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Picking at waste facilities – scavenging or entrepreneurship

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ABSTRACT
Picking at landfills is a reality at most landfills in South Africa. It is often the poorest community members that resolve to picking as a way of making a living, typically under conditions that are not conducive to their health or safety. However, at a number of waste sites, these activities have been formalised and transformed into entrepreneurial small businesses. Instead of only focusing on recovery of materials with potential value to formal recyclers, entrepreneurs now find innovative ways of adding value to the waste materials, thus earning a living through business activities at these facilities. Although picking at landfills cannot be encouraged, this paper reports on a few examples of such entrepreneurial activities which are adding value to waste recovery and recycling, and creating jobs as a consequence. It further comments on potential regulatory instruments that can be employed towards the formalisation of these activities. The purpose of such a formalisation should be to support the entrepreneurial initiative and the resultant job creation opportunities, while supporting national policy initiatives put forward in the waste hierarchy.

1. INTRODUCTION

Picking at landfills is a common sight in developing countries (Johannessen and Boyer, 1999), having recently also spread to the kerbside in urbanised areas in South Africa (Fiehn and Ball, 2005). Picking is usually driven by poverty in response to unemployment (Taylor, 1999; FIehn and Ball, 2005) and forms part of the survival strategies of the chronic poor who cannot participate in the mainstream urban economy (Masocha, 2006). Landfill pickers are often regarded as a shameful nuisance, and their contribution as a vital component of a viable waste management strategy is rarely appreciated (Rankokwane and Gwebu, 2006). Even though pickers are not always the poorest of the poor, the act of waste picking is generally ascribed the lowest status in society (Medina, 2000), with the activity being labelled as "*backward, unhygienic and generally incompatible with a modern waste management system*" (Wilson, et al, 2006:798).

The failure of the formal solid waste sector to provide adequate waste collection and transportation systems creates an environment in which the informal waste sector can thrive (Noel, 2010). A Malaysian study reports that "*recycling practices are limited to those carried out by the scavengers*" (Omran et al. 2009:281). According to Masocha (2006) pickers from developing countries collect certain waste material for subsistence (food clothing and shelter), or to exchange or sell. Recovery of recyclables requires low-skill and comes with on-the-job training (Masocha, 2006) in identifying wastes with a potential value (Wilson, et al, 2006). With more than 90% of all payments in cash, it is a fairly easy way, and one of the few feasible options, for the economically disadvantaged to generate an income and thus earn a living (Masocha, 2006). The low education levels required in the informal waste sector could be contributing to the relatively high numbers of waste pickers found in developing countries (Medina 2000).

The aim of modern waste management, adopted in the South African Waste Act (RSA, 2008), is to move 'up the waste hierarchy' with disposal as a last resort. The most important aspects to implementation of the waste hierarchy are the extensive reuse, recovery and recycling of materials, which are often carried out mainly by the informal sectors in developing countries (Visvanathan and Trankler, 2003). It would therefore seem ironic to move forward while deliberately eliminating a rather efficient component of the existing recycling system (Wilson et al, 2005). In addition, the Millennium Development Goals (UN, 2005) focus development efforts on poverty alleviation. Unless these jobs, and associated income, can be moved up the waste hierarchy to e.g. kerbside collection of recyclables, it would be counter-intuitive to remove the means of livelihood from a large segment of the urban poor (Wilson et al, 2006). The latest unemployment figures for South Africa indicate an unemployment rate of 25.2% (Statistics South Africa, 2010) with the Department of Trade and Industry have identified the recycling industry as having huge potential for job creation, especially in the collection of recyclables (the DTI, 2009).

In developing countries, the informal sector plays a significant role in diverting recyclable materials away from waste disposal towards recycling (Sembiring and Nitivattananon, 2010). The informal recycling sector referred to is defined as individuals that provide a service or product within a society, but their financial contribution to the economy is not formally tracked (Pikitup, 2004). The nature of the informal sector is such that accurate data on numbers of informal sector recyclers and quantities of material they collect are not available (Pikitup, 2004). In 2004 an estimated 4400 informal collectors of recyclables operated in the City of Johannesburg metropolitan area (Pikitup, 2004). Up to 2% of the population of urban cities in Asia and Latin America survives by picking at landfills (Medina 2000).

This study forms part of ongoing research which gave the authors the opportunity to frequent waste management facilities in various municipalities in South Africa. This paper addresses the reality of waste pickers in South Africa, as a developing country, the role they play in the waste hierarchy, and their entrepreneurial skills compared to being unemployed. These observations are strengthened by a desktop study of similar examples published to date. Possible ways in which this 'sector' can be 'formalised' through regulatory instruments without changing the circumstances that currently make waste picking a viable option for the many people working in this field, is explored.

2. METHODOLOGY

Primary data was collected by means of a literature review (desktop study) combined with personal observations made in seven municipalities across three provinces in South Africa. Observations revealed many entrepreneurial activities linked to picking and scavenging. Innovative ways of harvesting "waste" and the value added to this "waste" was photographically captured at the waste facilities. Discussions with the "entrepreneurs" probed into the financial sustainability of waste picking activities. The cooperation between the formal and informal waste management sector was also observed.

The facilities where the practices have been observed are kept anonymous to prevent harm to any of the providers of information for the purpose of this study.

3. RESULTS AND DISCUSSION

Although regarded as a nuisance by the public and not necessarily welcomed by the formal recycling industry, the majority of recycling occurring within the boundaries of the City of Johannesburg, is through informal collection outside businesses, on the streets, at illegal dumps and at storage facilities (Pikitup, 2004). Throughout South Africa, pickers are a common site. Many pickers earn a daily living by collecting recyclables at landfills or transfer stations and selling it e.g. at buy-back centres and to middle men in the recycling industry.

According to Wilson et al. (2006), there is a direct link between the level of structure of the informal recycling sector and the capability of the people involved to add value to the secondary materials: "*the less organised the informal recycling sector is, the less the people involved are capable of adding value to the secondary raw materials they collect*" (Wilson et al, 2006: 800). A number of entrepreneurial activities were observed where waste pickers added value to the recovered materials to enhance the value and resale potential.

3.1 Subsistence and buy-back centres

Many South Africans that would otherwise have been a burden to the state, earn a daily living through waste picking. The number and age group of pickers per facility vary. This being said, the sighting of children at landfill sites is not uncommon. At a buy-back centre, both a child and an elderly person was observed trading recyclables for cash (Figure 1). Informal pickers in South Africa can earn as much as R120/day from sorted waste collected, while waste with the highest return for the amount of effort would be the most popular (Buyisa-e-Bag, 2006). Receiving cash on a daily basis is a necessity in areas where infrastructure (housing, secure lock away options, and preserve mechanisms) is such to force subsistence living.

Pickers' daily labours have a direct impact on their income at the end of the day. It was observed that bad weather did not deter pickers from showing up at a landfill (Figure 2). Similarly, incoming waste containing recyclables with the highest resale value would be the most sought after, resulting in other recyclables, which might have a higher environmental impact, being left untouched on the landfill sites (Figure 2).

The formal waste management sector recognises the value of pickers by providing lock-up facilities where recyclables can be stored overnight until viable quantities have been collected (Figure 3). The formal sector

also makes provision for picking at transfer stations, providing opportunities and space for pickers to perform their duties (Figure 3).

Figure 1. Participants in the informal waste management sector includes the young and the old

Figure 2. Waste pickers 'working' side by side with nature's own scavengers in the cold and rain (left), and trained eyes scan through incoming waste looking for recyclables with high resale value, while abandoning the 'sea' of plastics around them (right)

Figure 3. Cages at a landfill site where pickers can keep the recyclables until it is being sold (left), and pickers taking a rest while waiting for the next load of waste to arrive at a transfer station (right).

3.2 Entrepreneurial activities

Building materials (e.g. bricks, concrete and scrap metal) recovered from dumpsites in Zimbabwe are reportedly sold to small-scale entrepreneurs for construction of tuck shops (Masocha, 2006). Some materials such as bricks, and concrete stones require no processing before they are sold, while other materials such as stone is recovered from concrete slabs (Masocha, 2006), converting the waste materials into reusable items with resale value. Similar observations were made in South Africa where recovered bricks are sold at varying prices per brick, based on the type of brick (Figure 4).

Garden waste recovery also poses some entrepreneurial opportunities as was observed. Plants recovered from waste sites are planted in pots and sold to interested parties (Figure 4). At one drop-off site in Kwazulu Natal a make-shift nursery was constructed from shade netting (Figure 5). This type of entrepreneurial activity can be expanded to a profitable, full scale operation if combined with the benefits that a composting facility can offer.

Figure 4. Sorting and selling of bricks at a landfill site (left) and recovered potted plants and other usable household items for sale (middle and right)

Figure 5. Shade netting protects salvaged plants awaiting resale from the “nursery”

Another significant entrepreneurial activity observed in Gauteng is the manufacturing of dog kennels from recovered wood. This activity is undertaken by an entrepreneur assisted by at least two co-workers. Recovered wood is used for the construction of the kennels. Each manufactured kennel is painted to add further value and is sold either directly from the dump or next to a nearby road (Figure 6). The co-workers are proud of being involved in this venture and managed to improve their societal status from waste pickers to craftsmen. Masocha (2006) observed the manufacturing of various metal products such as window frames, gates and door frames from collected scrap metal in Zimbabwe.

Figure 6. Construction of dog kennels, the painting, and eventually a proud entrepreneur showing off the products

At a drop-off centre in the Western Cape an entrepreneur used recovered parts from discarded items to repair other similar items for resale. Usable furniture is also recovered. According to the entrepreneur, he is able to make a good living for him and his family.

Figure 7. Furniture, electronic and electrical appliances showcased for resale at a drop-off centre

3.3 Formalising the waste sector

In many cases policies strive for the elimination of scavenging by enacting bans and trying to find alternative employment for informal waste pickers. However, a comparison of costs and benefits of picking is rarely conducted (Medina, 2000). Policies on informal sector recycling are largely negative since they have traditionally been driven by the need to control public health and the environmental impacts of inadequate solid waste management (Medina, 2000; Wilson et al, 2006). As such they may be characterised as repression, where pickers are harassed by security staff and police (e.g. Colombia); as neglect (e.g. in parts of West Africa); or as collusion, where pickers are tolerated in return for bribes or support to political parties (e.g. Mexico) (Medina, 2000). A more positive approach would be that of stimulation, where the economic, social and environmental benefits of picking and recycling is recognised (Medina, 2000). Nevertheless, picking is acknowledged as a labour intensive way of informal waste management in developing countries (Bogner et al. 2007).

Both environmental health and "*livelihood conditions of recyclers*" would improve through collective recycling schemes (Gutberlet, 2008:667). Supportive policies range from legislation of picker activities, encouraging the formation of cooperatives, the awarding of contracts for collection of mixed waste and/or recyclables, to the formation of public-private partnerships between local authorities and pickers (Medina, 2000).

Efforts to eliminate scavenging and to encourage scavengers to engage in other occupations usually fail (Medina, 2000; Palczynski, 2002; Jahnel 2010). However, compromises are possible through promoting other options for pickers and buyers. Palczynski (2002) states that it is preferable that waste picking occur at transfer stations or at household level (kerbside) since transfer stations are located closer to the city and are therefore more accessible to pickers. It is also easier to monitor waste picking at transfer stations (Palczynski, 2002). In the absence of pickers, landfill operations can proceed without interruption and with reduced risk of injury to members of the public (Palczynski, 2002). In Bogota, the ban of picking at landfill forced landfill pickers to become street pickers (Medina 2000). Street pickers are less productive, because they have to walk longer distances and collect less material per day (Medina 2000). Thus, the landfill ban lowered pickers' income significantly, forcing them to sleep on the street until they had collected acceptable amounts of recyclables (Medina, 2000).

If pickers persist at landfills, licensing and cooperation between pickers and municipal staff can help minimise problems (Medina, 2000). Providing basic health services such as vaccinations for infectious diseases and tetanus to pickers is another approach which has been followed in cities such as Bangkok, Cairo and Seoul (Palczynski, 2002). Mexican cities usually require that anyone wishing to recover materials from dumps/landfills obtain a concession (Medina, 2000). At a landfill site in Kwazulu Natal the introduction of a "licensing" system was observed where health concerns and the presence of children on site were addressed. Pickers apply for a "licence" at the municipal waste manager. Conditions of the "licence" preclude children and include a requirement to wear protective clothing while picking at the site. The conditions are enforced by the security guard on site. Ultimately, the "*challenge for the future is to provide safer, healthier working conditions than currently experienced by scavengers on uncontrolled dumpsites*" (Bogner et al. 2007:594).

4. CONCLUSIONS

This study is a preliminary study which provides scope for further investigations into the many aspects of the informal waste sector, and in particular, the picking of valuable waste material.

Informal recycling systems seem to play an important role in solid waste management of municipalities. Waste pickers carve a living out of their daily litter picking that provide them with both an income and a dignity in a "world" which is described by Medina (2000) as being ranked as having the lowest social standing. The formation of co-operative societies or micro-enterprises with organisational and technical support could be an initial step towards promoting the social rehabilitation and alleviating the unacceptable socio-economic conditions in which waste pickers live and work (Schübeler et al, 1996). It is possible to considerably increase the job stability and earnings of informal sector workers, and to enhance the effectiveness of their contribution to waste management (Schübeler et al, 1996).

Industries that consume recyclables in developing countries encourage and support the existence of middlemen or waste dealers between companies and the waste pickers in order to assure an adequate volume and quality of materials (Medina, 2000). Industry demands a minimum quantity from their suppliers and will often not buy materials from individuals as they require material to be cleaned, baled, crushed and sorted. The formation of waste picker cooperatives is an attempt to circumvent the middlemen and thus pay higher prices to cooperative members (Medina, 2000). Higher prices paid to the cooperative members translate into higher potential income and an associated higher standard of living for the waste pickers. Efforts to promote the creation of such cooperatives are common in Asia and Latin America (Medina, 2000).

It has become increasingly evident that incorporating existing informal recycling systems into the operations of formal municipal solid waste management can bring significant benefits. Strategic planning of municipal waste management systems must document, understand and build on existing informal collection and recycling systems. Western experience shows that it is very expensive to establish new formal recovery systems once existing informal ones have been allowed to decline or disappear (Wilson et al, 2006).

With recycling in South Africa gaining momentum and more and more recycling activities at drop-off centres and landfills being formalised, the sustainability of such a more formalised system in South Africa, and the reasons for the failure to absorb pickers into the formal recycling sector should be investigated/researched.

Entire families are sometimes organised to pick at landfills thus increasing their potential to earn a decent income. Formalising picking will undoubtedly exclude children and the elderly from partaking in income generating activities, potentially negatively impacting on the income generation potential of poor families. Alternative means to augment income in such instances needs to be found.

Changes to their current "lifestyle" are not necessarily acceptable to the waste pickers. Many waste pickers seem to prefer their 'occupation' because of the daily income they earn, they have a high degree of flexibility in their working hours, and they do not report to a manager (Medina, 2000). Consequently, waste pickers may be reluctant to adopt changes that affect their income, working and living conditions (Median, 2000). Waste picking at landfills has come a long way from just a focus on recovering material to sell to the formal recycling sector, to adding value to material and thus enhancing the resale potential. These entrepreneurial activities, already evident in South Africa, require a certain level of organisation of the informal sector in order to flourish. More detailed research will be required to understand the dynamics of this system if entrepreneurial activities in this sector are to be encouraged.

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