WHY PHASE OUT RAMKY LANDFILL AT MAVALLIPURA
A PRESS BRIEFING

Sruthi Subbanna
Environment Support Group

Proper management of solid waste produced by households is one of the biggest challenges faced by humanity today. This is especially true in cities across India, where poor land use planning providing community level solid waste management treatment facilities and poor management practices are creating havoc in local neighbourhoods and at dumpsites. Bangalore city itself generates over 3000 tonnes of solid waste each day, and most this is illegally dumped in the periurban areas of the city. The only "scientific" landfill is located at Mavallipura near Yelahanka, and the capacity of this facility run by M/s Ramky is 500 tonnes per day. However, more than 750 tonnes is being dumped here, and that too without any treatment as required per law.

From the year 2003 till the year 2006, garbage from Bangalore city was actually dumped in Bylappa's land in Mavallipura. The land in question was surrounded by acres of agricultural and forest land. BBMP was so relieved that a farmer had come forward to allow dumping of waste on his land, that they rewarded him by entering into a lease contract for the land, and even paid him money for every truckload of waste he received. Over time, tens of acres of Bylappa's land became towering mountains of garbage. For four years, over 200 trucks of waste poured into this land daily, causing unbelievable pollution: the mountains of garbage would frequently catch fire; hundreds of birds and dogs ended up scavenging; tens of ragpicker families even settled down to scavenge waste for livelihoods. Meanwhile, hundreds of litres of highly toxic leachates gushed out of this illegal landfill contaminating farmland, wells, tanks, streams and also the Arkavathi River.

It was only when Dalit Sangarsh Samithi (S) took up the issue that authorities even paid some attention. Due to the protests of local affected villagers and subsequent investigation, it was uncovered that Bylappa's land was not his at all. In fact it was the Jarakabande Kaval State Forest which he had encroached and leased out to BBMP. BMMP on their part should have thoroughly analysed the papers before entering into a contract, but failed to do so for reasons best known to them. Forest Department claimed the land subsequently, and has initiated criminal proceedings, which are still pending. Meanwhile, the Karnataka State Pollution Control Board also initiated criminal proceedings, which again, are pending.

To clean up this mistake, BBMP burned out thousands of tonnes of waste which had accumulated over the years. This spread a toxic plume of air all around, and has caused a variety of serious health problems.

To rectify the damage done, BBMP acquired about 100 acres of gomaal lands (grazing pastures) abutting the forest and set up what they have claimed to be a scientific landfill. This landfill was outsourced to M/s Ramky, which continues to manage it to this day. The lease life of this landfill is about 30 years.

On its part, Ramky has merely dug a massive pit which is several tens of feet deep and acres across. Nothing in the manner in which they manage waste is legal. The pits are not concrete lined, there is no impermeable layer to prevent groundwater contamination, no soil is used to cover the garbage dumped thus exposing communities to millions of flies and mosquitos, and the leachates are collected in open ponds that are shabbily designed and leak frequently. Shockingly, the facility has no effluent treatment plant, and the solution employed to create capacity for the leachates is to simply let out the toxic effluent into local streams and they soon find their way to Mavallipura tank and other downstream water bodies. Simply stated, there is nothing scientific about the Ramky landfill. It is nothing short of a mini-Bhopal.

This has resulted in questions on not just the legality of the landfill, but also on the harmful effects it has caused and will cause in future to the people, cattle, animals, birds, and trees in close vicinity to the area. Groundwater and surface water acquifers are seriously contaminated, and the place stinks of putrid garbage for miles on end – depending, of course, on the wind direction.

Close proximity to Airport and Airbase

In close vicinity to the current Ramky landfill, are three Airbases – Bangalore International Airport (BIAL) at 19 kms., Jakkur Air Base at 7 kms., and Yelahanka Air Base is a mere 5 kms. away. The recently enacted Municipal Solid Waste Management Rules[1] demand that such landfills should be at least 20 kms. from the edge of airports, whereas the older Aircraft Act permits airports to be within 10 kms. of such landfills[2].

Although BIA is further away from the Ramky landfill than the other two air bases with the distance between the two of approximately 19.4km, it still requires permission from the concerned BIA airport officials.

None of the aiports have thus far consented to the siting of the Ramky facility. It may therefore be worth investigating of the three air crashes of defense aircraft that took place at Yelahanka in the past couple of years, were caused by bird hits due to the Mavallipura landfill.

Violations of Ramky landfill to the Municipal Solid Waste Management and Handling Rules[3]

The construction of Ramky landfill has from its advent not followed the Municipal Solid Waste Management and Handling Rules, 2000. In many ways, the lack of conformance with these minimum standards is at the root of the problems faced by people living around the area.

- Consent for Operation from Karnataka State Pollution Control Board was required to set up the landfill which has not been obtained by BBMP. When KSPCB gave its initial consent for establishment, it was conditional to obtaining permissions from the neighbouring airports, which has still not been secured.
- Schedule II, Management of Municipal Solid Wastes, Sr. No. 1 requires collection of segregated waste from households, composting at community levels of organic wastes, and that in their segregated forms waste should be sanitarily handled and transported to landfills.
- Schedule II, Management of Municipal Solid Wastes, Sr. No. 5 requires the Municipal authorities to adopt suitable technology or combination of technologies to ensure reuse of wastes and reduce burden on landfill.
- Schedule III, Specifications for landfill sites, Site Selection, Sr. No. 3 requires proper planning of the landfill along with a closure plan.
- Schedule III, Specifications for landfill sites, Site Selection, Sr. No. 7 states the landfill should be large enough to handle wastes for 20-25 years.
- As per Schedule III, Specifications for landfill sites, Site Selection, Sr. No. 8 the landfill site should be away from habitation clusters, forest areas, water bodies monuments, National Parks, Wetlands and places of important cultural, historical or religious interest.
- Schedule III, Specifications for landfill sites, Site Selection, Sr. No. 9 emphasizes on maintainance of a buffer zone of no-development area around landfill site.
- Schedule III, Specifications for landfill sites, Site Selection, Sr. No. 10 requires the landfill site to be a minimum of 20km away from airport and/or airbase.
- As per Schedule III, Specifications for landfill sites, Specifications for land filling, Sr. No. 18 wastes subjected to land filling shall be compacted in thin layers using landfill compactors to achieve high density of the wastes.
- As per Schedule III, Specifications for landfill sites, Specifications for land filling, Sr. No. 19 wastes should be covered immediately or at the end of each working day with minimum 10 cm of soil, inert debris or construction material till such

---

1 Schedule III, Municipal Solid Waste Management and Handling Rules, 2000, Specification for Landfill sites, Site selection, Sr. No. 10, Landfill site shall be away from airport including airbase. Necessary approval of airport or airbase authorities prior to the setting up of the landfill site shall be obtained in cases where the site is to be located within 20 km of an airport or airbase. http://www.envfor.nic.in/legis/hsm/mswmhr.html

2 *The Aircraft (Amendment) Act, 2007 (44 of 2007) came into force with effect from 01-02-2008 vide Notification No. AV.11012/3/2000-A dated 21st January 2008*
(q) the recognition for the purposes of this Act of licences and certificates issued elsewhere than in h[India] relating to aircraft or to the qualifications of persons employed in the operation, manufacture, repair or maintenance of aircraft l[* *];
l[(qq) the prohibition of slaughtering and flaying of animals and of depositing rubbish, filth and other polluted and obnoxious matter within a radius of ten kilometers form the aerodrome reference point; and]. http://dgca.nic.in/rules/act-ind.htm

3 Ministry of Environment and Forests, Municipal Solid Waste Management and Handling Rules 2000, http://www.envfor.nic.in/legis/hsm/mswmhr.html, Last accessed October 15th 2009

time waste processing facilities for composting or recycling or energy recovery are set up.
- During monsoon season, Schedule III, Specifications for landfill sites, Specifications for land filling, Sr. No. 20 requires an intermediate cover of 40-65 cm thickness of soil to be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon.
- On completion of landfill, Schedule III, Specifications for landfill sites, Specifications for land filling, Sr. No. 21 says that a final cover should be designed to minimize infiltration and erosion.
- Schedule III, Specifications for landfill sites, Pollution Prevention, Sr. No. 22 emphasizes diversion of storm water drains to minimize leachate generation, construction of non-permeable lining system, provisions for management of leachate collection and treatment, and prevention of run-off from landfill area.
- For reduced odour generation at landfill sites, a landfill gas control system should be installed at the landfill site. (Schedule III, Specifications for landfill sites, Ambient Air Quality Monitoring, Sr. No. 25)
- Precautions should be taken so as to minimise nuisance of odour, flies, rodents, etc. as per Schedule IV, Standards for Composting, Treated Leachates, and Incineration.

Shockingly, the Ramky run facility violates each and every one of these standards and regulatory requirements. This clearly demonstrated failure not just on the part of Ramky as facility manager, but BBMP and KSPCB as well.

Problems associated with the existing landfill

Detailed specifications exist for landfill sites from selection of a site, facilities that should be available at the site, how to prevent pollution at these sites, to its closure and post-closure care of the site. These detailed specifications are all provided in the Municipal Solid Waste Management and Handling Rules[4], and were so legislated to ensure that such an highly hazardous facility should not cause any harm to human habitats and environment of surrounding areas.

The first stage after selection of any suitable site, which should be away from forest areas, monuments, national parks, wetlands, airports and other sensitive facilities and habitation clusters, is to design a landfill which includes not just the design but also the closure plan for the landfill once the facility has reached its capacity. The Ramky landfill is located close to an airbase, Mavallipura village, Mavallipura tank, is in the watershed of the Arkavathi river, thus raising serious questions about what factors, if any, BBMP considered when choosing this location for construction of the landfill.

A scientific landfill has a non permeable lining system at the base and its walls, to ensure no waste material spreads to surrounding lands and leachates percolate into the ground. The wastes brought in daily are compacted and covered with a layer of soil at the end of the day to avoid stench from these wastes spreading the surrounding areas. This also prevents breeding of flies, mosquitos and other disease carrying vectors. Once the landfill reaches its full capacity, it is covered as in a silo so that there is minimum infiltration and erosion.

On closely observing the Ramky landfill, one observes that in the name of landfill what actually exists is a huge pit which has been dug out and filled with garbage everyday for the past three years. Added to that the waste now has formed a heap rising way above the top line of the pit. In three years of its functioning, Ramky's dumpyard is already full. No attempts are being made to close the landfill even though it is over capacity now. What a sordid tale for a landfill that should have worked for a minimum of 20-25 years if properly designed, mantained and managed.

Regulatory provisions demand that the leachate that is generated by landfills must be treated by effluent treatment plants. At the Ramky landfill what we observe is that the leachate is collected in a pond, the margins of which have plastic sheets and there is no guarantee the base is similarly lined. which on reaching its full capacity is pumped to another leachate pond and subsequently out into neighbouring village ponds and tanks. Recently, these ponds became full to the brim causing Ramky to breach their ponds and release these toxic waters to Mavallipura tank. This is precisely what should not happen in a properly constructed scientific landfill.

Sufficient precautions also need to be taken to minimize fire hazard, bird menace, rodents and flies. It is heart rending to

4 Ministry of Environment and Forests, Municipal Solid Waste Management and Handling Rules 2000, http://www.envfor.nic.in/legis/hsm/mswmhr.html, Last accessed October 15th 2009

see the people of the village of Mavallipura sitting to eat their meals inside mosquito nets to avoid the menace of flies which swarm their plates while eating.

Health Impacts of improperly managed landfills

This improper, unscientific and inefficient approach towards building of the Ramky landfill has resulted in extremely unhygienic conditions for people living in surrounding areas and has caused serious health problems to many. Water borne diseases affect everyone, there is hardly an individual who has not suffered from chikungunya, dengue is speading, and there is now growing instances of chronic gastro-intestinal disorders. Women and children, as is to be expected, are the worst affected.

A survey of the drinking water sources of Mavallipura and surrounding villages three years ago revealed that not one source of water is potable. In fact many water samples reported high levels of heavy metals. Pathogenic bacteria was several thousand times the maximum limit found acceptable in human bodies. No wonder then, that many residents of the village have started reported high rates of amoebiosis, gastroenteritis and some, probably as a consequence, are suffering from kidney failures.[5]

Insects, rodents, birds, etc, are frequently attracted to an improperly managed landfill and thus easily aid in spreading various kinds of highly infectious diseases. Regular contact of skin with these wastes could result in skin infections. Those living closeby are particularly vulnerable to these diseases. Cattle, sheep and goats also easily contract diseases as they frequently bitten by vicious packs of dogs and other rodents who are everywhere.

A major problem with municipal solid waste is the high volume of plastics. Coloured plastics especially contain pigments made from heavy metals like Cadmium, Copper, Lead, Cobalt, etc. which are highly toxic in nature. Organic matter constitutes a major chunk of the weight of household wastes, decompose easily and attract insects in the process. It is hence essential to keep organic wastes separate from non compostable and recyclable wastes, like plastics, which can easily be recycled and reused. If composted, the organic wastes, can be used productively as fertilizers and will no longer be “waste”.

But in Mavallipura these plastics are burned. The toxic plumes that spreads contaminates everything. While humans and cattle suffer the worst, from a variety of bronchial disorders, the toxic gases destroy plant productivity and contaminate waters everywhere. The stench is so horrendous, that one loses the ability to smell at all and becomes acutely depressed.

It would not be an exaggeration to term Mavallipura a living hell for local residents and that too for sins they have not committed.

Solutions are simple:

The solution to management of Municipal Solid Waste is simple: segregate waste at source.

Segregation of wastes will help in ensuring similar kinds of wastes are collected together and become a resource. Organic waste can thus easily be converted to compost in local neighbourhoods, households and even in a regional scale in every layout. Space required for this need not be extensive, as the composted waste is manure, which is easily picked up by gardens and farmers. This first step will go a long way in avoiding the need for such large facilities as are in Mavallipura.

Once the organic waste is out of the waste stream, the remaining plastics can easily be compacted and recycled. This will add value to hundreds of families who live of this income, and it would be an act of simply generosity, if families across

5 For a detailed discussion of the contamination of water in Mavallipura, please access ESG's report at: http://www.esgindia.org/campaigns/Mavallipura/docs/MavallipuraSWM.pdf

Bangalore simply handed over segreated plastics and other metals to families depending on recovery of such valuable resources from what is perceived as “waste”.

Post segregation appropriate treatment of the remaining waste, which is likely hazardous, or non- recyclable, must only be undertaken in scientifically developed landfills.

With none of the above steps being taken to ensure proper segregation, recovery and disposal of the municipal solid wastes, it is really no wonder that we have the Mavallipura problem dogging Bangalore. This is simply not an acceptable practice, and is clearly an inhuman act on our part, that we do not make the little effort to segregate waste at source so communities like in Mavallipura do not suffer.

While so much is possible at the community level, BBMP can do a lot by regulating segreation at source as a fundamental first step to waste management. If the Government can demand rain water harvesting, it can certainly require everyone to segreate waste at source too. These simple acts go a long way in preventing mini-Bhopals that Mavallipura has now become.

For the present, Mavallipura cannot be a victim of our collective mismagement. Ramky has made a mess of its “scientific” landfill and it is high time this is phased out – perhaps within a year.

For more details visit: www.esgindia.org
Environment Support Group
1572, 36th Cross, 100 Feet Ring Road, Banashankari II Stage, Bangalore 560070. INDIA
Tel: 91-80-26713559/26713560/26713561 Voice/Fax: 91-80-26713316
Email: esg@esgindia.org or esgindia@gmail.com **Web:** www.esgindia.org