8
2.4 Increase in the Compost Fertilizer Production Period	9-10
2.5 Chemical Reaction caused by Solid Waste Deposited on the Ground Surface adversely affecting The Ground Water	11
2.6 Paddy Lands fallowed due to irregular Waste Management	12
3. Control Weaknesses	
3.1 Administration of Employees and Motor Vehicles of Health Sector	12
3.2 Security of Lands and Property	12-13
4. Comments of the Institution	13-14
4. Conclusion	14
5. Recommendations	14-15

## Executive Summary

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Deterioration of the living conditions of the public and the damage caused to the environment due to the irregular waste management of the Ratnapura Municipal Council was observed. It was further observed that the irregular waste management had caused landslides in certain areas.

The production of compost fertilizer launched for regularization of the waste management had also failed due to the heavy water contents of the waste. The Sewage Disposal Centre constructed at a cost of the 2,355,000 also had not functioned properly and the subsequent disposal of sewage waste in the open ground had damaged the environment. It should be pointed out that the irregular waste management is the causative factor for the existence of nationally adverse conditions such as the pollution of ground water and the agricultural lands rendered fallow as result of the prevailing situation.

It is necessary for the authorities concered to maintain close co-ordination with institutions maintaining successful waste management operations, creating an awareness among the general public of the area on collection, sorting and removal of waste, co-opting the schools to the Waste Management Project in order to ourcome this situation. The need for creation of a proper methodology for the disposal of hazardous waste such as hospital waste, Sim cards, CFL Bulbs, etc is also emphasized.

The sale of sorted waste and the proceeds of compost fertilizer could help in the improvement of the revenue of the Municipal Council. The labourers deployed in the waste management should be provided with the necessary equipment, and conducting regular health checks are who important for the successful continuation of the project.

Finally, I would like to draw attention to the need for the effective utilization of the lands and other recourses of the Municipal Council deployed in the waste management.

## Audit of the Effect of Irregular Waste Management on Community Life, Public Property and the Environment 2012 – Ratnapura Municipal Council

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### 1. Introduction

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#### 1.1 Significance of Waste Management

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Waste means something that cannot be used any further and it can be something past its effective life or an unnecessary product of a process. Waste is inimical to the health of the people and the environment and irresponsible waste management creates situations adverse to the environment such as accumulation of garbage, spread of bad odour and unpleasant scenes. Specially the radioactive waste could be fatal and can create serious diseases. Medical Waste also could be the primary cause for the spread of diseases. Harmful waste could be a causative agent for diseases and loss of life, birth defects, cancer, respiratory problems and skin diseases. Unlawful dumping of waste badly affects ground water and soil in the surrounding areas. The final result of unplanned disposal of waste is the spread of local and global environment pollution.

#### 1:2 Back Ground

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The area of authority of the Ratnapura Municipal Council is 22.18 square kilometres and its total population is 53,426. The total number of properties is 18,858. Out of the 46 tons of waste generated daily in this area, about 30 tons are collected daily. Lack of a formal course of action for the management of that quantity at present was observed. The daily collection in the area of authority including the Public Market is sent to the Compost Fertilizer Yard constructed close to the city and used for the production of compost fertilizer. A large quantity of waste in the city and city limits is transported to the open dump at Kanadola. The Municipal Council has deployed two staff officers, four secondary level officers, 47 permanent labourers and 46 substitute labourers for the process of collection and disposal of solid waste of the Council. A sum of Rs.29,845,965 had been paid to them as salaries and allowances in the year 2012. Thirteen vehicles of different categories had been utilized for this purpose and the maintenance and operating cost thereof in the year 2012 amounted to Rs.2,594,261.

### 1:3 Legal Background

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Sections 129,130 and 131 of the Municipal Councils Ordinance (Cap. 252) provide the powers relating to the sewage and waste disposal. According to the Resolution No. 3(21) of the Council meeting held on 04 June 1999, the Council had agreed to abide by Parts I to LVII of the Local Authorities (Standard by-Laws) Act, No. 6 of 1952, totally and to take action accordingly. As such the by-laws relating to the disposal of garbage and conservancy spelt out Parts XI and XII of those by-laws had been adopted by the Council.

### 1:4 Authority for Audit

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The Audit of the Effects of Irregular Waste Management of the Ratnapura Municipal Council on Community Life, Public Property and the Environment was carried out under my direction in pursuance of provisions in Article 154 of the Constitution of the Democratic Socialist Republic of Sri Lanka and Sections 219 and 220 of the Municipal Councils Ordinance (Cap. 252).

### 1:5 Reasons for the Selection of the Subject for Audit

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The selection of the subject for the audit was based on public complaints on the waste management of the Council revealed by the media and the damage caused to the environment, the effect on the community life and the damage caused to properties and lands and the water sources due to the disposal of garbage collected by the Municipal Council on the open yard at Kanadola which had attracted the attention at the meeting of the Council.

### 1:6 Criteria

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Attention was paid to ascertain whether the Municipal Council had taken action in accordance with the following criteria.

- (a) Whether there is an appropriate policy to make waste an asset of the Council as spelt out in the Municipal Councils Ordinance and whether it is complied with,

- (b) Whether disposal of garbage and sewage is done in accordance with the National Environmental Policy,
- (c) Whether action is taken in a manner to avoid causing damage to water sources,
- (d) Whether the human and physical resources deployed in the management of waste are effectively deployed, and
- (e) Whether steps have been taken to protect the health condition of the labourers deployed.

## 2. Detailed Report

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2:1 Environmental damage caused by the disposal of waste generated in the city and city limits irregularly in the Kanadola area was observed.

Waste collected at 22 kilometres of main roads and 15 kilometres of byroads within the limits of the Municipal Council is disposed of at the Disposal Yard at Kanadola. The land 25 acres 01 rood 20 perches in extent had been transferred to the Council by deed No. 112 dated 25 March 1960. Garbage transported to the dump site is pushed down from a hill on the site. It was revealed that such garbage disposal was practiced over a period of about 100 years. The garbage mound is burning at present and there is no evidence of action taken to ascertain whether obnoxious gases are released to the environment and if so any action to minimize the effects. Labourers collect salable waste such plastic, cardboard, clean polythene and other materials from the site for sale. Non-degradable items such as polythene left at the site could adversely affect the health of the people and the environment. The position is clearly depicted in photographs 1,2 and 3.



Photograph 1 Garbage transported pushed down from the hill



Photograph 2 Burning Garbage Heap



Photograph 3 Garbage disposed of irregularly

2:2 Irregular Disposal of Garbage is observed as an adverse causative Factor on the Lifestyles of People and Causing Landslides of Roads

This garbage heap was subjected to a land slide in the past causing the evacuation of 23 families living in the adjoining lands and relocating them in alternate lands in the Goluwawila area. It was observed that the approach road to the Municipal Council Village had been totally covered. Even though the Chief Minister of the Sabaragamuwa Provincial Council had caused the preparation of an estimate of Rs.2,522,889 under the improvements to the final garbage disposal yard at Kanadola, for reconstruction of the road and as a remedy for any repetition of the landslide of the garbage dump the work had not been completed so far. The existing status is clearly depicted in photographs 4,5 and 6.



Photograph 4 Landslide of the Garbage Heap



Photograph 5 Reconstruction of the Road and Construction of the Earth Bund





Photograph 6 House of  
an evacuated Family

- 2:3 The Centre constructed at a cost of Rs.2,355,000 for the Disposal of Garbage and Sewage had been idling and Sewage Waste had been released to the open environment.

An estimate of Rs.4,391,264 had been prepared for the construction of a Disposal Centre for Solid and Sewage Waste at Kanadola under the Solid Waste Management Project and a sum of Rs.2,355,000 had been spent on the work.

This Centre had failed due to the failure to maintain it properly. As such the sewage waste transported to that place over a period of about 05 years had been dumped in the area for the disposal of garbage. It was observed that about 70 to 75 loads of sewage waste transported monthly by the Ratnapura Municipal Council are dumped on this ground and in addition, sewage waste transported by the Kuruwita Pradeshiya Sabha is also dumped in to the open environment in that place. As such the expenditure incurred had become fruitless. It was observed that this situation had become harmful to the people's health as well as environment. This position is clearly depicted in photographs 7,8,9 and 10.





Photograph 7  
Sewage Waste transported by  
Kuruwita Pradesha Sabha



Photograph 8  
Open Ground for Disposal  
of Sewage Waste



Photographs 9 and 10 – Sewage Waste Recycling Unit Constructed at a cost of Rs.2,355,000 but abandoned.

2:4 It was observed that the period of compost fertilizer production exceeds the normal period of 1 ½ months due to the excess water content of the Waste.

Two open building of 40'x80' size for the production of compost and one partly covered building of 60'x20 size for the production of compost fertilizer had been constructed. The Sabaragamuwa Provincial Council had given provision amounting to Rs.882,227 in the year under review for carrying out improvements to the unit. The garbage collected within the area of authority of the Municipal Council is used for the production of compost fertilizer at this place. The water content of the garbage used for the production of compost fertilizer at this place is very high and as such it takes about 03

months to convert garbage to compost and as compared with the standard period of 1 ½ months, a weakness in the project was observed. This position is clearly depicted in photograph 11 and 12.



Photograph 11 and 12 – Compost Production Yard at Outer Circular Road

Land for the commencement of a Compost Production Project at the Kanadola site had been prepared by the date of audit inspection on 27 March 2013. The United Nations Economic and Social Commission for Asia and Pacific (UNESCAP) and the Sevanatha Institute had agreed to provide the sum of Rs.45,131,000 required for the purpose and plans had been made for the relocation of the Compost Production Unit at Outer Circular Road to this place after the construction. There was no evidence that the progress had been reported. This is clearly depicted in photographs 13 and 14.



Photograph 13 and 14 – Improved Compost Production Yard



2:5 As a result of uncontrolled disposal of waste, garbage deposited on the ground surface turns anaerobic and could result in the release of poisonous lichem as well as hydrogen sulphide, sulphur dioxide and methane which are poisonous chemicals, to the ground water. There was no evidence that this situation had been taken into consideration and action taken to minimize the effects.

A large number of springs were observed at the bottom of the hill on which waste is dumped. The local residents informed that the water from the springs is unfit for drinking and they are compelled to travel about 01 kilometre to obtain drinking water. There was no evidence that the garbage dumped over long periods on the ground surface would not turn anaerobic and would not release highly poisonous lichem as well as hydrogen sulphide, sulphur dioxide and methane due to garbage dumped on ground surface turning anaerobic. Various experiments have revealed that the lichem generated in places with anaerobic garbage is about one thousand times deadlier than the poisons present in the waste in normal latrines. The bacteria active in this liquid use the oxygen in the water and air heavily for their activities and if such liquid mixes into the water courses the liquid oxygen in the water will be absorbed by the bacteria and results in the extinction of aquatic organisms and aquatic plants. If the bacteria enters the human body bacteria will remain active for long periods and could become incurable. These matters were explained in the letter No. 31324 dated 18 April 2011 of the Municipal Engineer addressed to the Municipal Commissioner. It was observed that the spring water contaminated in the manner explained above flows into the Mudduwa Canal which flows into the Kaluganga. This position is clearly depicted in photographs 15 and 16.



Photograph 15  
Contaminated Springs at the  
bottom of the Garbage Heap



Photograph 16  
Contaminated water flowing from  
Surface Recycling system into Water  
Sources

- 2:6 It was observed that the paddy lands in the surrounding areas had become fallow due irregular Waste Management

A tract of about 7 ½ acres near the floor of the hill had been covered with scrub over several years due to the irregular waste disposal. Enquires made from the Agrarian Services Centre in the area confirmed that the garbage heap is the reason for the tract of paddy lands remaining covered with scrub. This position is clearly depicted in photographs 17 and 18.



Photograph 17 and 18 – Fallowed Paddy Lands

### 3. Control Weaknesses

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#### 3:1 Administration of Employees and Motor Vehicles of Health Division

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The number of labourers serving in the Health Department of the Municipal Council is 93 and it was observed that the daily assignment of labourers to work sites is not done systematically. It was also observed that the labourers leave for garbage collection only after the completion of the roll-call and pumping fuel to motor vehicles, etc. which takes a considerable time. Lack of a procedure to check the number of trips made by each garbage carrier to the garbage dump daily was not in place.

#### 3:2 Security of Lands and Properties

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It was observed that the garbage dumps exceeding 25 acres in extent at Kanadola belonging to the Municipal Council is being used by unauthorized persons. Photograph 19 clearly depicts that the Municipal Council had not taken action either to construct a security fence to protect the property or for the eviction of the unauthorized occupants.



Photograph 19  
Unauthorized Occupants

#### 4. Comments of the Institution

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1. At present about 46 metric tons of garbage is collected daily in the area of authority of the Ratnapura Municipal Council and out that, about 02 metric tons collected daily from the Public Fair are used for the Compost Project. That place does not have adequate space to produce a larger quantity of compost.

Construction of the buildings necessary for the expansion of the Compost Project to utilize the balance garbage, is in progress at the Kanadola Final Disposal Land at present in collaboration with the UN MABITAT and the Sevanatha Institute. Necessary steps have been taken to collect garbage sorted as degradable and non-degradable after the early commencement of the Project and carry out waste management in environmental friendly manner. It will be possible to minimize the environmental pollution existing at present through that course of action.

2. The know-how and guidance needed for the Project have already been disseminated by the Senvanatha Institute through a large number of Awareness Programmes.
3. Different steps have been taken for the protection of the health of the labourers engaged in the waste management. They have been provided with gloves and raincoats including boots for those requiring them. All have been subjected to medical examinations and those who required further treatment are referred to the respective specialist clinics.

4. Out of the hospital waste, chemical waste and those containing chemicals are separated and the balance is transported by the Municipal Council to Kanadola for disposal. There is a special process for the disposal of the other waste in the hospital premises itself.
5. The sewage disposal process is not functioning at present and sewage is disposed of by dumping into pits dug for the purpose. Arrangements have been made to commence a separate project for that in the year 2014 in collaboration with the UNHABITAT.
6. A census of the lands within the city limits is being conducted at present and it is expected to take steps for the protection of properties and lands based on the information gathered from the census.

## 5. Conclusion

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In view of the lack of a suitable management and methodology for the collection and disposal of waste generated within the area of authority of the Ratnapura Municipal Council as well as the disposal of waste transported by the Local Authorities outside the area had adverse effects of the health conditions of the people, destruction of public property and agricultural lands, pollution of water sources, canals, brooks and rivers. Thus it was observed that those had caused adverse impacts on the populace and the natural environment.

## 6. Recommendations

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The following proposals are made for minimisation of the adverse effects of the deficiencies in the waste disposal process on the community life, public property, cultivation lands and the environment.

1. The collection of waste generated daily in the area of authority of the Municipal Council should be done under sorting system while the process of disposal of waste at the Waste Yard should be expanded through a proper waste management system for diverting waste to a Compost Fertilizer Production Project thereby creating a source of additional revenue to the Municipal Council.
2. Non-degradable waste could be collected and sold for the generation of additional revenue. As such this area should be studied to explore the possibility of converting waste to be an asset of the Council.

3. Optimum utilization of the physical and human resources deployed at present in the Waste Management to achieve maximum benefits.
4. Interact with the other institutions in the district who are operating successful projects on waste management to acquire know-how and experience on waste management.
5. Implementation of proper methodologies to protect the health of the labourers deployed in the Waste Management Process.
6. Implementation of a suitable course of actions for the protection of the lands and property of the Municipal Council.
7. Introduction of a systematic procedure for the disposal of waste with radioactive chemicals such as hospital waste, telephones sms cards, CFL bulbs and other waste peculiar to the health sector in collaboration with Hospital authorities.

**H.A.S. Samaraweera**  
Auditor General