

The Regionalization of Municipal Waste Services

The Eastern Regional Landfill Site Case Study

The Regionalization Concept

- Regionalization refers to the bundling of municipal waste management needs of several towns or cities and tackling the problem they share by creating one regional facility.
- The Regional facility as such could refer to:
 - A regional Transfer Station
 - A regional Recycling Facility
 - A regional Material Recovery Facility
 - A regional Treatment Facility or
 - A regional Landfill Site.
- The regional facility could encompass a District Municipality of several small municipalities or several small towns.

Need for Regionalization

- Small Municipalities / towns requiring landfills sites are facing severe problem in operating proper waste management facilities e.g. landfill sites;
- For small municipalities and towns < 300,000 population is not viable in short as well as long time period. This is on account of:
 - Disproportionate financial investment needed for the facility;
 - Lack of enough resources to operate and maintain a landfill
 - High rate of labour requirement per Tonne of waste
 - No adequate land for the landfill development operations and maintenance;
 - Use of large portion of land for disposal of waste is not possible for small Municipal Bodies in relation to provision of other services.

- Not in my backyard situation; A landfill will need to be constructed near to city/town which again leads to public objection.
- More importantly, does not show a private contractor willingness towards small landfill development due to financial viability and poor health of municipal finances.
- Regionalization minimizes the scope of public objections, facilitates ease of disposal as this site can be constructed at a distance from city/town.
- The regionalized landfill construction can be managed professionally in a cost effective manner.
- The burden of cost of onetime items on participating Municipalities will be shared and the total tipping fees to be paid will be only to the extent of waste sent to the landfill.
- The site can be awarded to Private Operator who will be willing to handle a large landfill site.

Financial Benefits

- Reduction in the fixed costs (for example, lining, equipment, human resources land and overhead) per unit of waste because of the greater amount of waste and the allocation of costs among several municipalities.
- Cost saving because of sharing of overhead and maintenance cost among participating municipalities.
- Sharing of professional management
- Improved bargaining power to buy better equipment and system at lower costs.

Technical Benefits

- The municipality has greater access to technical resources and professional expertise.
- It can use large and sophisticated equipment (for example, Compactors).
- Large landfills allow for sustainable increase in available air space and, hence waste disposal capacity per acre of land which leads to lower capital cost per ton of waste.
- A regional facility can be located at a considerable distance from the municipalities, which helps overcome constraints on land availability.
- Additional transport costs can be substantially offset by the cost saving in disposal and treatment.
- A large landfill facility allows for proper planning and development of the site,

Institutional Arrangements

- Regional facility entails some kind planning of a sound Institutional arrangement that enables the coming together of the partnering Municipalities
- The participating municipalities should establish a regional management organization. The regional management organization serves two key purposes:
 - It serves as the formal management structure for regional projects.
 - It implements the planned project, providing the necessary authority for financing, operating, and monitoring the activities.
- The different types of regional management structures are currently in used. The type of structure chosen depends on such factors as available financing, applicable laws, and existing government bodies or regional organization.

Step towards A Regional Facility



Eastern Regional Landfill Site

- The Constitution of the Republic of South Africa 1996 as amended.
- The National Air Quality Environment Management Act 107 of 1998 Air Quality Management Act.
- The Local Government Municipal Structures Act 117 of 1998.

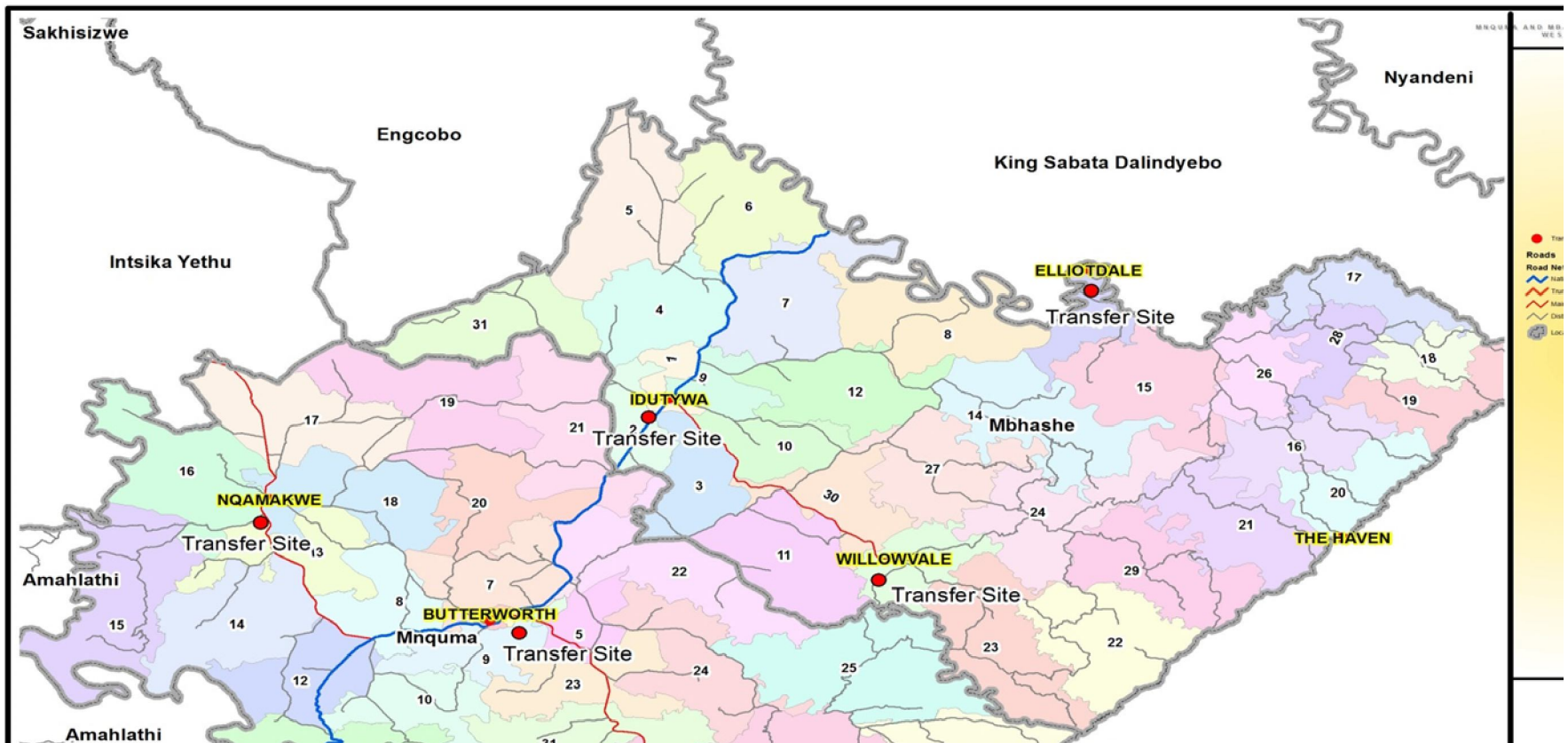
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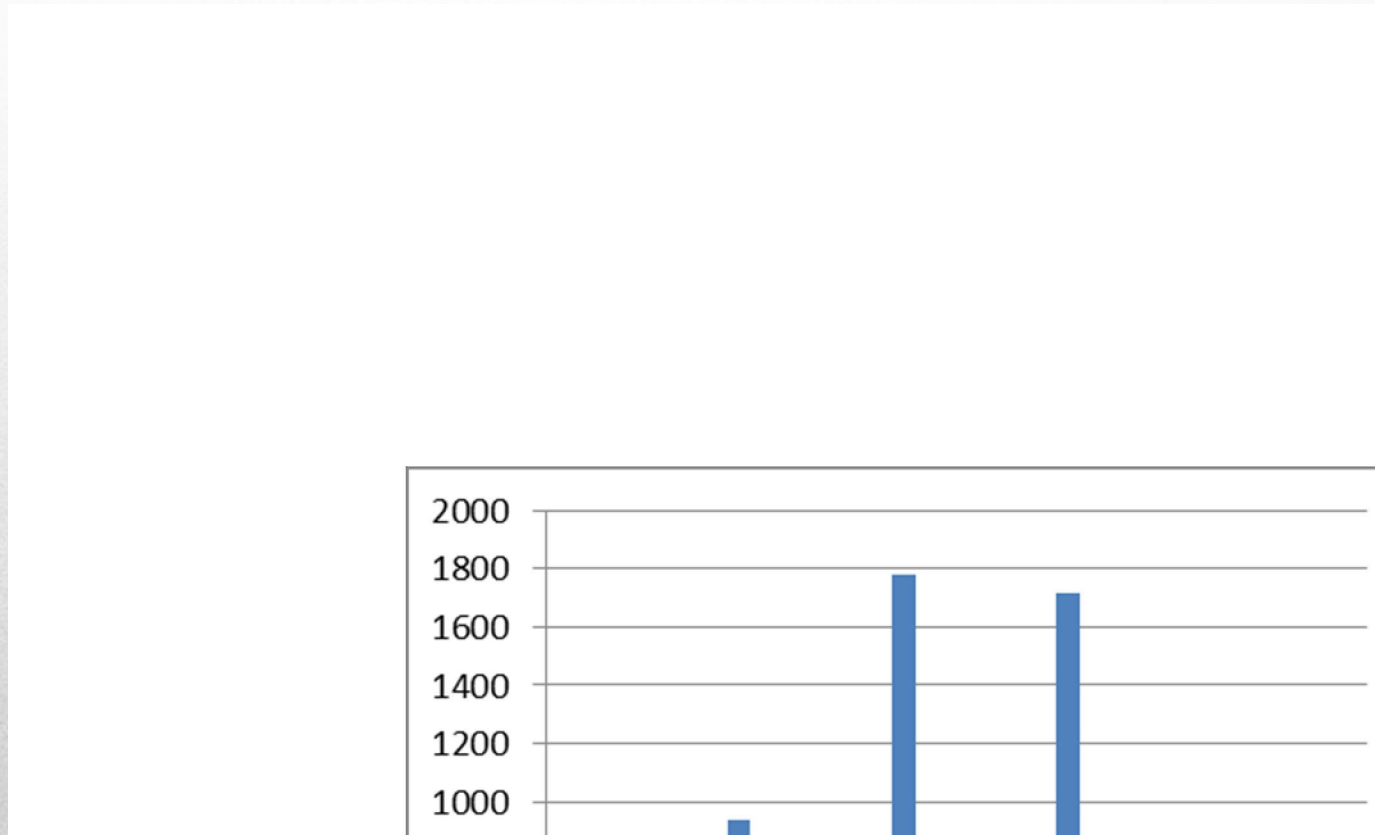
Map of ADM



Map of ERSWS

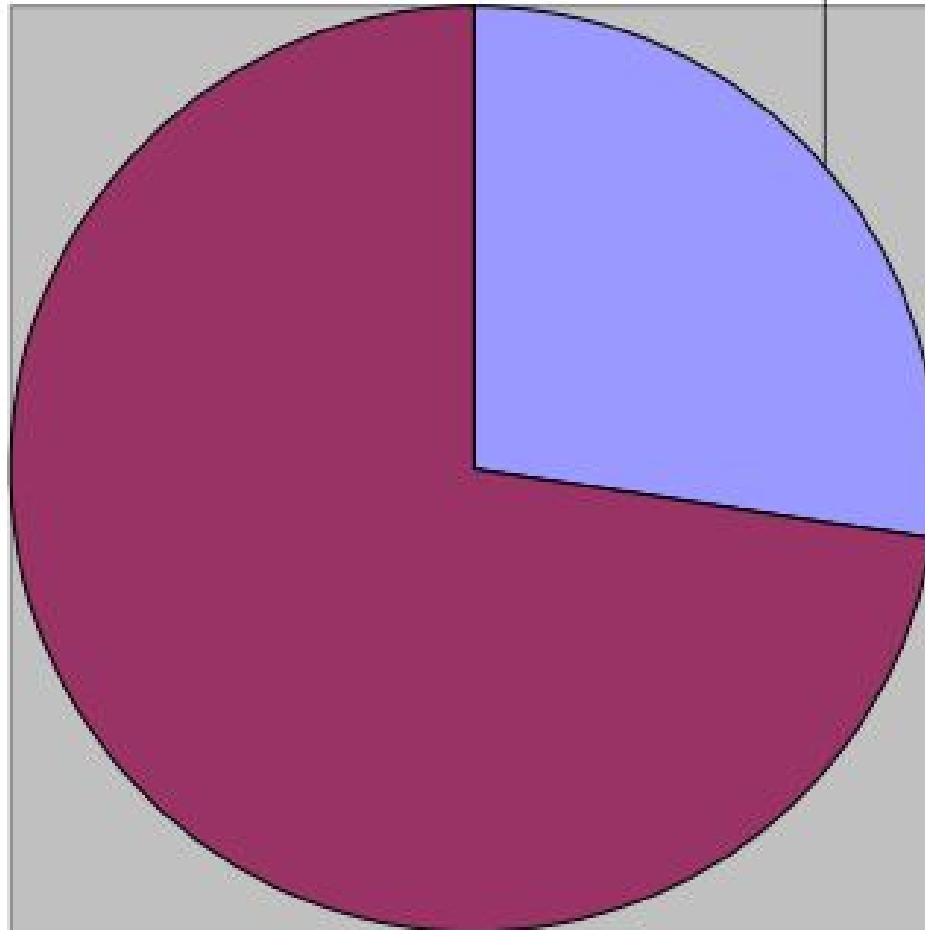


Waste Volumes Disposed at Ibika



Waste recycled at Ibika

- Waste to landfill, Recyalable, 58.3 tons, 1%
- Waste to landfill, Total tons/ month , 7252.35 tons, 99%



Operational Details – access control



Operational Details – notice boards

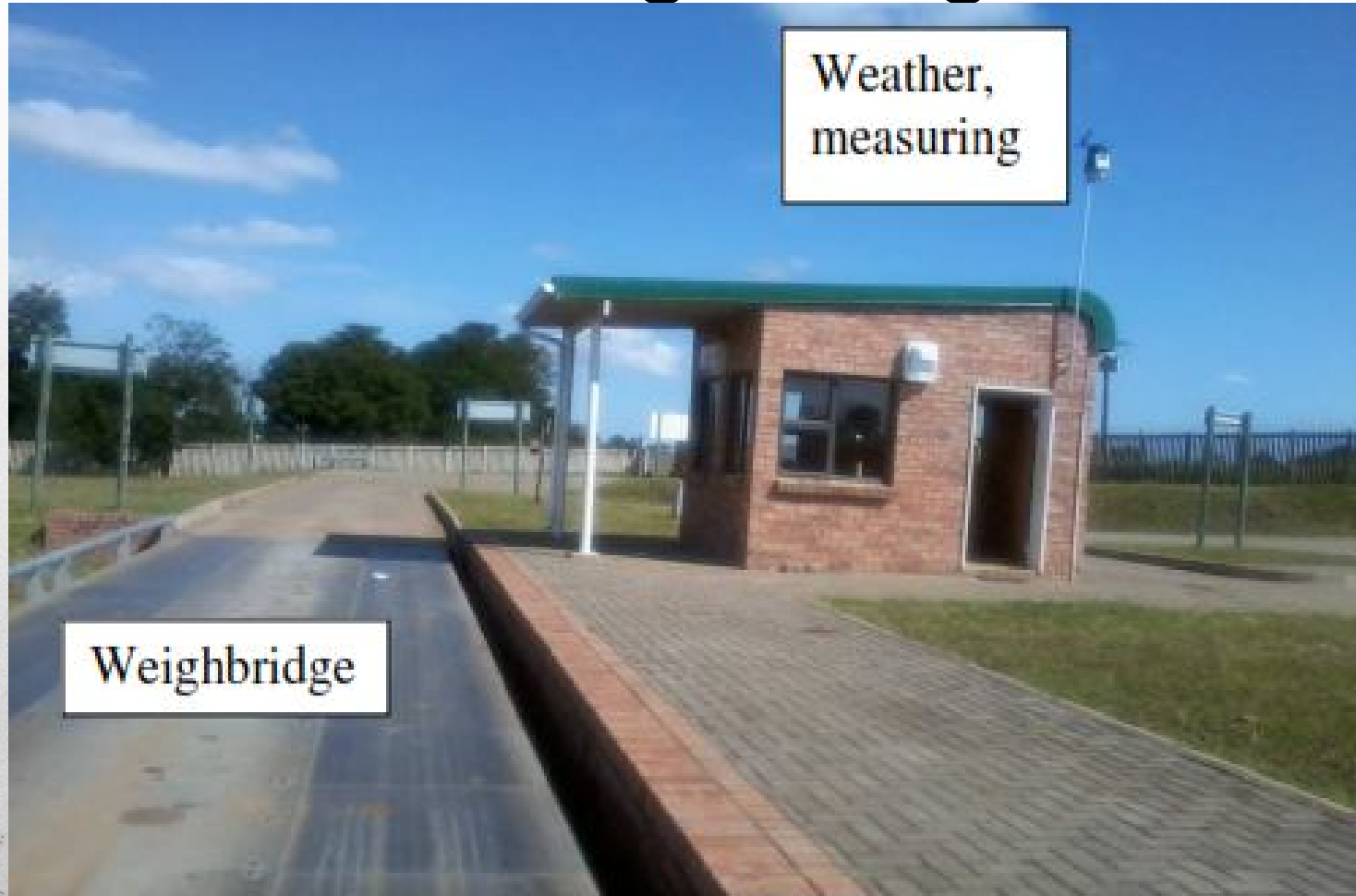


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Operational Details – weighbridge



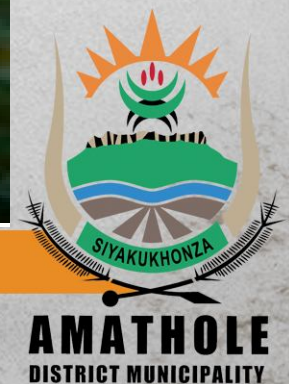
Operational Details – waste collection from the mall



Operational Details – recycling area



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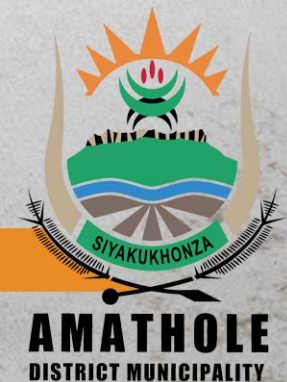
Operational Details – non recyclables in roro bins



Operational Details – landfill site working face



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Operational Details – landfill site working face



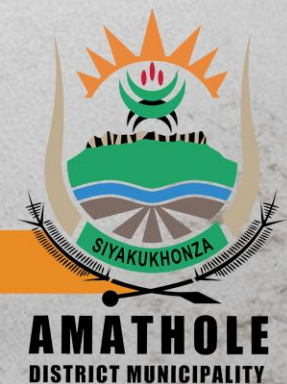
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Operational Details – cover material



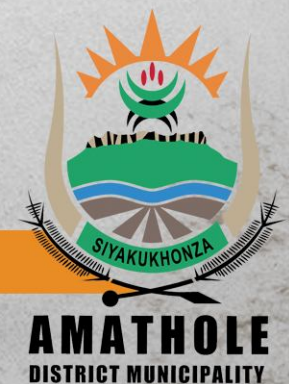
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Operational Details – compactor truck



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Auditing and Compliance

- Service Provider was appointed by ADM to undertake compliance auditing.
- Date of Audit Last Audit – 30 August 2013
- Audit results Summary:
- The site is generally operated with adequate operational system and internal controls
- It is generally operated in compliance with the operation and maintenance plan of the permit
- Some non compliances were identified and flagged
- Adequate good housekeeping

Environmental Monitoring

- Service Provider was appointed by ADM to undertake environmental monitoring.
- Summary of Findings
- Background water quality monitoring was undertaken prior operations
- The water quality results from August 2013 sampling show no pollution

Future Planning

- It is anticipated that in future waste from other towns in the Eastern Region will be come to the Eastern Regional Landfill:
 - Centane
 - Ngqamakwe
 - Willowvale
 - Idutywa
- Waste Transfer Stations are being planned in these Towns:
 - Idutywa: At Construction Stage
 - Ngqamakhwe : Political Intervention
 - Centane: Political Intervention
 - Willowvale: Identification of a alternative land,
- Waste to Energy alternatives, Bringing markets closer

Western Region Planning

- ADM has commenced the process of planning for the Western Regional Landfill to cater for the following Towns
 - Nkonkobe
 - Ngqushwa
 - Nxuba

Challenges

- Non alignment of the Waste Transfer System and the Regional Waste
- Land Availability
- Land Claims
- Markets for Recycling
- Buffer Zone Encroachment

Conclusions

- Regional Facility can help to overcome constraints on land availability on Municipalities
- It entails a cost saving because of sharing of overhead and maintenance costs among participating municipalities
- ERSWS has resulted in coordinated management of solid waste collection in the region with improved recycling opportunities and minimised social impacts due to numerous landfill sites.
- Monitoring and compliance of a Regional Solid Waste Site would generally result in adequate operational system and internal controls.

