

## **Pilot Waste Management Project**

### **Glasgow City Council and Lilongwe City Assembly**

Participants: Derek Walker, Cleansing Supervisor; Brian Kelly, former Director of Environmental Protection Services, Glasgow City Council (now retired); Gillian Walsh, International Officer, Glasgow City Council; Vitto Mulula, Acting Chief Executive, Lilongwe City Assembly; David Mwenifumbo, Cleansing Supervisor; Lilongwe City Assembly; Alan Kwanjana, Director of Health; Lilongwe City Assembly.

### **Background**

The project was first discussed during a visit to Malawi in September 2007 when Brian Kelly and Gillian Walsh, International Officer at Glasgow City Council, met with Vitto Mulula, Head of Cleansing at Lilongwe City Assembly. It was agreed that Glasgow City Council would consider how best to support Lilongwe City Assembly's efforts to improve their waste collection services and increase the revenue from this service. It was recognized that this revenue could then be re-invested to enable Lilongwe City Assembly to increase the frequency of collections and invest in some new machinery.

Following the visit to Malawi in 2007, efforts were made within Glasgow to source two refuse collection vehicles for use by Lilongwe City Council, as well as a number of wheeled bins.

In July 2008, Glasgow City Council welcomed three members of staff from Lilongwe City Assembly who spent a week with staff from Land and Environmental Services to learn more about Glasgow's approach to solid waste management.

Following the visit to Glasgow, it was agreed that Lilongwe would design a collection route to include those businesses within the city boundaries willing and able to pay for an improved and more efficient refuse collection service.

In July 2008, two refuse collection vehicles and 300 wheeled bins left Glasgow bound for Lilongwe. Both vehicles were donated by Glasgow City Council who also covered the transport costs of getting the vehicles to Durban. Some of the wheeled bins were donated by Taylor Bins, one of the companies which supplies Glasgow City Council.

As part of Glasgow's ongoing relationship with Malawi, a number of health and education projects were planned for September 2008. It was agreed that this would also be an opportune time for waste management staff from Glasgow to visit Malawi and spend a week with Cleansing colleagues from Lilongwe City Assembly. The plan was also to be there when the refuse collection vehicles and wheeled bins arrived to help oversee the setting up of the new collection route.

### **Visit to Malawi – September 2008**

#### **Monday 8th September 2008**

Participants:

Derek Walker, Cleansing Supervisor; Brian Kelly, former Director of Environmental Protection Services, Glasgow City Council (now retired); Gillian Walsh, International Officer, Glasgow City Council; Vitto Mulula, Acting Chief Executive, Lilongwe City Council; David Mwenifumbo, Cleansing Supervisor; Lilongwe City Assembly; Alan Kwanjana, Directorate of Health; Lilongwe City Assembly; Mr. J. Tsogolani, Directorate of Engineering, Lilongwe City Assembly; Mrs E Ulaya, Directorate of Commerce, Lilongwe City Assembly; Mr A Phalula, Directorate of Parks, Lilongwe City Assembly; Mr Y Nyanja, Directorate of Planning, Lilongwe City Assembly; Mr. V Mnjere, Directorate of Finance, Lilongwe City Assembly; Mr C Mbewe, Directorate of Administration, Lilongwe City Assembly.

Following introductions in the City Chambers by the Assembly Directorate, each of the Services represented outlined their experiences of the current system for waste management within Lilongwe. Vitto Mulula, Acting Chief Executive spoke of the challenges faced by the city in trying to manage waste collection with very limited resources. In particular, he drew attention to the lack of any adequate machinery for managing the landfill facility on the outskirts of the city. The city had been unable to replace a digger and a compactor following their breakdown and this was having a serious effect on their ability to manage the waste effectively at the landfill.

Vitto Mulula circulated information on the current daily programme for refuse collection and a report on income currently being generated from refuse collection in the city.

A map was produced which showed the location of the city dump, located on the outskirts of Lilongwe. There was general agreement that the location posed problems as lorries had to travel across the city each time to deposit their full loads. Some discussion followed on possible solutions to the problem, including the possibility of identifying a second landfill site at the opposite end of Lilongwe or identifying locations where refuse could be stored for collection at times when it would be more productive.

### **Site visits**

Derek Walker; Brian Kelly and Gillian Walsh were taken on a tour of the first of the commercial premises which had agreed to participate in the pilot project (and pay for a refuse collection service). These were:-

- Capital Hotel
- Kamuzu College of Nursing
- Shoprite supermarket
- Alliance One tobacco plant

In addition to assisting colleagues to set up the new cleansing route, the site visits also enabled the waste management team from Glasgow to gain an understanding of the challenges faced by Lilongwe City Assembly in managing their waste and to offer advice on possible solutions.

All four locations had basic refuse containment in the form of black plastic bins. The refuse storage areas at the supermarket and the hotel were messy and littered with refuse. The College of Nursing was slightly better organised but it was noted that clinical waste was mixed in with regular waste. Derek Walker advised David Mwenifumbo that these locations would be ideal for the proposed project as the new style of bins would contain the refuse and also reduce the amount of manual handling of the waste.

The Alliance One tobacco plant was also on the list of premises which would benefit from the proposed new service. It was noted that this plant had over 4000 employees and would now be serviced on a daily basis as a result of the new proposals.

### **Tuesday 9<sup>th</sup> September 2008**

#### **Site visits**

- **Lilongwe Central Market**

Waste Management staff from Glasgow were shown around Lilongwe Central Market area. They were then invited to recommend ways of improving the refuse containment within the market. Some of these proposals were fairly straightforward, i.e. replacing the metal drums with actual refuse containers to avoid spillage and make it more difficult for vermin to access the waste. Others were equally simple but seemed to cause more difficulty for Lilongwe City Assembly, i.e. introducing a permit system for market traders which would remove the need for the Assembly to employ a warden to visit the market every day to collect the fees. The traders could opt to apply for either a weekly or a monthly permit, depending on their own

needs. Following a period of adjustment, it would be made clear to the traders that no permit means no access to the market. There was some debate amongst the staff from Lilongwe City Assembly that they would struggle to get support from their elected members as they felt such a scheme would not be popular with the traders. It was pointed out by Glasgow City Council that sometimes, difficult decisions must be taken to ensure the long term success of areas such as the market.

- **Visit to composting sites**

The composting sites are a relatively new concept for Lilongwe City Assembly. They are very small scale, employing no more than a handful of volunteers who are mostly female. The operatives are responsible for ensuring the refuse is monitored and contains no contaminants. Having reviewed all the sites currently up and running in Lilongwe, Glasgow City Council advised that a greater emphasis on composting could possibly generate revenue for Lilongwe City Assembly from the sites themselves via potential customers. The current level of activity however was not enough to make any significant impact on revenue.

- **Disused landfill sites**

The first stop was to two disused landfill sites. It was immediately apparent that scavengers were searching and digging through the refuse looking for metals to sell. Lilongwe City Assembly agreed with Glasgow City Council that this is a very dangerous practice which can often result in the refuse collapsing in on itself. Glasgow City Council advised that the first and most obvious course of action would be to prevent scavengers accessing the landfill site by way of a boundary fence or patrol.

Whilst touring the landfill site, a local man, whose house bordered the site approached the group and indicated a well that he had dug and which his family were now using. On hearing of the health risks associated with drinking water affected by leachate, he agreed to use the main well provide by Lilongwe City Assembly. Officers then organised for the well to be filled in.

From this exchange, it was unclear whether Lilongwe City Assembly was unaware that some villagers had decided to provide for themselves in this manner or if they were aware and had not explained the dangers.

**Wednesday 10<sup>th</sup> September 2008**

#### **Site visits**

- **Current landfill site**

The landfill site in current use was also plagued by scavengers, even in those sections of refuse which had been set alight. Both Lilongwe City Assembly and Glasgow City Council agreed that this was an extremely dangerous practice and should be stopped as a matter of urgency. On leaving the site, the group watched a number of children running after the refuse collection vehicle and attempting to jump onboard. Lilongwe City Assembly explained that this is a common sight and has led to deaths in the past. Once again, the advice offered was around security measures to dissuade unauthorised persons from entering the landfill.

- **City Assembly vehicle workshop**

Glasgow City Council personnel were taken to the workshop to see where the Lilongwe City Assembly vehicles were repaired and maintained as this would be where the refuse collection vehicles and wheeled bins, donated by Glasgow City Council, would be kept. It was noted that at least 12 vehicles, as well as around 20 skips were located around the yard, all in varying states of repair and all beyond use. Glasgow City Council enquired why these could not be sold as scrap and were told that this was a lengthy process, involving gaining permission from the District but that the process had been initiated.

It was clear that the workshop had a far greater number of mechanics etc. than was warranted by the number of roadworthy vehicles.

### **Thursday 11<sup>th</sup> September 2008**

#### **Presentation by stakeholders – Lilongwe City Assembly**

Lilongwe City Assembly had assembled other stakeholders in solid waste management, such as universities, private sector companies and NGO's to present their thoughts on what Lilongwe City Assembly could do to improve the current situation.

This was a very constructive meeting and an excellent opportunity to discuss the most appropriate way forward in terms of managing waste within Lilongwe and within the constraints faced by Lilongwe City Assembly. Items discussed ranged from re-cycling to projects aimed at getting the young scavengers off the landfill and into education and training.

#### **Site visit to Bwaila Hospital**

The Matron showed the group around the Hospital, pointing out how the hospital disposes of its clinical waste.

It was noted that the incinerator is not always used due to frequent fuel shortages. A placenta pit is used as an alternative means of disposal when the incinerator is out of use. General/normal waste is stored in skips and then uplifted when required.

There was some discussion with the Matron on improved methods for managing the clinical waste of the hospital such as replacing the bins with wheeled bins with lids, increasing the frequency of uplifts etc to prevent a build up of refuse.

It was also brought to the Matron's attention that clinical waste, including syringes etc. was being disposed of in the skip meant for normal waste. A health hazard, and particularly dangerous in Malawi with its high incidence of HIV/AIDS and where children frequently climb into skips looking for goods to sell.

### **Friday 12<sup>th</sup> September 2008**

Lilongwe City Assembly had assembled a number of stakeholders in waste management in the city to discuss the way forward and to finalise the details of the planned route. They also took the opportunity to present a proposal aimed at promoting health education on solid waste management to urban schoolchildren...

Glasgow City Council staff were, however, very disappointed to learn that the refuse collection vehicles had still not arrived in Lilongwe despite assurances from Lilongwe City Assembly that everything was on schedule and that they were expected to arrive before the visit from Glasgow. It appeared that there were some issues around the delivery of the vehicles about which Lilongwe did not seem keen to share with Glasgow.

In fact the vehicles did not arrive in Lilongwe until early in 2009.

#### **OUTCOMES**

1. The week spent in Glasgow, work shadowing Glasgow City Council staff exposed Lilongwe City Assembly staff to up to date methods in the construction and operation of a modern landfill site and will enable them to plan waste management services more effectively in Lilongwe.
2. The donation of two refuse collection vehicles and wheeled bins will assist Lilongwe City Assembly to run a more efficient refuse collection service.

3. The training given to the vehicle maintenance staff from Lilongwe City Assembly regarding the repair and maintenance of the refuse collection vehicles will ensure that the best use is made of the vehicles and that they give good service for years to come.
4. The advice given on health and safety issues should assist Lilongwe City Assembly to improve safety at the landfill site.
5. Lilongwe City Assembly should be able to improve the amount of recycling of materials such as glass, plastics, cardboard and metals that they currently do by adopting some of the proposals of Glasgow City Council, i.e. providing skips, clearly marked with the items which should be deposited within and by placing them at key locations, i.e. Central Market.
6. Refuse collection at the Central Market should now be improved by replacing metal drums with the new bins.
7. Hygiene standards should greatly improve at all of the locations where the new refuse collection system is implemented.
8. By taking up some of the proposals of Glasgow City Council, i.e. introducing a permit system at the markets, Lilongwe City Assembly should be able to make better use of the existing labour force.
9. The project, if successfully implemented and managed, will be an example of good practice by those companies which have already agreed to adopt the new arrangements and should also encourage other businesses to request the service.
10. Through increased revenue, the project will enable Lilongwe City Assembly to fund further improvements to the cleansing service. (A specific bank account has been set up for the project by Lilongwe City Assembly in order to ring fence the income generated).
11. Monitoring reports noting the weight of refuse collected and the income generated will be provided on a regular basis.
12. The project will be officially launched by a Senior Government Minister, thereby ensuring that interest will be generated locally in Lilongwe and elsewhere in Malawi.

## **Conclusions**

Overall, the project has progressed as expected. One area of significant delay was in getting the vehicles from Durban to Lilongwe. It had been agreed with Lilongwe that Glasgow City Council would be responsible for getting the vehicles as far as Durban and Lilongwe City Assembly would bring them the rest of the way. As noted, however, Lilongwe seemed to be experiencing severe difficulties in getting the vehicles from Durban to Lilongwe and was unwilling to provide Glasgow City Council with accurate information on the progress of the vehicles. Glasgow City Council was eventually advised that the vehicles arrived in Lilongwe in mid January 09 and that the project is now up and running.

## **Future developments**

- Glasgow City Council is exploring the possibility of sending more wheeled bins from the UK to increase the potential to expand the project. (More bins will result in more contracts with customers who are willing to sign up to the improved service being offered).
- There is a desperate need within Lilongwe City Assembly for heavy plant such as a bulldozer, a tractor, a back hoe and a compactor for use at the landfill site. It may be possible to source these in Scotland but plant such as this is quite expensive to

export to Malawi. Further investigation will be necessary to decide on the feasibility of providing such equipment to Lilongwe City Assembly.

- Composting is one area which could be expanded within Lilongwe, at no great cost to the city. Further discussion is needed with the Assembly to explore how Glasgow might assist in developing this potential source of revenue.
- Lilongwe City Assembly is keen to develop health promotion in schools. This would require some financial assistance as well as input from the relevant staff in Glasgow City Council.

DW/BK/GW  
February 2009.

