



ENVIRONMENTAL
FOUNDATION
(GUARANTEE) LIMITED

Report on the visit to the garbage dump at Kotikawatta

20TH APRIL 2017



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Participants:

Chamila Weerathunghe – Chief Operations Officer

Gayani Hewawasan – Manager - Investigations & Legal Projects

Piyumi Kalyanawansa – Asst. Manager - Investigations

Dishane Hewawithana – Research & Projects Officer

Prepared by:

Chamila Weerathunghe

Gayani Hewawasan

Piyumi Kalyanawansa

Dishane Hewawithana

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Table of Contents

Introduction	4
Observation	4
Location Analysis	12
Community Concerns	16
Ecological aspects	17
Legal Analysis	20
Conclusion	21
Recommendations	22

Introduction

The garbage dump at Kotikawatta belongs to the Kotikawatta Mulleriyawa Pradeshiya Sabha (KMPS) situated in the Colombo district. In May 2007, the KMPS decided to dump garbage generating from the said municipality in the Kotikawatta cemetery premises located at a relatively higher elevation. According to a resident of the area, the immediate low lying grounds were paddy fields (mostly abandoned) belonging to about 15-20 private landowners. With time, the dumping of garbage drastically increased resulting in the garbage being pushed down the slopes onto the privately owned low lying paddy land. However during the years 2011-12, there seem to have been a considerable decline in the dumping of garbage (this is apparent in the Google images incorporated below) due to the change in political leadership of the KMPS. Nevertheless the dumping that started off within a mere 4 acre plot continued and by the latter stages of 2012, the garbage dump started escalating into what can be observed today expanding up to 26 acres. A compost manufacturing yard is also located in the said premises again on privately owned land.

According to the neighbourhood, the dump yard was instigated for the disposal of municipal solid waste generated within the areas governed under the KMPS. Yet the waste from Kolonnawa Urban Council, Awissawella and the Biyagama industrial zone which produces toxic waste are dumped at the Kotikawatta site discreetly at night as per eye witnesses residing along the boundaries of the dump yard. It was further notified that self-ignition had occurred during three occasions due to the release of methane.

Observation

1. The garbage dump spans over an area of more than 10 acres bordering the general cemetery of Kotikawatte – Mulleriyawa, a school (Somadevi Balika, Vidyalaya, Kotikawatte), compounds of houses, and a wetland area of the breadth ranging from 5m – 30m. It was mentioned that about 850 students in the age group of 6-16 study in the school and it has classes from grade 1-11.
2. Down the cemetery, a small composting facility was observed. As per observations, its capacity seemed very limited, obviously not catering to the daily perishable waste being generated in the KMPS.
3. The nature of the waste was observed to be heaps of cloth pieces, polythene, tyres, plastic bottles, Styrofoam containers, a heavy thick rope used in ships, a heap of cardboard boxes, electronic waste including CDs, DVDs, cassettes, etc. and glass. It looked more like an industrial waste dump rather than a municipal waste yard.
4. The dump was filled with birds like cranes, crows and house flies.
5. A few water logged areas were visible bordering the dump as well as within the dump indicating that the several drainage ways were blocked by the waste dump. Residents

informed that this land was the lower most in elevation within the area, which served as a paddy field in the past as well as the drainage area after rainfall. It was a part of a wetland that fulfils the service of absorbing water.

6. A canal that drains waste water of the Kotikawatte town, passes through this wetland. However, this canal finds a dead end once it reaches the dump. People mentioned that the canal was freely flowing across this land and later on garbage was dumped on top of it.
7. Albeit compost production with the perishable or the decomposable waste, the odour was extremely strong indicating the availability of unprocessed decomposable waste. Odour emanated from both the dump and the composting yard.



Figure 1 The Garbage dump with houses at a distance



Figure 2 The dump as seen from a kitchen of a neighbouring house



Figure 3 Composting facility within the premises



Figure 4 Types of waste dumped



Figure 5 Types of waste



Figure 6 Blocked drains within the garbage dump



Figure 7 Stagnant water next to residential areas



Figure 8 The remnants of the previous wetland



Figure 9 Cemetery premises



Figure 10 Flies observed during the visit



Figure 11 Flies in a living room (Source: Hasitha Ranasinghe)



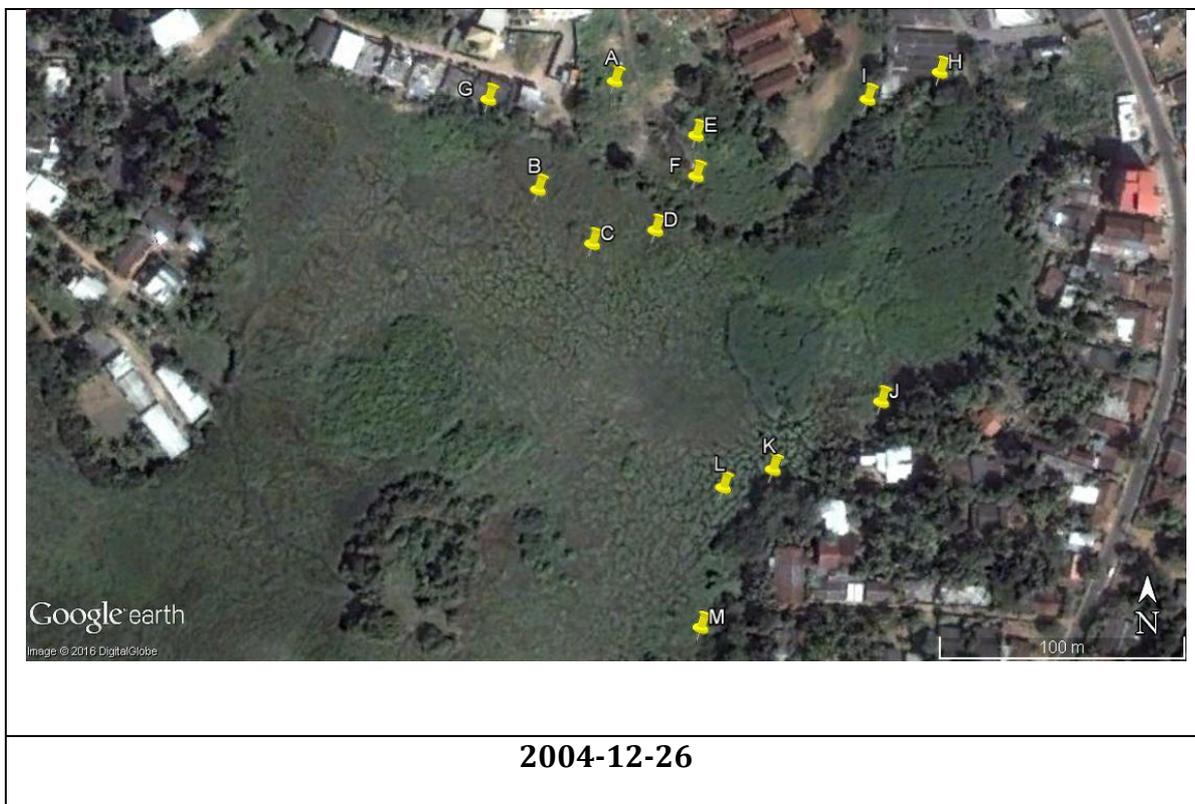
Figure 12 Flies in the kitchen (Source: Hasitha Ranasinghe)



Figure 13 Flies in the kitchen (Source: Hasitha Ranasinghe)

Location Analysis

Location	Place name
A	Cemetery
B	Inside the dump yard
C	Inside the dump yard
D	Inside the dump yard
E	Compost yard
F	School- Somadevi Balika Vidyalaya
G	Behind a house
H	Behind a house
I	Stagnant water and the school next to it
J	Behind a house
K	Behind a house (ASP's)
L	Stagnant water next to ASP's house
M	Behind a house





2008-07-02



2010-01-21



2011-07-18



2012-02-18



2013-07-28



2014-02-06



2015-11-25



2016-12-03

Community Concerns

Upon visiting households adjacent to the dump yard, the day-to-day issues of residents were discussed. Most of these families have been residing in the area for over 20-30 years, the land being ancestral, long before the dump yard was implemented. Currently there are close to 100 families residing on land contiguous to the dump yard within a 50 m circle. It was mentioned that a

few families have left the area owing to the public nuisance and the disruption of a healthy social life. Many other families have attempted to sell their houses to no avail.

The foul smell which is the most apparent source of discomfort felt around the entire area was said to escalate during windy nights and subsequent to rainfall. The residents complained how they are unable to enjoy a meal or host guests within their premises. They have gradually experienced a massive increase in house flies and mosquitos over time resulting in an unusual escalation in diseases such as: Dengue, diarrhea and skin rashes apart from constant fever and coughing in children. Out of the 15 household representatives encountered, in more than 5 families, there had been Dengue patients. It was mentioned that food cannot be left exposed for even a few seconds due to the large number of flies all over the area.

Moreover, some people complained that they suspect sewerage is dumped due to the extremely unbearable odour that emanates during certain evenings.

In addition, as their land are bordering a previous wetland, the slightest rainfall is now causing floods as a result of clogged waterways. It was further explained that the flood water is always black and grimy obviously owing to contamination through garbage. This area had been severely affected by the May 2016 floods, with flood water levels rising up to 10-12 feet. This had remained for 8-10 days due to the absence of a proper drainage system. They further mentioned that the drainage canal which used to drain such water in the past has been completely blocked by the garbage dump. In addition to the water, waste from the garbage dump had flowed in to their houses.

It was mentioned by most residents that dropping of pieces of meat, chicken heads, yoghurt cups etc. by crows in their gardens was a common sight increasing infection and disgust. There had been several instances where residents had to rewash their laundry that were put out to sun dry.

A part of the said land used to have been a common area of the paddy lands, which is called "Kamatha" before it was converted into a dumping yard. In certain areas, vegetables have been cultivated. The entire area was said to be of high aesthetic appeal.

Several residents stated how they have complained of their grievances to the responsible local authorities continuously and have not received any relief or compensation up to date.

Ecological aspects

As it appears in the satellite images taken in the year 2004 this entire area had been a wetland. In general a wetland is a valuable ecosystem due to key ecosystem services it provides. Further, wetlands are considered to be amongst the most productive ecosystems in the world, in comparison to rain forests and coral reefs (Gopal 1999; Zhao and Song 2004). In general this area had mostly been a wetland that has got filled eventually over the years due to urbanisation. The considerably large and the closest wetland to this present site is the Kolonnawa wetland. Therefore, a scientific prediction can be made that the affected site has had similar fauna and flora to Kolonnawa wetland prior to this destructive decision to dump garbage was made. According to a

survey completed in November 2015 (Signes 2015) the Kolonnawa wetland supports 139 fauna species and 85 flora species. Among them there had been 12 endemics and 8 threatened (Critically endangered-1; Endangered- 3; Vulnerable-4) species. Kolonnawa marshland supports a Critically Endangered plant species that is native to Sri Lanka, *Aganope heptaphylla*. The significance of this record is that this species is found in Sri Lanka only at limited localities (less than 5) consisting of a very few individuals per population at each location. This indicates the fact that the present site which has become a garbage dump, with a few highly polluted and contaminated wetland patches, might have taken the habitat of such critical species.

Furthermore, urban wetlands are known to provide specific ecosystem services in addition to the common services provided by a wetland such as provision of habitats for wildlife, provision of food, regulation of natural cycles, etc. Among them the role played as a natural sponge that traps and gradually releases waters remains the most important for urban areas. The difference in the severity of floods that the residents around the present garbage dump have had to experience, before and after the site becoming a garbage dumping site, clearly indicates that this had been engaging in a vital service in regulating the water flow and presently that they have been deprived of this service.

Such an ill managed dumping site would not limit its impacts by displacing native species but also will introduce alien invasive species that would make it worse for the surviving flora and fauna community in the surrounding to persist. Such invasive species observed at the present site include: *Panicum maximum* (Rata thana), *Cuscuta campestris* (Aga-mula-nathi wel) and *Salvinia molesta*. *Millingtonia hortensis* *Muntingia calabura* and *Ludwigia peruviana* are the potentially invasive species (Ministry of Mahaweli Development and Environment 2015) recorded during the visit.



Figure 14 *Panicum maximum* (near) and *Ludwigia peruviana* (far)



Figure 15 Gahala plants

In an ecological perspective it is concluded that this dump has been maintained in a highly inappropriate manner that has brought detrimental impacts to the environment. It is recommended

to discontinue with dumping garbage at the present site unless the neutralising of the current impact takes place and proper management practices are established to prevent the occurrence of similar conditions in the future.

Legal Analysis

Waste management in Sri Lanka is governed by the Local Authority Laws, National Environmental Act No 47 of 1980 as amended and the Police Ordinance No. 16 of 1865 as amended.

The primary legislation for the protection of the environment, the National Environmental Act (NEA), implemented by the Central Environmental Authority (CEA), provides the interpretation of the term "Waste", under Sec 33, as;

"any matter prescribed to be waste and any matter, whether liquid, solid, gaseous, or radioactive, which is discharged, emitted, or deposited in the environment in such volume, constituency or manner as to cause an alteration of the environment."

While the NEA in general provides for the protection of any portion of the environment with respect to, inter alia, the extent to which the discharge of wastes may be permitted without detriment to the quality of the environment..", it is responsibility of the Local Authorities to ensure waste is disposed of properly.

Local Authorities, as the third level of governance, are responsible for providing a variety of local public services including roads, sanitation, drains, housing, libraries, public parks and recreational facilities. Consisting of three different groups; the municipal councils, the urban councils and the divisional councils (pradeshiya sabha or pradesha sabhai), the Local Authorities derive their power mainly from

the Municipal Council Ordinance (MCO) No. 29 of 1947 as amended,
the Urban Councils Ordinance (UCO) No. 61 of 1939 as amended,
the Pradeshiya Sabha Act (PSA) No. 15 of 1987, as amended, and
other Regulations made under these Ordinances and Acts.

Although these three types of local authorities have varied powers deriving from the respective laws, all local authorities are charged with the;

"common service of regulation, control and administration of all matters relating to the public health, public utility services and public thoroughfares and generally with the protection and promotion of the comfort, convenience and welfare of the people and all amenities" within all Municipalities, towns and any such area.

(Sec 4 of MCO, Sec 4 of UCO and Sec 3 of PSA).

The laws require local authorities to carry out regulatory and administrative functions, promote public health and provide physical structures. Local authorities can only provide services which the law specifically allows them to do. Services provided by local authorities include roads, drains, parks, libraries, housing, waste collection, public conveniences, markets and recreational facilities. According to the laws governing the waste disposal mechanisms, the local authorities are vested with the duty of conservancy and scavenging under the three local authority laws, including providing places convenient for the proper disposal of “all street refuse, house refuse, night-soil, or similar matter”. However these authorities are also entrusted with equal responsibility of ensuring that;

“no such refuse, night-soil, or similar matter removed in accordance with the provisions of this Part is disposed of in such a way as to cause a nuisance
(Sec 131 of MCO, Sec 120 of UCO and Sec 95 of PSA).

The term “nuisance” is interpreted to include any act, omission, or thing occasioning or likely to occasion injury, annoyance, offence, harm, danger, or damage to the sense of sight, smell, or hearing, or which is or is likely to be dangerous or injurious to health or property (Sec 327 of MCO, Sec 249 of UCO)

Therefore it is important to note that the implementation of the provisions of these laws relating to disposal of waste in Municipal, Urban and Pradeshiya Sabha areas must be carried out with careful consideration of the inconvenience, nuisance and the imminent threat posed to the lives of those who are in the immediate vicinity of dumping sites.

Conclusion

Open dumping of garbage is one of the primitive means of disposing waste which is practiced in many of the under developed countries. Understanding the value of waste as a resource, many of the countries have developed their own waste management strategies based on the local context, including the land availability, technology affordability, nature of the waste generation etc. Waste reduction, reuse of materials, recycling, recovery of energy, incineration and sanitary landfilling are some of the safe means of addressing the waste issue in a socially acceptable and environmentally sound manner.

The garbage dump at Kotikawatte, which is the dumping yard of Mulleriyawa- Kotikawatte domestic and commercial waste generated is an open dump located in a wetland and a highly

residential area. Upon visiting the site and collecting related information from the key informants (as mentioned above in under the community concerns section) and representatives from the community, it was concluded that this dumping site of waste is ecologically detrimental and highly socially unacceptable, causing tremendous nuisance to the public. Social lives of more than 500 people are totally neglected and disrupted and put into jeopardy due to extremely unhygienic conditions in the surroundings. Highly inconsiderate decision making and course of action including starting to dump waste in a wetland within a highly residential area and next to a school, blocking of the drainage canals, improper maintenance of the dumping yard, lack of consideration of social issues have given rise to another disastrous social and environmental issue which is totally unacceptable. Therefore we conclude that the continuation of the status quo would lead to many other social and environmental issues in the future which deprives people's right to a clean and healthy environment preserved through the constitution of Sri Lanka.

During the compilation of this Report, an injunction was issued on the 21st of April 2017, by the Colombo Magistrates Court, prohibiting the KMPS from continuing to use the private land as a dumping site. This was in response to a submission made by the Police regarding the complaints received by the aggrieved Residents. Therefore the current situation is that the KMPS as well as any other local authority body is prohibited from utilizing the disputed private land as a dumping site. This initiative will no doubt reduce the garbage accumulation at the dump yard, resulting in relatively manageable conditions.

Recommendations

Long term recommendations (After 18 months)

1. In the long run, a more planned and suitable strategy for waste management should be introduced recognising the importance of the materials being dumped as waste and the rate of resource depletion. It should be directed from reducing the waste generation, segregating the waste being generated, reusing the materials wherever possible in whatever possible way, recycling the waste that could be recycled as per the technology available, composting the perishable waste, converting the residue waste into energy after such initial treatment or incineration, if waste to energy conversion is not possible. Empowering stakeholders at different levels through proper education and training and provision for initial support and outright political will are key for the execution of such action plans.
2. Sanitary landfills are accepted in the areas where suitable land is abundant, however in a commercial area like the district of Colombo, dumping of unsegregated waste is not acceptable due to land scarcity and the value of the materials. Therefore any form of landfill is not acceptable in the district of Colombo as a means of waste disposal. Transportation of waste generated within Colombo to other areas will also not be economical and may create

illegal business opportunities in the process, which will disrupt a properly implemented waste management strategy.

Short term recommendations (1 month to 18 months)

3. While above measures need to be well planned and implemented step wise, an interim measure needs to be taken in order to address the immediate need of waste management in the said area where the waste is generated.
4. An alternative site, which is less populated and located in a less environmentally sensitive environment need to be identified with immediate effect.
5. Dumping of waste in the alternative site should be carried out under controlled conditions, in such a way that residents will not be affected and the environment will not be degraded. Measures should be taken to avoid scavenging and transporting of waste through birds and odour should be minimised.
6. A frequent monitoring mechanism should be brought into place with the participation of key stakeholders in relation to the new dumping yard. Parameters for monitoring should be established with the participation of all stakeholders including the communities living.
7. Dumping of all industrial waste in such dump yards should be stopped and commercial industries need to manage their own waste in an environmentally and socially acceptable way through segregation, recycling and incineration. It should be the responsibility of each industry. All BOI projects and export processing zones should have common regional facilities for the management/ disposal of such waste and it shouldn't be the burden of the government at the expense of the health and well being of another group of innocent people living in a completely different area.
8. Dumping of sewerage in any land should be stopped with immediate effect and it should be treated as indicated in the National Policy on Solid Waste Management 2007 by the Ministry of Environment and Natural Resources and stipulated by the National Environmental Act No. 47 of 1980 as amended.
9. In the current site, since the condition is not acceptable both socially and environmentally, it is recommended to get an expert opinion to take measures to mitigate all current nuisances to people and avoid further degradation of the surrounding environment including waterways, ground water and wetland ecosystem. The action plan for restoring the site should be implemented under the close supervision and consultation of Central Environmental Authority and a few members of the community. Community participation is crucial in this exercise.
10. It is recommended that privatization of such landfill facilities could streamline the process and increase efficiency while better managing the environment. It has been proven that less interference by government institutions paves way to the successful implementation of such projects (Ogawa 1996). There are several such private operators in the United States maintaining proper waste management standards.

11. Public awareness programmes regarding sustainable methods of the disposal of solid waste requires to be conducted extensively as no such comprehensive programme has taken place within the KMPS areas so far. "Improved education and increasing the accessibility of recycling facilities were found to be the best means of promoting positive attitudes to recycling attitude, partly because they helped to remove barriers preventing households from recycling." (Karagiannidis & Kontogianni, 2012)

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