The Pharaoh's Garbage: Growth and Change in Egypt's Waste Management System

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Mahmoud is 45. The city's dust and grime is ingrained in the deepening creases of his brow. It is as close to him as his skin. He is our tour guide for the week and we are, at present, in his car, navigating the crowded traffic of Cairo.

"Is the city cleaner?," I ask him as we dodge a woman with her arms full of the next day's food provisions. I am referring to the changes that have taken place since the waste management of Egypt's major cities was taken over by multinational corporations.

"The streets are cleaner," he says with little conviction.

"Really?" I look out the window at a passing street sweeper, hunched over his broom, in a tired green uniform. If things are really better, I hate to imagine what the streets were like before. An image of the pyramids runs through my mind. The mighty giants of Egypt flanked in trash. "What about the garbage collection?"

Mahmoud looks puzzled. "Who collects your garbage? Do the new companies collect it or do the Zabaleen?"

"Oh. The Zabaleen. They have always collected it."

"What about the big companies? Aren't they there? Aren't they collecting anything?"

My tour guide turns to me and gives me a look as if I just asked whether red is really green, or if there really is any such thing as a traffic light in Cairo. "Yes but we don't use. It is not good for us."

As we pull out of another near crash, I realize his statement probably applies as much to the traffic laws as it does to the new waste management system.

Since the 1940s, the Zabaleen, or "garbage collectors," have gone door to door in the streets of Egypt's major cities. They not only collect the cities' trash, they sort, reuse and recycle it. While the conditions in which they live are at best unsanitary and often dangerous, non-governmental organizations (NGOs) and local individuals have helped the Zabaleen build a stable and independent industry from nothing more than garbage.

Beginning in 2000, however, the Zabaleen were forced to confront a new challenge when Cairo, Giza, Alexandria and other cities in Egypt stopped renewing the permits that allowed them to travel their collection routes. At the same time, these cities began to contract waste management to foreign companies. These companies were hired to combat the rising sanitation problems in Egypt, a task that, even friends of the Zabaleen admit, public management and the Zabaleen alone were unequipped to handle.[1] While bringing promises of a new and cleaner Egypt, this privatization threatens to destroy an industry and livelihood that took decades to build. The industry of the Zabaleen has served as an inspiration for the construction of recycling and waste management systems in cities around the world, such as Manila, Bombay, and Los Angeles.[2]

More than six years have passed since the first contract was signed in Alexandria, yet Egypt is still debating the sustainability of the private system. Throughout these years, the Zabaleen community has remained intact, although it struggles to survive in a shifting environment. The plight of waste management in Egypt is a small example of the need for a new paradigm of growth and reform in the developing world. Such a framework would build up local initiatives in concert with the work of international companies to create a distinct and culturally sensitive structure for development.

History of Waste Management in Egypt

The Zabaleen came into existence in the late 1940s and early 1950s. Crop failure and shrinking economic opportunities forced Coptic Christians and other migrants to move from the rural south of Egypt to more urban areas in the north, specifically to Cairo.[3] There they discovered the industry of waste management. As the demand and profit in garbage collection grew, so did the number of Zabaleen. Today, the largest concentration of Zabaleen can be found in Cairo, in the district of Mansheya and the Mokattum Hills.[4] The Zabaleen communities, or "garbage villages," that surround the centers of Egyptian society are slums built on urban waste. The communities remain largely poor and uneducated.[5]

The Southern Nile Valley migrants were not the first people to collect garbage on the streets of Cairo. Before they arrived, the Waahi's, named for their desert origins, had been making rounds in the capital. The Waahi's were interested in the value of recycled paper, but not in the organic waste produced by households. As a result, they only collected some of the garbage that was available.[6] For the Zabaleen, organic waste was a much more valuable material. Even without land, discarded food enabled the Zabaleen

to raise pigs and goats, two of the few animals able to survive on a diet of garbage.[7] Although the Zabaleen soon came to outnumber the Waahi, the latter used their experience to their advantage and integrated themselves with the Zabaleen as the managers of collection routes and the middlemen in recycling plants.

The Zabaleen collectors, as well as other migrants to the city, generally settled on the periphery of Cairo. These locations gave them freedom from the fashionable, but congested urban center. The distance also allowed the Zabaleen to use traditional survival techniques, such as raising livestock, while still having access to urban garbage collection routes and employment opportunities. As migration from the country to these fringe regions increased, the settlements increased in number and size. Urban sprawl became a phenomenon of the poor and rich alike, and Cairo grew in size.[8]

As Cairo expanded and land became scarce, settlers across the city were routinely evicted and forced to move from one place to another. The majority of the evicted Zabaleen eventually settled in the Mokattam Hills, where they built homes out of tin, cardboard, fallen rocks, and any other available materials. By 1983, at least four "garbage villages" were established in Cairo's city of 14 million people.[9] Such villages were also formed in other cities, such as Giza and Alexandria, and their development was similar to that of Cairo's.

The Zabaleen recycled up to 80 percent of the trash they collected. By comparison, in the mid-1980s, Seattle's recycling rate of 37 percent was the highest in the US and most of Europe.

The "garbage villages" are not located far from the neighborhoods surrounding the growing cities. However, it is as if they exist in a separate world. The road that winds its way through the district of Menshya to the Mokattam Hills is lined with garbage thrown from the carts and trucks of the Zabaleen. In the Zabaleen neighborhoods, piles of organized and separated garbage line the streets, and pigsties and garbage bags overrun walkways.[10]

The work of the Zabaleen, who until recently collected and reused approximately one-third of Cairo's waste, is under-appreciated. Their appearance is repulsive to the people of Cairo, as is the smell of their carts, which often get stuck in Cairo's congested traffic. Dr. Laila Iskander Kamel, who has worked closely with the Zabaleen community, The Community and

Institutional Development, and The Association for the Protection of the Environment, notes in her book, *Mokattam Garbage Village Cairo, Egypt*, "A distinct feeling of being unwanted and unwelcome in the modern section of Cairo added to the increased sense of isolation felt by garbage collectors."

In the 1980s, a number of high-profile projects were initiated to improve the living conditions of the Zabaleen.[11] With the help of missionaries and NGOs, the Zabaleen built schools and workshops where adults and children could get an education while earning an income. They also developed new recycling and refining plants that kept more of the profit from garbage collection within the community. Two such NGOs are the Association for Garbage Collectors (ACG) and The Association for the Protection of the Environment (APE). ACG is a locally created and operated NGO, well known for its industry-building activities. APE has worked in Cairo's Mukattom Village to create educational opportunities in conjunction with income-generating employment.

In 2000, changes in the municipality began to threaten the survival of the Zabaleen. The government of Cairo began to push the community to relocate to the outlying district of Torah, allegedly due to environmental concerns.[12] The city then launched a project that hired municipal and private sector employees to collect and move garbage to a dump outside the city. The Zabaleen were asked to rent a station at the dump, where they could raise animals and sort through the masses of trash for usable refuse. Both moves were extremely costly to the estimated 25,000 to 27,000 Zabaleen living in the Manshiet Nasr district at Mokattam Hills.[13] However, as Coptic Christians with minority status in a predominantly Islamic population, they could do little to prevent these changes. The challenge for the Zabaleen was how to adjust to the nationwide move towards privatized sanitation and the development of a more modern waste management program.

Trends and Developments in the Growth of Waste Management

In the early days of the Zabaleen, fathers and sons would travel by donkey cart every morning, going door to door, to collect garbage around the city. Each household paid a monthly fee, part of which went to the Waahi middlemen, who managed and assigned the collection routes. Most of the benefit for the Zabaleen came from the extremely efficient ways they used almost every piece of the city's waste.[14] Once the garbage was brought back to the Zabaleen district, women and children separated it. Anything potentially recyclable was sold to middlemen from the recycling centers.

Food and organic refuse was used as feed for the pigs and goats. As Christians, the majority of Zabaleen have a particular advantage within Egypt's various markets, because Islam prohibits the handling of pigs. The Christian Zabaleen are able to raise these animals for their own nutritional needs, as well as to sell to hotels, other tourist locations, and non-Muslim residents.

With the help of NGOs and local ingenuity, the Zabaleen were also able to develop a variety of different products from their garbage. Originally, food containers, oil containers, and other household items were cut up, melted, and sold to plastic manufacturers. Today, however, locals are increasingly developing their own manufacturing plants. These entrepreneurs find a thriving market in low-income communities, particularly in the south of Egypt. Some of their products include clothes hangers, pitchers, ice cream spoons, and lollipop sticks. Such items do not need to meet high quality control standards, and the production of them does not require written contracts. In addition, plastic bags are remade into new shopping or garbage bags, and old cloth is crushed and sold as mattress stuffing. Some local individuals have built aluminum smelters, which, though damaging to the environment, represent the potential for further production and management in the community. Tourists and hotels buy products such as woven rugs and other handcrafts that are produced in the villages. Tin, animal bones, glass, and organic compost are also reprocessed and sold to low-income communities and farmers all over Egypt.[15] The Zabaleen recycle up to 80 percent of the trash they collect.[16] By comparison, in the 1980s, Seattle's recycling rate of 37 percent was the highest in the US and most of Europe.[17]

The livelihood of the Zabaleen rests on the city's garbage. Likewise the city's environment and health has historically relied on the Zabaleen. This is by no means a healthy situation. The Zabaleen's animals feed on garbage, while their children play in it. Included in the rotting food that the women and children sort through everyday are hazardous hospital waste, broken glass, and rusted metal.[18] Without proper management, the garbage produced in Egypt's growing cities became too much for the Zabaleen and the poorly run government facilities to handle. This was especially true in the poorer neighborhoods, which had low value garbage that the Zabaleen did not collect.[19] Throwing trash into the street or burning it was common to all urban residents, including the Zabaleen, who used it as a means of ridding themselves of unusable waste. The garbage burning in Cairo became so great that it is said to have heavily contributed to the black cloud of smog that settled over the city in November of 1999 and which returns in some form every summer.[20] The situation clearly needed to be addressed. The question that remains today is whether foreign companies were the best answer.

"Privatization" is a term commonly used to describe the change from the old system of sanitation in Egypt to the new international company-based system. However, it is important to remember that the Zabaleen do not run a public enterprise. They have always been independent contractors who had, until recently, effectively monopolized the waste management industry, although it was one in which public facilities also operated. So while there are also many public waste facilities in Egypt being privatized, it may be more accurate to think of the Zabaleen's problem as an issue of industrial takeover and change.[21]

In October of 2000, Alexandria became the first Egyptian city to sign over the handling of solid waste management to an international company. Three companies (SoClean of Lebanon, FCC of Spain, and CGEA Onyx of France) bid for the contract .[22] In the end, CGEA Onyx, a division of Vivendi, signed a 15-year, $446 million contract to collect and treat one million tons of solid waste a year.[23] As part of the contract, Onyx was also given tax breaks, land it needed for its operations, and lowered customs duties of about five percent for essential imports.[24]

While bringing promises of a new and cleaner Egypt, this privatization threatens to destroy an industry and livelihood that took decades to build.

At the time, Alexandria, Egypt's second largest city, had a population of approximately 3.5 million.[25] The contracts were signed as part of a program by Governor Mohammed Abdel Salam Mahgoub to clean up the city. The Governor's project included the collection of trash from streets, beaches, homes, and factories, as well as sanitary disposal. It also called for the construction of leak-proof landfills and a medical waste incinerator.[26]

Incorporated into the effort was a campaign to acquaint the public with the new system which called for separating trash in homes and businesses and paying for collection as a portion of electricity bills. The latter of the two adjustments became a hot point of debate, as other cities adopted the same method of bill collection. People worried that their electricity would be cut off if they failed to pay the garbage bill. Secretary General of the Governorate of Alexandria at the time, Ahmed Abdel Salam Khalaf, explained to Nadine El Sherif in an article in *Business Today* that electricity was being used as an indicator of the standard of living through which the companies and

municipality could define the payment rates for garbage collection. Different segments of society were meant to pay progressive rates ranging from LE 1 to LE 10 ($0.20 – $2.20) each month.[27]

Inherent in the transition to the new system was the problem of job loss. While government employed street cleaners and garbage collectors were assured job security, private sector service company employees, as well as the Zabaleen were neglected. At the time that the contract was signed, Onyx agreed to employ 50 percent of the current government sanitation workers, with the government providing jobs for the rest. The Zabaleen and workers of private companies were simply told to find new jobs. Some suggested that they work for Onyx, which planned to employ 3,000 people. However, the offer was not guaranteed. Regardless, employment under Onyx did not pay nearly enough to maintain the Zabaleen standard of living, which was low even at that point.[28]

Because Alexandria is estimated to have a much smaller Zabaleen community than Cairo or Giza, it would have been a good place to experiment with the integration of local companies and NGOs into the new waste management system.[29] This would have been one way to provide the Zabaleen with job security. However, a precedent of non-integration was established, leading to problems in other municipalities with larger Zabaleen communities.

Using Alexandria as its model, Cairo began its own sanitation contracting. In June of 2002, FCC and Urbaser, both Spanish companies, signed 15-year contracts worth $25 million a year to manage waste in the eastern and western zones of the governorate. In August 2003, AMA Arab Environment Company (AAEC) of Italy and Arab Contractors (Osman Ahmed Osman & Company) also won a joint 15-year contract, worth $11.5 million a year, to clean northern Cairo. In its contract, AACE promised to take on some of the Zabaleen for front door collection. Though it claims ownership of the garbage that it collects, social pressures soon forced AACE to cut a deal giving the Zabaleen communities 50 percent of the collected garbage in return for their help in sorting.[30] There are other contracted companies working in the southern districts and other governates of the city.[31] According to General Mohamed Laban, then chairman of the Cairo Cleaning & Beautification Authority, foreign companies were typically chosen because of their "superior know-how."[32]

Cairo did not have the same luck in its transition as its smaller sister city, Alexandria. Six months after starting work, Urbaser and FCC incurred municipal fines of LE 12 million ($2 million). The fines were issued in response to citizen complaints of irregular collection and inadequate street

sweeping.[33] Giza has also faced problems in its transition to a privatized management system. Chief among them are resident complaints about the service quality and the payment system. In 2003, hundreds of citizens filed lawsuits against the government for tacking garbage collection fees onto their electricity bills. Alexandria had previously faced a similar lawsuit, but the court ruled the system fair.

Jacorossi, a foreign company that signed a $7.6 million, 15-year contract for the Dokki, Agouza, and Imbaba districts of Cairo, had an easier start than its rivals. Its contract required International Environment Services (IES), a subsidiary of Jacorossi, to go door-to-door, replicating the Zabaleen, guaranteeing them a place in the new management. Due to the success that IES experienced, other companies are now also promising to take on some Zabaleen for door-to-door collection.[34]

Billing and other Controversies

In December 2004, Egypt's growing problems with waste management exploded. The Supreme Administrative Court ruled against the decree that linked garbage fees to electricity consumption bills in both Giza and Cairo. Nassim Habib Wasel of Giza originally brought the issue to the Court's attention in 2003. Similar complaints were lodged by hundreds of other residents in Cairo, Giza, and Alexandria.[35] Wasel claimed that charging garbage fees as a portion of the electricity bill was a violation of Egypt's constitution. "The governorate has violated Article 19 of the constitution, which says that imposing general taxes or fees without a law is illegal," Wasel said in an interview with the *Middle East Times*, "Therefore, if there is no law for garbage collection fees, it's illegal and violates people's human rights."[36] The administrative court agreed with Wasel and ruled that city residents do not have to pay any fees for garbage collection that are held in contracts endorsed by the Greater Cairo Company for Electricity Distribution (GCCED), the municipal sector responsible for the distribution of electricity for Cairo and Giza. The billing system was similarly cancelled in Alexandria.[37]

The billing system is, however, only the tip of the iceberg for many residents. The actual effect that the new companies are having on the cleanliness of the cities is ambiguous. While some residents living in wealthy neighborhoods have seen a positive change from the new system, most Egyptians seem to feel that the job is not being done right. Khalil Mohammed, the owner of a supermarket in downtown Cairo, said that he paid "LE 20 [about $20] every month for the garbage collection [even though] the garbage was not being collected regularly."[38] Residents have also complained that the streets

have become even more littered with trash since the foreign companies took over the time-honored jobs of the Zabaleen. Since December of 2004, many residents have gone back to paying the Zabaleen for their services. Even before the court's ruling, those who could afford it were paying both the garbage bill and the Zabaleen for their individual services. Many others boycotted the new billing system and refused to pay. It is hard not to laugh when one hears stories of unused garbage bins being wheeled away to be turned into drink coolers in Alexandria.

It would be unfair to blame the slow progress of the new waste management system entirely on the international companies. From the beginning, the companies faced a deep-seated bureaucracy. In Cairo, for example, new street cleaning operations were delayed for months due to the seizing of company equipment by custom authorities. Customs demanded that the companies pay them 30 to 40 percent of the equipment cost, rather then the five percent agreed upon in their contracts. While this was eventually resolved, other such disputes between the government and foreign companies have hindered the waste management system from the very start of operations.[39]

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Though the city residents have reason to complain, they are not doing much themselves to help the new system succeed. A 2,000 person survey conducted by Eric Denis in his book, *People and Population*, found that only 19 percent of respondents thought that the Egyptian government would effectively help them improve their environment. This is telling of the population's lack of faith in the political and bureaucratic situation in Egypt. Even more astounding is the finding that only eight percent of those surveyed had the motivation to rely on their own initiative to enrich their surroundings.[40] Salama Ahmed Salama, a writer for *Al-Ahram Weekly*, condemned both the people and the government in Egypt for failing to solve its waste management problem:

> "We seem to care little beyond what happens within our own houses. There are a great many people who [are] perfectly willing to spend hundreds of pounds on mobile telephones, on cigarettes and the like… [but] raise hell, the moment a few pounds are added to their electricity bill to pay for garbage collection."[41]

Salama's point is especially relevant considering the lethargy that often dominates the attitudes of Egyptian residents toward their participation in the new system. Most of the private companies collect the garbage building-by-building or street-by-street from garbage bins. At most, this means that if someone wants his garbage taken away, he must walk down the block to dispose of his bags. However small this task may seem, it appears to be unacceptable to many Egyptians who are accustomed to the door-to-door routine of the Zabaleen.

Salama is also critical of the government's attempts to raise the standards in waste management and other public sectors. Salama said, "The attention accorded to infrastructure, tourist and investment projects answers, first, to the interest of businessmen, while the prioritizing of particular neighborhoods is equally divisive. The results we see everywhere, as any sense of belonging is undermined, and the piles of rubbish grow." Generally, in areas where environmental improvements have been made, the credit is attributed to the initiative of foreign countries and companies. Vikash Yadav, assistant professor of political science at the American University of Cairo, writes in his article, "The Black Cloud of Cairo," "The sad point is that all of this is being done by foreigners for the Egyptian government, which seems to be unable to do much of anything to solve problems under its own initiative."[42]

Rather then searching for the best way to replace this system, the government should have challenged itself to find local ways to enhance it.

Yadav demolishes the reputability of government efforts in the waste management sector, "Rather than confronting the causes of air pollution head on (i.e. vehicle emissions, industrial waste, and trash burning), the government attempted to overhaul its garbage collection system." Yadav is a strong supporter of the Zabaleen community. He believes that the government, rather than contracting to foreign businesses, "should have built upon its local resources by formalizing the Zabaleen's entrepreneurial services." Yadav also, like many others, harshly criticizes the government for its lack of capability in building and maintaining sanitary landfills. This attitude is not surprising given the constant battles the government wages with both the residents and the companies over the location and health standards of Egypt's dump sites.

One of the best examples of the landfill dilemma in Egypt involves

Alexandria's major dump site at Borg Al-Arab. The site was built in 2001 as part of the 15-year contract between the Alexandria governorate and Onyx. It was designed as a dumping site for Alexandria's 3,000 tons of daily household garbage.[43] It is located no more than 500 meters from the city's north coast resorts and Bedouin population, which is significantly less then the 1,500 meters that Egypt's environmental protection laws demand.[44] Only six months after the dump was opened, *Al-Ahram Weekly* reported the dissatisfaction of residents. Complaints were made that noxious odors and an increased number of mosquitoes and flies had settled over the area. One resident protested, "Life has become unbearable. The smell and flies are horrible, horrible, horrible."[45]

The Alexandria bureau of the Egyptian Environmental Affairs Agency (EEAA) maintained that the landfill was "environmentally safe," and blamed the new problems on the open dumps and sewage systems of the surrounding villages.[46] However, in 2002, Cairo University's Environmental Research Center confirmed that the site was, indeed, an environmental hazard. Egyptian Prime Minister Atef Ebeid ordered that the landfill be transferred to another site at Al-Hammam within 30 days. Operations were moved temporarily. However, when the summer tourist season ended, Onyx moved its operations back to Borg Al-Arab. Onyx estimated that making a permanent change in the landfills location would cost LE 150 million. Furthermore, the Al Hamman is located 20 kilometers away from the city, which translates to a hefty increase in transportation costs. Neither Onyx nor the government wanted to pay these additional costs. Onyx argued that its contract absolved it from incurring such costs.[47] Today there are dump sites running in both Borg Al-Arab and Al Hamman, which, according to Onyx, are well insulated and underground. However, there are still complaints in other neighborhoods of Alexandria. In 2005, *Al-Ahram Weekly* reported discontent among the residents of Muselhi Street in Gheit Al-Enab. One store owner, Ahmed El-Qazzaz, was quoted as saying, "Everyday we see the Onyx vehicle [illegally] dumping waste right before our eyes, in broad daylight. They don't even bother to spray it with bactericides."[48]

The Effects of Privatization on the Zabaleen

"Could anything worse happen to us?," Romany Agaby, a Zabaleen resident of Giza, lamented upon hearing that the governorate had handed over the garbage collection in his area to a private firm.[49] Each city and contract has dealt with the issue of the Zabaleen differently. The contracts in Alexandria were written without mention of the Zabaleen, while in Cairo

officials from the government and foreign firms engaged in negotiations to include the traditional garbage collectors. However, every city experienced a certain degree of friction between the municipalities, the companies, and Zabaleen. Moreover, the problems the Zabaleen face and their role in the current debate over sanitation in Egypt can serve as guidelines in the shaping of Egypt's future waste management strategies and as an example to other nations and cities looking to integrate recycling and local initiatives into their own municipalities.

Alexandria has managed to have the smoothest relations with its Zabaleen. The small population of traditional garbage collectors that was operating in the area worked to the advantage of the companies. The Zabaleen were not included in negotiations or mentioned in the contracts that were signed between the municipality and the private firms. Because of the small population of Zabaleen, however, the community and the French company Onyx were able to reach "a gentlemen's agreement." Now, the Zabaleen can take any of the items that they want from the garbage containers, as long as they keep the surrounding area clean.[50]

The city of Giza, on the other hand, had a particularly unpleasant experience handing over waste management to the Spanish and Italian companies, FCC and Jacorossi. In February of 2003, Agaby and hundreds of other Zabaleen, took to the streets of Giza to campaign against the influx of foreign companies. This reaction resulted from a combination of the Zabaleen's ignorance of changing laws and trends, and a lack of communication or concern on the part of the government. As one journalist explained, "Although the contracts were signed over six months ago, many of the Zabaleen in Giza were, at first, not aware of this development affecting their livelihood."[51]

Learning from the experience of Giza, Cairo did a slightly better job dealing with the Zabaleen. In Cairo, the Zabaleen were kept better informed of the plans being made for the waste management changes. Discussions were held with officials and representatives from the government as well as with the private firms. Despite these deliberations and the promise of AMA Arab Environment Company and others to take on some of the Zabaleen for front door collection, the Zabaleen were not altogether satisfied.[52] Among their complaints were the narrow employment opportunities and the low pay that accompanied them. Adel Habil, a collector living in Muqattam, told *Al Ahram Weekly* that "LE 500 [about $83.30] is not acceptable. I make around LE 1,000 [about $166.7] per month from garbage collection. It is the bare minimum. I support a big family and have already been forced to take my children out of school."

Recycling and access to garbage for reprocessing are two other areas in

which the Zabaleen have been disappointed. The contracts awarded to the private companies give them ownership of the garbage that they collect. Though most of the companies promised to give the Zabaleen communities around 50 percent of the garbage in return for their help in sorting, that is only a fraction of what the Zabaleen had before. As Eid Ibrahim, a Muqattam Zabaleen, said, "Ninety percent of our work here in Muqatttam depends on the recycling of the garbage, so we simply could not give up the garbage, not even part of it, because our lives depend on it."[53]

> The lessons learned in Egypt show that it is not enough to replace domestic service structures with uniform international models.

Rather then sorting out the useful trash before it is sent to landfills, the Zabaleen are now asked to attend to the garbage at the dumpsite. Even Moheeb Abdel Ghaffar, a design phase executive manager of AMA Arab Environment Company, contends, "In the landfill, you'll get hotel waste which might be 100 percent recyclable, covered with road sweep, from which very little can be recovered. So I think the average recovery rate might be 50 percent."[54]

The survival of the Zabaleen has rested on their ability to fill in where the private foreign companies have been negligent, or have found obstacles to implementing their services. The Zabaleen have primarily been working in the informal settlements that surround Cairo and for households dissatisfied with the new companies. Times are hard, however, and it is evident even in the streets. Muqattam, an area normally teeming with life, and of course garbage, is quiet these days. The people are living in the shadow of an unstable future.

The Future of Waste Management in Egypt and Lessons Learned

Journalist Dena Rashed writes in "Unfinished Business" for *Al Ahram Weekly*, "Two years ago, Greater Cairo embarked on an ambitious project to overhaul the city's waste management system." The growth of a privately managed sanitation structure has so far experienced little success. When the national courts overhauled the waste management payment system, both the companies and the government should have reevaluated the system's compatibility with the needs and character of Egyptian society.

The private companies are suffering many setbacks. Fredric Duvelle,

managing director of Onyx, commented, "We clean and then in three hours the place is dirty again, and we have to start all over."[55] Onyx and AMA have managed to scrape out enough of a base for themselves in Egypt to expand their operations to the wider Middle East. However, others have not fared as well. Enser, for example, has dissolved its operations in Cairo. It is currently in arbitration with the government for its final payments. FCC is also rumored to be pulling the plug on its operations. Even though it has experienced moderate success, AMA executives contend that one has to "endure a miserable cash flow."[56] Judging from these developments, it would seem that the companies need all the friends they can get in their fight against the dirt and trash of Egypt. When asked if there was a possibility of building a system in which the Zabaleen and the new companies would be able to work side by side, Nemat Guenena, author of *Unfulfilled Promises, Women's Rights in Egypt*, answered, "Of course the relationship needs to be formalized."[57]

A strong, though poorly funded, waste management infrastructure existed in Egypt's cities prior to the arrival of the foreign companies. Rather than searching for the best way to replace this system, the government should have challenged itself to find local ways to enhance it. Foreign enterprise is certainly useful in solving the technical problems of landfill maintenance and waste treatment. However, even in Alexandria, a city with a waste production rate of 2,000 tons of garbage daily, waste management is a difficult task for a company in unfamiliar territory. The government should have supported the Zabaleen, while building up its own operations in less serviced areas. Meanwhile, the hired companies should have focused solely on the building and maintenance of landfills and waste treatment plants, as they became accustomed to a new city and country. It is likely that profit-seeking tendencies would have naturally hindered the adoption of such small-scale projects by the foreign firms. However, as the current system is flirting with dissolution, it may be time for the companies to rethink their policies. Functioning local systems should be enhanced, not demolished and replaced.

Egypt's city of Qena serves as a shining example of what can be achieved when local systems are supported rather then superceded. A city with a reputation for being "poverty-stricken, underdeveloped, and even criminal,"[58] Qena recently won two prizes for the triumph of its environmentally-led urban regeneration project. It was granted an ISO 14001 certificate, which is given to cities that operate municipal services at internationally recognized standards. It was also given the Mohamed Bin Rashid Al-Maktoum Award for Arab Management. This award recognizes public and private sector

organizations in the Arab world that show high leadership and management standards. Along with building up its architectural and scenic infrastructure, Qena revitalized its waste management system. Unlike Egypt's major cities, Qena did not achieve success in waste management through hiring outsiders, but rather through the enhancement of its existing garbage collection system. Ironically, this was done by moving from a local collection system that involved communal trash bins to the same door to door collection that the major cities have rejected. As Governor Abdel Labib explained, "The system creates jobs locally and ensures that the city is free of rubbish."[59]

The lessons learned in Egypt show that it is not enough to replace domestic service structures with uniform international models. Though it may often seem easier to simply abandon existing systems, governments should look within their own borders first before turning to foreign companies. Effective long-term solutions build on the old by incorporating the new. This can be advantageous to both local actors and international companies, the latter profiting by providing technical support and backing to the former. Qena's achievement is no small triumph. Egypt's larger, richer cities and the world as a whole, should take the example of Qena to heart, and first look within as they sift through and separate their own garbage.

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