CAIRO'S INFORMAL WASTE COLLECTORS: A MULTI-SCALE AND CONFLICT SENSITIVE PERSPECTIVE ON SUSTAINABLE LIVELIHOODS

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With 4 figures and 2 photos
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Summary: While waste management is a serious problem for many rapidly growing megacities in the global south, inhabitants in Cairo used to benefit from a comparatively well-functioning waste removal system. The Zabbaleen – informal waste collectors – have been collecting household waste since the beginning of the last century. In the 1990s however, this informal waste collection system started to become unable to cope with the rapidly increasing volume of waste generated by Cairo's inhabitants. Hence, in 2003 the city administration commissioned several European multinationals to take over the waste removal. This decision deprived the Zabbaleen of their previous entitlement to the waste, their main source of income. Based on qualitative interviews conducted in two Zabbaleen settlements in 2006 and 2011, this article explores the long-term consequences of this reform decision. The sustainable livelihood framework is used to evaluate the impact of the reform on the Zabbaleens' livelihoods. Although the Zabbaleen have utilized creative and flexible strategies to adapt to the new situation, their degree of vulnerability has increased considerably. In addition, the reform also failed to achieve the aim of an ecologically, economically, and socially sustainable waste management system. Drawing on insights derived from Bourdieu's theory of social fields helps to explain this disastrous outcome. Focusing on the competition and power relationships between all actors implicated in Cairo's waste management system, the analysis reveals that although the waste management system in Cairo is indeed a field in which the "global" and the "local" interact vehemently, the outcome of this interaction can only be explained by taking into account the intermediate national and local actors as well as the specific rules applying to the Egyptian political and economic field.

Zusammenfassung: Anders als in vielen explosiv wachsenden Megastädten des Südens stellte die Müllentsorgung in Kairo lange Zeit kein existentielles Problem dar. Seit Anfang des 20. Jh. entsorgten informelle Müllsammler, Zabbaleen genannt, den Haushaltsmüll. Dieses sehr effiziente informelle System wurde jedoch gegen Ende des Jahrhunderts durch die rapide wachsenden Müllmengen zunehmend überfordert. In einer radikalen Reformentscheidung übertrug die Stadtverwaltung 2003 das Recht zur Müllentsorgung auf mehrere europäische multinationale Müllkonzerne. Seitdem ist den Zabbaleen der legale Zugang zu ihrer einzigen Einkommensquelle, dem Müll, verwehrt. Gestützt auf 2006 und 2011 in zwei Müllsammlersiedlungen geführte qualitative Interviews untersucht dieser Artikel die langfristigen Folgen dieser politischen Entscheidung. Hierbei wird das aus der Entwicklungspraxis stammende Sustainable Livelihoods Framework verwendet, um die Auswirkungen der Reformentscheidung auf die Lebenssicherung der Müllsammler zu diskutieren. Obwohl die Zabbaleen kreativ und flexibel auf die veränderten Bedingungen reagierten, hat sich ihre Verwundbarkeit deutlich erhöht. Auch das Sollziel einer ökologisch, ökonomisch und sozial nachhaltigen Abfallwirtschaft wurde durch die Reform bislang nicht erreicht. Erklären lässt sich dieses ernüchternde Ergebnis nur durch eine gesellschaftstheoretisch erweiterte Analyseperspektive. Mithilfe von Bourdieus Feldtheorie wird der Blick konsequent auf die Konkurrenz- und Machtbeziehungen zwischen den beteiligten Akteuren gelenkt. Was zunächst wie ein „Globalisierungsschock" erscheinen mag, erweist sich so als Prozess, der nur unter Berücksichtigung auch der nationalen Ebene, und den hier herrschenden „Spielregeln" innerhalb der politischen Ökonomie eines Rentierstaates verstanden werden kann.

Keywords: Waste management system, livelihoods, informal waste collectors, Egypt, urban geography

1 Introduction

In many megacities in the global south waste is as much a problem as a solution. While city administrations struggle to keep their streets clean and to minimize health risks related to non-collected household garbage, many poor city dwellers regard waste as an important economic resource (cf. Köberlein 2003, 6–8). In Cairo this inherent "value" of garbage has enabled the emergence of an informal but highly effective and sustainable waste collection system. The waste workers, a group of mostly Coptic migrants

called Zabbaleen[1], achieved recycling quotes of up to 80%. Inhabitants paid only minimal fees for their garbage collection services. The Zabbaleen lived and worked in disastrous conditions in settlements on the fringes of the city and were highly marginalized and stigmatized but were still grateful for this income opportunity (Meyer 1987; Ibrahim 2004; Iskander 2005a).

In the 1990s, however, this waste collection system became overburdened by an exponential increase of household waste generated by modified consumption patterns of an ever growing population. In an attempt to reform the waste collection system the governorates of Cairo and Giza decided to commission several European multinational waste companies with the waste removal in Cairo. As a result of this reform, the Zabbaleen lost any legal access to their unique livelihood asset, the waste. This was a severe setback for a vulnerable community as they had barely managed to survive even before the restructuring.

The present research paper employs a three-fold approach to analyze the waste management reform and its repercussions: firstly, it addresses the consequences of the reform for the Zabbaleen, asking how this decision impacted on their livelihoods. Secondly, the impact of the reform on the local environment is discussed. The main question is whether this reform contributed to an enhanced waste removal system in terms of sustainability. Thirdly, the paper challenges the portrayal of the reform as an instance of "globalization shock" which confronts local, traditional actors with modern, large-scale global players (Ibrahim 2004). Drawing on Bourdieu's field theory to develop a multi-scale analytical framework, the paper proves that neither the reform, nor its outcomes can be explained without taking into account the complex rules and power-relationships inherent in the Egyptian political economy.

2 Theoretical and methodological background

2.1 Theoretical framework (geographical development studies)

The research questions introduced above are derived from three major research issues that have evolved as part of geographical development studies since the 1990s: while a first strand of research deals with questions of vulnerability and livelihoods, a second strand focuses on the relationship of development and the environment, and a third overarching topic is the correlation between globalization and human development (cf. Krüger 2003, 7; Coy 2000; Rothfuss 2007, 29f.). As geographical development studies represent a vast, diverse and swiftly changing field of research, any attempt to provide an exhaustive overview would go far beyond the scope of this paper (cf. Coy 2000; Bohle 2007b; Rauch 2008; Böhn and Rothfuss 2007; Scholz 2004; Müller-Mahn and Verne 2010 for overviews and critical appraisals). The following section therefore selectively introduces only those approaches and reflections which provide the necessary theoretical backdrop to discuss the research questions at hand; namely the livelihoods framework, the concept of sustainability and Bourdieu's theory of social fields.

2.1.1 Vulnerability and livelihoods

Geographic development studies have witnessed two (parallel) shifts between the 1980s and the turn of the millennium. Firstly, a general disenchantment with universal "grand theories" of development entailed a turn towards bottom-up theories of "middle range" (Krüger 2007). Secondly, the discipline of development geography followed the cultural turn in geography. Instead of focusing on developing countries (area studies), research increasingly turned to individual actors and the conditions that frame their actions and activities (Rothfuss 2007, 28f.; Bohle 2007b, 798). It is in the wake of this twofold shift that notions of vulnerability and livelihood security have gained increased attention (Gertel 2007, 59ff.).

The concept of social vulnerability was developed by Chambers (1989) at the beginning of the 1990s as an attempt to replace the existing, dominant economic conceptions of poverty with a broader understanding of social inequality and insecurity (Krüger 2003, 7; Rakodi 1999, 316). Adapted for geographical research agendas by Watts and Bohle (1993)[2] this concept defines an individual or household as vulnerable if he or she

[1] This article employs the commonly used term "Zabbaleen" – derived from the Egyptian word for garbage. Ibrahim (2004, 283) however explains that the Coptic garbage workers used to call themselves "Zarabeen" – meaning "livestock owner".

[2] cf. Krüger (2003), Bohle (2007a,b) for overviews, Dittrich (1995), Lohnert (1995), Krüger (1997), Van Dillen (2004) for case studies.

is exposed to an external risk of shocks and crises and does not have the sufficient capacity to cope with these risks.

One of the analytical approaches and tools devised in the context of vulnerability research is the Sustainable Livelihood Framework (SLF). Based on research by the Institute for Development Studies (Chambers and Conway 1992), it has subsequently been applied by numerous development organizations and researchers (Potter et al. 2008, 485ff.). Chambers and Conway (1992, 1) define a livelihood as comprising "people, their capabilities and their means of living, including food, income and assets". It is environmentally sustainable "when it maintains or enhances the local and global assets on which livelihoods depend" and is socially sustainable if a person "can cope with and recover from stress and shocks, and provide for future generations".

Starting point for the livelihood framework is the assumption that individuals are embedded in a dynamic vulnerability context. Within it, they act purposefully to fend off risks, cope with crises and enhance their living conditions. These actions, which aim at securing a person's livelihood, are differentiated into spontaneous, short-term coping strategies, long-term mitigation strategies, and finally enhancement strategies. In order to secure their living, the actors use a bundle of livelihood resources, called "assets". Based on previous categorizations of different types of capital (cf. Bourdieu 1983), the SLF distinguishes five types of livelihood assets: human capital (capacity for labor, education, health), natural capital (natural resources, e.g. in this case waste and recycling materials), financial capital (income, e.g. the garbage fees), physical capital (e.g. a lorry), and lastly social capital (social networks). According to the SLF, the value of these assets and access to them is determined by external "structures and processes". The type and degree of vulnerability is consequently determined to a great extent by the case-specific combination of assets on the one hand and "structures and processes" on the other hand (Dittrich 2004, 100).

The present paper conceptualizes the Zabbaleen as a vulnerable group who might suffer a loss of livelihood security as a consequence of the waste management reform. The SLF is thus used as an empirical tool to analyze the strategies the Zabbaleen have deployed to cope with this shock and to estimate in what ways this decision has impacted on their livelihood assets.

2.1.2 Sustainability

Part of the SLF's success has been ascribed to its dual focus on livelihoods *and* sustainability (de Haan and Zoomers 2005). As development and environmental problems are connected to each other and have become a growing concern, sustainability has come to the forefront as a major issue of development research and practice (Simon 2003; Rothfuss 2007, 28f.; Scholz 2004, 141ff.). In the context of the present study, sustainability is of particular interest since it lies at the centre of "integrated waste management" concepts that have served as a global standard for the conception of waste management since the 1980s (van Beukering and Gupta 2000). Egypt is no exception: in 1999, the Egyptian Ministry of Housing declared that any waste management reform was to aim at a system which would be "environmentally effective, economically affordable and socially acceptable for a particular community and region" (El-Sherif and Bushra 1999, 6). Thus, the concept of sustainability can be used as a yardstick to measure the success or failure of Cairo's new waste system against its self-proclaimed aim of efficiency and sustainability and to evaluate the impact of the reform on the environment.

2.1.3 A multi-scale and conflict sensitive perspective on livelihoods

The SLF has been modified for this study to address two major drawbacks. Firstly, livelihood studies have been criticized for their narrow and local focus (de Haan 2008, 2). To address this issue, I draw on multi-scale frameworks to take into account the intensified relations and interdependencies between actors and institutions on local, national and international levels (see e.g. Coy 2000, 52f.; Rauch 2003; Müller-Mahn 2007; Gertel 2002)[3].

[3] Although the framework for this study places the actors influencing the Zabbaleen's livelihoods on different political scales, it should be noted that these levels are heuristic constructs serving to distinguish different political and administrative realms and do not refer to different "spaces" (cf. Bohle 2007a for discussion of space concepts in development studies). The author agrees with Müller-Mahn and Verne (2010) that space should be defined according to Massey (2010) as an ever evolving product of relations and flows which provides for multiplicity.

Secondly, the SLF has been criticized for its inability to take into account social and economic structures as well as the unequal power relations that constrain the agents' capacity to act (Gertel 2007, 61). Several authors have therefore proposed to expand the SLF with for example Bourdieu's theory of practice (e.g. Dörfler et al. 2003). Bourdieu's approach offers a useful explanation for the reciprocal relationship between structure and agency. Unlike Giddens and similar to Schatzki (cf. discussion by Everts et al. 2011) – and this is crucial for the analysis at hand – Bourdieu objects to the notion of actors as autonomous individuals and stresses the importance of unconscious practices. According to Bourdieu, strategies do not allude to consciously planned, rational choices. They usually appear to be sensible and appropriate because they are informed by an individual's habitus, which acts as an intermediary between social structures and individual practices (Deffner 2010, 42).

Applying a Bourdieuan lens to Cairo's waste management system enables me to highlight that the Zabbaleen's choice of livelihood strategies and more generally their capacity to act is highly contingent on their position within networks of power relationships and social positions. Drawing on Dörfler et al. (2003) this paper consequently proposes to replace the amorphous SLF category of "structures and processes" with Bourdieu's concept of social fields. Social fields are made up by actors who strive to enhance their relative positions and use different types of capital (Bourdieu 1983) to compete with each other. Each field is characterized by specific rules that enable and constrain specific actions and determine the value of the assets in the respective field.

In the specific case of the waste management reform process in Cairo most actors belong to the political-economic field (cf. Roll 2011 on the impossible task of separating these two domains) with some additional agents from the field of civil society (cf. Fig. 1). For the purpose of this study I will hence treat Cairo's waste management as a cross-cutting sub-field in which field-specific positions and rules reflect those inherent in the Egyptian political economy at large. This adapted analysis framework makes it possible to discuss the Zabbaleens' resilience to shocks (or lack thereof) not only based on the (individual's) scope and variety of livelihood assets at their disposal, but also in view of their relative positions vis-à-vis other actors and competitors in this field.

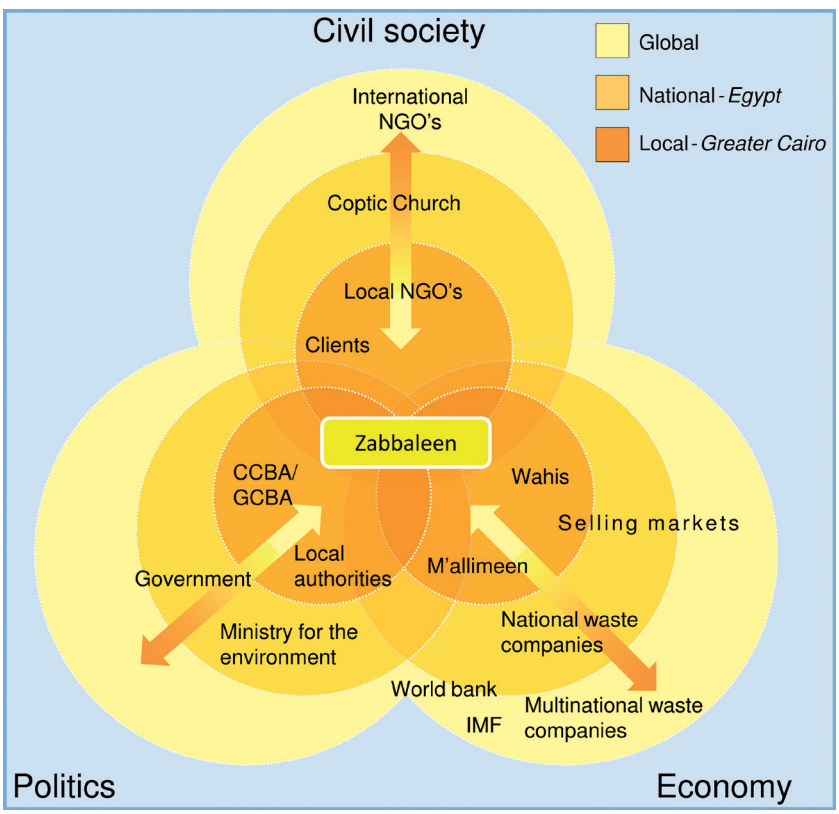

Fig. 1: A social fields perspective on Cairo's garbage collection system (Source: own design)

2.2 Method

Findings presented in the following sections are based on two sets of fieldwork conducted in 2006 and 2011 respectively. The 2006 fieldwork took place in Ezbet an-Nakhl, an illegal settlement built on legally acquired irrigation land (Meyer 2004, 136ff.) situated on the northern fringes of the Cairo governorate (cf. Fig. 2). It was chosen because it houses one of the larger Zabbaleen settlements, where a wide array of collection and recycling activities can be observed. In addition,

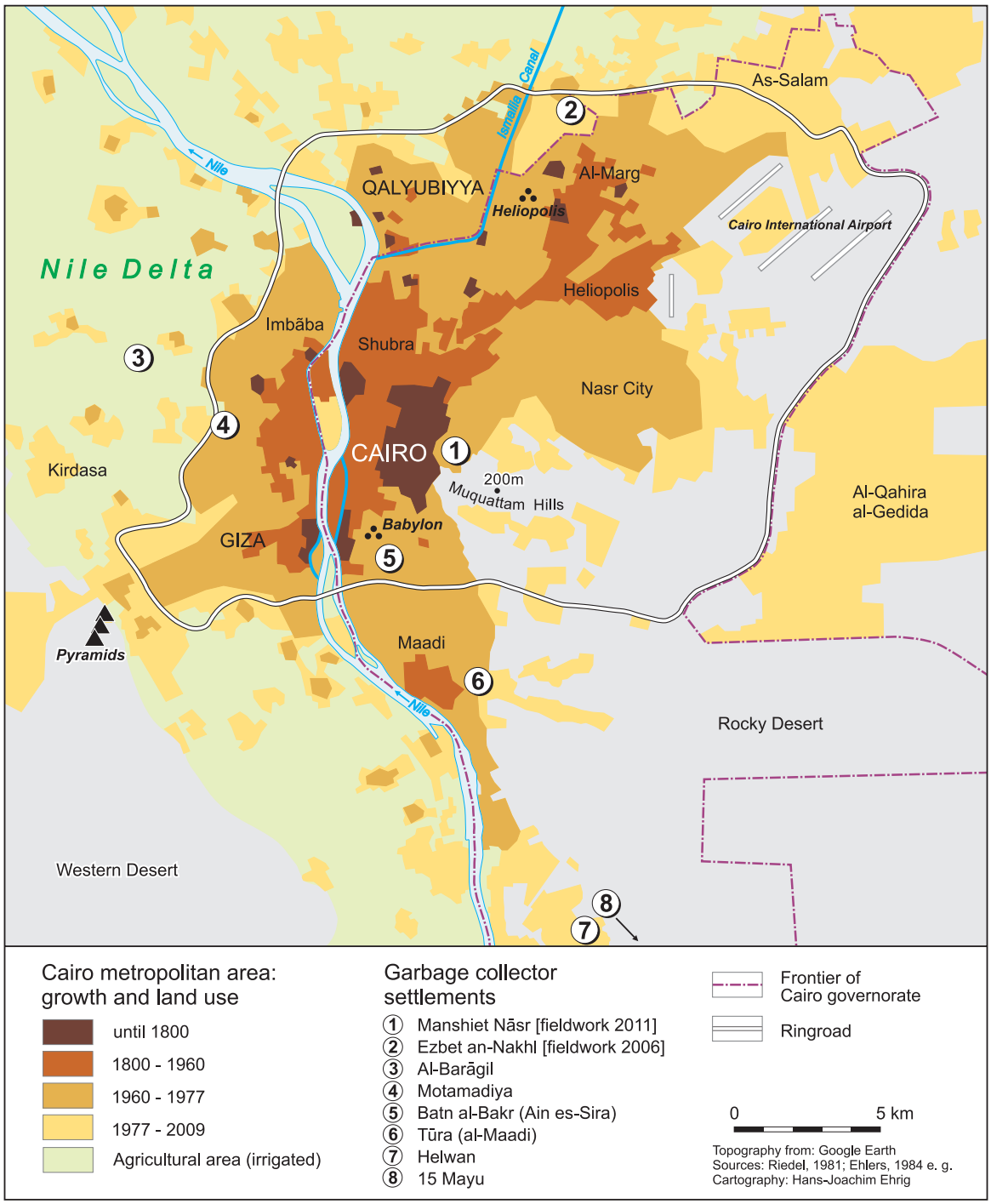

Fig. 2: Map of Cairo including garbage collector's settlements

some basic facts on the settlements' structure and NGO activities were already available (cf. Ibrahim 2004; Ghazi el Dahan 2004). Finally, the Egyptian Non-Governmental Organisation ECRED (Experimental Center for Environment and Development) working in Ezbet-an-Nakhl helped to establish contacts with potential interview partners.

Fieldwork implemented in 2006 used a multi-faceted approach including participant observations and interviews with waste collectors in the settlement as well as expert interviews with representatives from two local NGO's and one European waste company.

Since little data on the operation of the new waste system was available, an explorative, qualitative research design was necessary (Kleining 1982). Consequently, semi-structured interviews were used as the primary method of data gathering. All in all, 20 Zabbaleen were chosen to reflect a wide range of differing livelihood strategies. The interviews, which took place in the quiet setting of the ECRED premises and lasted 30–60 minutes, included questions on family situation, education, housing, work strategies, knowledge about and reactions to the privatization decision. Participatory observation and informal discussions with inhabitants of the settlement were used to contextualize the information derived from the interviews.

The interviews with the Zabbaleen were conducted by volunteers (ECRED staff members) in the South-Egyptian dialect while the author was present. Interview records were subsequently transcribed and translated by Egyptian students, closely monitored and corrected by the author. The expert interviews which complemented the Zabbaleens' views with outside perspectives were conducted in English by the author and then fully transcribed. All interviews were analyzed using qualitative content analysis (Mayring 1999). This first round of fieldwork yielded comprehensive insights in the changes resulting from the 2003 waste management reform.

A second set of interviews was scheduled five years later for April 2011 in order to capture the long-term impacts of the second shock the Zabbaleen had had to endure: the pig culling in 2009. Originally a follow-up study in Ezbet an-Nakhl had been planned. However, due to the chaotic and lawless situation after the Egyptian revolution in February 2011, the fieldwork had to be re-located to the largest Zabbaleen settlement in Manshiet Nasr (see Fig. 2) where a number of Coptic institutions provided support and a minimum of safety. In Manshiet Nasr – as in Ezbet an-Nakhl – a large variety of waste related activities can be observed. Some differences concerning the local economy in Manshiet Nasr (e.g. a higher number of recycling workshops or the lack of property rights to the territory used for the construction of flats and workshops (cf. Fahmi and Sutton 2010) are notable and have been included in the analysis.

In 2011, 20 additional interviews were conducted by an Egyptian translator trained and assisted by the author. As a part of a joint research-film project the interviews were recorded by a documentary film team (Academy of Media Arts Cologne/Agnes Rossa) and then again fully transcribed and translated. Because of the unforeseeable and strained situation less than two months after the revolution and only three weeks after a major violent incident in the settlement (taz 2011), the interviews were kept open-ended. This gave the respondents the opportunity to talk about changes they perceived since the turn of the millennium as well as any other topics high on their agenda, such as sectarian tensions or safety issues. Information collected has since been used to validate and complement the 2006 research. It offered valuable insights into the changes since 2009 as well as the Zabbaleen's hopes and fears in the post-Mubarak era.

3 The historical development of the waste management system

The historical development of Cairo's waste management system can be divided into three stages: informal-sector system, semi-formal system and formal "privatized" system. For the purpose of this paper, the informal sector – a well-established concept despite some harsh criticism (cf. Escher 1999; Mead and Morrisson 1996) – shall be defined according to Lobban (1997, 92) as a "specific economic niche" which includes all income-generating activities "that are unregulated by the state in a context where similar activities are so regulated" (Roberts 1994, 6). Therefore, "the actors are devoid of official protection or support" (Escher 1999, 658). This lack of rights and securities experienced by agents in the informal sector curtails the level of livelihood security they can achieve, which is why the criterion of legality is so important in the case of the Zabbaleen.

3.1 The informal system: establishing dependencies

The historical development started in the 1880s, when Muslim migrants from the Oasis Dakhla, called "Wahiya", began to collect organic waste from city households for a small fee (Meyer 1987). From the 1930s onwards a large group of Coptic migrants from Upper Egypt, the Zabbaleen, settled in Cairo. They lived in shanty settlements on the fringes of the city and secured their livelihoods by raising pigs which they fed with the organic waste they bought from the Wahiya. Later on, the Wahiya discovered a more lucrative business model: they sold the right to collect garbage to the Coptic newcomers while keeping the garbage fees paid by the households for themselves. The Zabbaleen in turn secured their living by feeding their pigs with the collected organic waste and selling the animals off for a profit. In addition, they sorted the garbage into marketable recycling materials such as paper, glass and scrap metal (see Fig. 3).

This division of labor led to a socio-economic gap between the two groups. The Wahiya's income enabled them to provide their children with a good education and in general facilitated an upwards mobility (El-Hakim 1981, 103). Their well-organized occupational union, the "Rabta", also lobbied successfully for the interests of its members (Meyer 1987). The Zabbaleen, on the other hand, barely managed to secure a living and depended on all family members taking part in garbage-related activities. The men drove their donkey carts to the city center to collect the garbage in front of the apartment doors. The women and smaller children worked just as hard, raising the pigs and sorting the garbage (Photo 1). Most Zabbaleen lived in a "zeriba" (Photo 2), right next to the pig pen and the garbage sorting area. Unhygienic living and working conditions prevailed, entailing high risks of infections and diseases (Haynes and El-Hakim 1979, 106).

3.2 A first stage of modernization: the semi-formal system

In the 1980s several NGOs started their work with the Zabbaleen, striving to improve their living conditions and aiming for a professionalization of their work. They helped them to diversify their income generating activities by setting up small recycling workshops (cf. Asaad and Garas 1994; Volpi 1996). This enabled the Zabbaleen to achieve one of the highest recycling quotas worldwide (MINISTRY OF STATE 2005).

Also in the 1980s, the city administration became involved in the local waste management for the first time. They founded the Cairo Cleansing and Beautification Authority (CCBA) and its Giza counterpart (GCBA) (cf. Fig. 3). They were responsible for cleaning the streets and collecting the garbage in quarters not serviced by the Zabbaleen. In the 1990s the waste authorities introduced licenses which entitled the licensee to collect the garbage

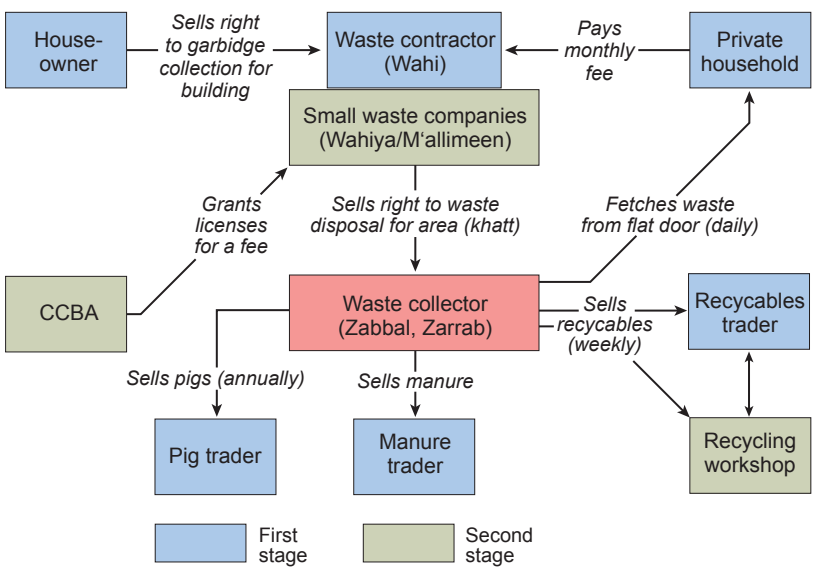

Fig. 3: Cairo's garbage collection system (Source: own design, based on Meyer 1987, 66)

Photo 1: Woman sorting garbage (Photo: Diana Harders)

from a certain area and to receive a waste fee of 3 LE[4] from each serviced household. Unfortunately for the Zabbaleen, licenses were issued to officially registered private companies only. This advantaged the well organized and well educated Wahiya, who secured a majority of these licenses. Holding on to the official licences themselves, they (unofficially) still continued to re-sell the right to collect garbage to the Zabbaleen (CID 2001, 26).

A second "modernization" step which impacted negatively on the Zabbaleen was the city administration's ban on using donkey carts in the city center and the wealthier neighborhoods. Again the Wahiya and some M'allimeen (small group of Zabbaleen who had managed to gain wealth and power) benefited because of their economic assets: they bought the required lorries and lent them to those Zabbaleen who could not afford such investments. Thus, the latter's level of dependency increased even further.

At this time the waste collection system can be defined as "semi-formal" because the Zabbaleen's work continued to depend upon non-official agreements with the license holders. It was also "semi-private" because the waste collections remained in the hand of private actors and companies. The administration's involvement was mainly restricted to supervising and street cleaning.

3.3 A second stage of modernization: the "privatization" process

Neither the Zabbaleen, nor the local authorities were able to keep up with Cairo's exponential growth of inhabitants (cf. Yousry and Aboul Atta 1997). Globalization processes heightened the pressure on the garbage system as the Egyptians increasingly adapted "modern" consumption habits, thus generating ever more waste per capita (cf. Pages and Vignal 1998). Finally, with roughly 2,000 to 6,000 tons[5] of garbage littering the streets, even government officials acknowledged the need for a reform (Ministry of State 2005). This need was justified by environmental and health risks, although the fear of a negative impact on tourism most likely also played a role (Ibrahim 2004, 292). In 2003 the city administration announced "privatization" as the solution for Cairo's waste problems. This solution is in line with the IMF's structural adjustment programs (cf. Gertel 2004; Müller-Mahn 2007), which have required the privatization of state-owned companies since 1991. In 1998 however, only 17% of those state firms earmarked for privatization had actually changed ownership (Wurzel 2001). Hence, the government was desperate for success stories in this domain. In this context the waste sector, which had never fully been in public hands, seemed a convenient opportunity to display a willingness to privatize without having to deprive the state's elite of their sinecures (Ghazi el Dahan 2004, 59). Following a general trend in Egypt (Gertel 2004, 37f.), this "privatization" went hand in hand with "internationalization": due to more profitable offers by multinational companies, five out of six garbage collection districts were awarded to multinational companies based in Italy or Spain. Only the southern district was awarded to Egyptian companies, one of which was founded and also managed by the director general of the CCBA (Iskander 2005b, 1).

Contracts lasting 10 to 15 years oblige the companies to implement an "integrated waste management concept" including waste collection, street cleaning and waste disposal. A recycling quota of 20% has to be attained, too (Richter 2006). However, as an anonymous insider reveals, the multinationals, who had entered the contracts bona fide, got caught up in the maze of the Egyptian political economy. They found out too late that in Egypt "government officials do not attach very much value to written contractual commitments" (Anonymous 2005, 168). Contrary to expectations, a number of actors and administrative authorities had vested interests in the waste management system (not least the CCBA director heading his own private waste company and his administrative staff fearing to lose influence and revenues to the new companies (cf. Richter 2006).

[4] LE = Egyptian pounds, 3 LE circa 0,40 €.

[5] "middle" scenario, estimates differ: cf. Ibrahim (2004); Al-Wafd 2004; Al-Ahram (2003).

Photo 2: Zeriba (Photo: Diana Harders)

A number of unforeseen problems thus hampered the proper implementation of the waste management reform. While the custom office refused to grant a reduced rate of import duties[6], the heritage authority denied the permission to use a landfill site which one of the companies was supposed to operate, and the traffic police – applying certain local bylaws – prevented waste trucks from entering parts of the city. Whenever these and similar impediments barred the waste companies from fulfilling their contractual obligations, they faced penalties – imposed either by the Waste Management Authority as the official contract partner or by any other institutional actor who felt entitled to impose fines. Since neither the amount nor the conditions for fining had been stipulated in the contracts, exorbitant sums were requested in some cases. This led to severe liquidity problems and in one case to the temporary dismissal of the entire workforce (Anonymous 2005). This event aggravated the companies' serious difficulties in recruiting waste workers. Convinced that high unemployment rates would secure a large workforce, the managers had not taken into account the hard, dirty, smelly and highly stigmatized nature of waste work (EQI 2004), which reduced the number of applicants considerably. By contrast, those who were used to this kind of work, the Zabbaleen, were not accounted for in the new contracts (MINISTRY OF STATE 2005, 120). This meant that from 2003 on, the Wahiya and M'allimeen, who had owned the small registered waste companies, lost their licenses. The Zabbaleen, who had worked in informal arrangements for these companies, therefore were deprived of their previous entitlement to collect and recycle Cairo's garbage.

4 The Zabbaleen after the privatization: a livelihoods analysis[7]

At first, the Zabbaleen tried to contest the waste management reform. A demonstration in the settlement of Ard el-Lewa was, however, quickly dispersed by the police and thus had no effect. In Ezbet an-Nakhl some of the Zabbaleen proposed a strike, arguing that waste-covered streets would force the authorities to listen to their demands. The strike, however, was hampered by a lack of unanimity. It broke down completely when the pig owners gave in after two or three days, afraid their animals would starve to death without the organic waste. In addition, the "big bosses", the M'allimeen, advised stopping the strike after having conferred with authorities (see also Ghazi el Dahan 2004, 91; Ibrahim 2004, 292f.). This shows that even though

[6] cf. Wurzel (2011, 23ff.) on the unaccountability of the Egyptian administration including the custom office in particular and the interdependence of political and economic actors in general.

[7] The following sections 4.1. (Strategies) and 4.2 (Assets) are based entirely on information collected in the 2006 in-depth study. Sections 4.3 (Competition, corruption) and 4.4. (Pig crisis) include data collected in 2006 and 2011.

some vertical social capital did exist, the Zabbaleen could not count on these powerful advocates to lobby on behalf of their interests.

4.1 Strategies: coping with the shock

Not being able to change or influence the political decision in any way, the Zabbaleen had to come up with strategies which would enable them to cope with the new rules prohibiting them from accessing the waste as their main livelihood asset. What were their options?

To leave the garbage sector in order to look for a different occupation proved a rather uncommon alternative. On the one hand, Egypt's difficult economic situation limited the job offers and on the other hand, the Zabbaleen often lack the necessary education and skills. A former Zabbal, now working as a forger reports: "It was very difficult to get the new job, because you need knowledge relating to engineering and construction. It was very difficult for me to learn all that in a short time, because it is something completely different from my original occupation, in which I used to be very competent". Some other Zabbaleen found employment e.g. as poultry vendor, baker, hairdresser, or in textile and meat factories. However, many of them complain about the bad remuneration and would prefer to return to the waste sector.

A majority of the Zabbaleen therefore opted to remain in the waste sector. Some tried to switch from garbage collection to retail activities, a field of work where they could draw upon their personal knowledge and networks. In Ezbet an-Nakhl, however, two newly established paper and glass traders were both only moderately content with the result, since they claimed to have earned more collecting the household garbage.

Surprisingly, the very obvious option of working for the foreign waste companies was roundly dismissed by all of the interviewed Zabbaleen. They stated that the salaries offered by the companies (300-400 LE according to AMA Arab, 150-200 LE according to the Zabbaleen) were too low. Since only adult men were allowed to work there, the women and children would no longer be able to contribute to the family income. Even more importantly, the Zabbaleen are convinced that their hard work offers them at least one advantage: "Right now, we are free, nobody tells us, what to do, or where to go". A long tradition of perceived self-employment thus makes the Zabbaleen reluctant to exchange this "freedom" for fixed working hours and the necessity to follow somebody else's orders.

For this reason, most of the Zabbaleen looked for opportunities of continued self-employment in the waste sector. Thanks to the chaotic transformation process (cf. Didero 2009, 60–65) they were able to find some niches. Both the multinational companies and their administrative counterparts paid little attention to cultural issues while planning the new and "modern" waste management system. When they opted for the installation of large waste bins instead of collecting the waste from the doorstep, they overlooked that the middle and upper class inhabitants were not only "spoilt" by long years of daily door-to-door collection. They also considered it socially unacceptable to be seen in the street carrying their own waste bags. This meant that even after the reform many households were happy to have the Zabbaleen collect the garbage from their apartment door. These activities, however, have become illegal. Therefore the Zabbaleen collecting household waste have lost whatever security the old licensing system provided them with. Today, they depend entirely on the goodwill of the residents. An interviewee complains: "Today, if we want to fetch the garbage from the apartments, some inhabitants say that they will throw it themselves in the garbage bins. And now they don't want to pay, or they try to beat down our fee of 3 LE". This means that the amount of natural capital (garbage) as well as the amount of financial capital (fees) are open to negotiations and – in most cases – have been cut by up to 50 percent. In this situation, social capital can help to enhance the income opportunities as a second interviewee explains: "I have been working for 40 years in the area, therefore everybody knows me [and says] 'Forget the foreign company, we know this man'". Based on this long-standing relationship with the inhabitants, he is able to take a very assertive stance when he tries to convince the residents to pay his fee: "I tell the inhabitants 'I take the garbage, and you pay. If you don't pay, I will not take it: the bins are there, as you like'".

The post-privatization situation especially penalizes those Zabbaleen who were previously employed as drivers, collectors or sorters and did not have a collection route of their own. Most of them lost their jobs because their "employers" could not pay them anymore due to the reduced amount of garbage they collected from the households. Many of them have resorted to an alternative livelihoods strategy: some of their family members – most of-

ten older boys or young men who are strong enough – roam the streets with push cars and remove all kinds of recyclable materials from the official bins. This, of course, is also illegal. These street collectors, called "Sarih" (garbage roamer), therefore always have to fear reprisals by the police, in addition to their constant worry whether or not they will be able to collect enough recyclables in order to survive.

Finally Zabaleen, who have lost their employment, might choose to migrate to their former homestead. However, due to the lack of economic opportunities in Southern Egypt this is opted for only as a last resort: "Those who can't earn their livelihood here any longer, who don't have any possessions, no flat, they don't work here any longer. What can the worker do? He goes back to his home town. […] But those with possessions stay here".

4.2 Assets: loss of livelihood resources

The interviews revealed that the privatization had had detrimental impacts on natural, financial, human and social capital alike.

The Zabbaleen that continue to collect household waste reported that the amount of garbage they are able to collect has reduced by 30% to 50%. The same can be assumed for the street collectors, even if they were unable to pinpoint their losses. Both the reduced waste volume and the increased competition impact negatively on the livelihoods of small retailers: the losses range from "only" 50% for a cloth trader, to 80% for a paper trader, who as a consequence had to lay off several of his workers.

Financial revenues have been reduced firstly due to the loss of garbage, and secondly because most household collectors have lost at least part of the garbage fees they used to collect. The "Sarih" have not only lost all direct financial income, but also had to sell their pigs, thus foregoing their "savings account" that previously provided an additional income in times of need. Many Zabbaleen reacted to this income loss with consumption modifying strategies (cf. Rakodi 1999, 320): any kind of luxury, for example new clothes for the children on holidays or a weekly dish of meat or fruits, is renounced. Limiting themselves to the cheapest staple food may impact negatively on the Zabbaleens' health, and thus their ability to work. Considering that even prior to the privatization process up to 47% of the small children suffered from anemia (Boussen et al. 2004, 69), these strategies appear particularly detrimental.

Some of the families also took their children out of school (or transferred them from the better and more expensive Mahabba school to a public one), thereby limiting their children's future amount of human capital.

A number of M'allimeen and Zabbaleen community leaders took advantage of the transition period, when the "rules of the game" were unclear with regard both to legal stipulations and informal relationships. They started to organize and manage the household garbage collection routes in the form of a new, illegal "shadow waste system", illustrating once more that neither "informal", nor "illegal" economic activities are automatically unorganized (cf. Escher 1999, 660; Lobban 1997, 91). Regarding the social capital, the "linking" relationships between Zabbaleen and the former license owners have also been substantially modified (see below).

4.3 The context: competition, corruption and informality

Concerning the overall structures framing the Zabbaleen's struggle for survival, two issues related to the economic and socio-political context turned out to be of specific importance: competition and the problems related to corruption and informality.

1) Competition: With an overall economic situation in Egypt characterized by high levels of unemployment (27% at the end of the 1990s), widespread poverty and inflation (Ibrahim and Ibrahim 2003, 99)[8], it is not surprising that the Zabbaleen are faced with growing competition in the waste sector: Iskander (2005b, 2) reports that "the availability of waste in the public domain has led to the emergence of a new class of informal sector operators, who scavenge the bins for particular items of recoverables."

Even more important is the role the caretakers have taken on in the new system. A Zabbal relates: "What happens in reality is that the caretaker becomes the garbage collector. Because nobody with high heels can carry garbage bags. There is no woman here with a university degree, and her husband is of any high rank, who would carry a garbage bag. […] If [her husband] has the necessary funds, he will call the caretaker and tell him 'You are going to take the garbage from our flat from now on. How much do you want for that?' And the

[8] cf. Sabry (2010) for critical appraisal of poverty lines and poverty in Cairo.

caretaker says 'Ok, I will take 2 LE from each flat.' And of course the entrance to the [caretaker's] flat is turned into a Zeriba, a Mini-Zeriba, in which he sorts the garbage. He keeps what is useful and throws the remainders in the bins."

The Zabbaleen collecting the garbage from lower income quarters face an additional competitor: the itinerant ragman. Until very recently, these merchants used to work mainly in the prosperous quarters, where they bought bulky waste and scrap metals. Today however, they pass through poorer quarters as well, buying anything of value. Asked why the situation was better before, an interviewee argues: "There were no people – "roubavekkia" – who bought old things. The inhabitants did not know that bottles, books or plates could be sold." Today residents in these quarters gladly seize this newly discovered opportunity to earn additional money, thus depriving the Zabbaleen of parts of their usual income.

Finally, new "occupations" have emerged as one of the Zabbaleens explains: "There are people in this area who are unemployed. Maybe he will procure a donkey cart and shout 'aish' (bread). And the one who sells onions or vegetables. He will take recycling materials instead of money. He will receive for example 1 kg of plastic for 1 kg of onions. All these valuable materials become more scarce, they are not thrown in the garbage any longer." He is convinced that these new occupations emerged only after the privatization. Indeed, the break-down of the tightly organized semi-formal waste system might actually have helped to open up new structures of opportunity for these competitors.

2) Corruption and informality: An additional problem arose when the multinationals – who were desperate for workers and faced increasing pressure to integrate the Zabbaleen – decided to engage sub-contractors. While the Zabbaleen themselves were hampered by their lack of legal status, many of the former licensees presented themselves as subcontractors. An interviewee reports: "Nobody (here) receives a salary from the foreign companies, only the Mutaahid [middleman]. As soon as the companies started he presented his documents and pretended to be responsible for this area. […] He knew how to work the system. Each first day of the month he receives a pay check. He keeps it for himself and is not interested in who is working and who isn't." This means that although in the old system the relationship between the license holders and the Zabbaleen had already been asymmetrical and characterized by profit-seeking on the one side and dependency on the other, the new system worsened the situation. Knowing that the Zabbaleen depend on the waste, the previous license holders, who had been deprived of their share of the household waste fees after the waste management reform, seized the chance to extract large sums of money from the multinationals. They were neither paying the Zabbaleen, nor equipping them with the multinationals' work-uniforms as stipulated in their sub-contracts. This rent-seeking strategy of self-enrichment and swindle explains why the multinationals believe to be employing Zabbaleen, while the Zabbaleen themselves refute this claim. Hence, it is largely due to the corrupt behavior of those acting as "middle men" if attempts to reconcile actors and activities of the "old" and "new" waste system have failed.

In order to circumvent these middlemen, a local NGO helped several Zabbaleen to found their own officially-registered micro-companies. However, these plans have been thwarted – whether due to vested interests of competitors, lack of adequate relations or defaulted payoffs remains unclear. One of these new company-owners reported in 2006 that he was ready to close a contract, but was hampered by an important businessman, a "big fish". Another commented: "The circle is closed. They don't want to let us in. I walk to the governorate each month and ask if there are some news. And the responsible tells me "tomorrow, come back tomorrow".

The reason why the Zabbaleen are unable to break up this "closed circle" is clearly related to their subaltern position in the social field as well as their lack of economic and/or social capital as a former pork butcher interviewed in 2011 very aptly explains: "Everyone relies on his or her influence or sway and uses his power to embezzle what he wants. They don't share with the weak ones. And the people who are in this trade [i.e. the garbage collectors and pig breeders] belong to the weakest ones in this country. […] There are no influential people here and there is nobody but god to defend us. They have no power and nobody claims their rights for them".

Being unable to integrate themselves into the new, regularized waste system either as workers or company owners, the Zabbaleen are faced with the fact that all other waste related income strategies, whether street roaming, household collection or recycling activities, have become illegal. Thus deprived of the "right to the waste" the Zabbaleen have become even more vulnerable to the arbitrary behavior of public officials who skim off a vital

amount of their income. An interviewee in 2011 candidly related: "We don't want to say that they were corrupt. But poor people suffered […] In the past, sometimes traffic police would stop me and take my driving license although everything was in order. When I asked him why he did this, he told me he just felt like it! If I had challenged him, this would have been a catastrophe. He is a police officer and has power! I couldn't do anything against it. Sometimes they only wanted money for a pack of cigarettes. If you didn't pay this bribe, the documents were confiscated and you had to fetch them in the traffic administration. Of course, you will rather pay 20 pounds, even if you did not commit any offence." Another Zabbal reports that "prior to the revolution there were even fixed prices" for the lorries loaded high with waste or recycling goods: "If you were caught by district administration staff, they sent you to the police station. The lorry is confiscated, the freight is seized and a ransom of 10,000 pounds has to be paid to get the lorry back".

4.4 An additional shock: the pig crisis

In Mai 2009, the Zabbaleens' already insecure livelihoods were further unsettled and the chaotic waste management system broke down completely. In reaction to the appearance of the influenza virus H1N1 in Mexico – misleadingly called "swine flu" – the Egyptian Parliament ordered the slaughter of all pigs in Egypt (Ibrahim and Ibrahim 2009). There is reason to believe the flu presented a welcome opportunity to realize long-standing plans since the idea to "combat the unhygienic breeding conditions in the Zabbaleen settlements" (SZ 2009) by transferring all pigs to farm factories in the desert dates back to 2004 at least (EQI 2004, 26). While in 2006 the call to slaughter the pigs because of the outbreak of the "bird flu" was staved off by NGO leaders and the influential "pig trader oligopolists", in 2009 the oppositional Muslim brotherhood increased its pressure, declaring the swine flu to be "more dangerous than the thermonuclear bomb" (FAZ 2009). The vote to cull the pigs then provided an ideal opportunity for politicians of both government and opposition parties to reaffirm the Muslim character of the Egyptian state.

A demonstration against this decision was once more put down by the police, but helped at least to secure the pig owners a small compensation for their losses (Ibrahim and Ibrahim 2009). The long-term effects of this decision, however, are dramatic: without pigs to raise on organic waste, roughly 50% of Cairo's household waste has become useless. Instead of earning money through selling pigs, the Zabbaleen have to pay discharge fees to dump the organic waste which is why most Zabbaleen try to avoid collecting it. This "extra garbage" then overburdens the dysfunctional official waste system, causing waste heaps to turn up everywhere (Fahmi and Sutton 2010, 1774).

Notably, the decision affected not only the garbage system, but also food security: while some Zabbaleen have at least managed to keep one or two pigs here and there, or bought some goats or sheep to supplement their diets (source: interviews 2011), those Egyptians who do not own livestock have been severely hit. Several interview partners confirmed that as a consequence of the pig culling in 2009 meat prices (e.g. for mutton) in Egypt have doubled or tripled, meaning that many Egyptian families of moderate income no longer can afford to buy meat. A former pork butcher points to the fact that tourists will of course not miss their habitual escalope. Furnishing the Zabbaleen with places in the desert to raise their pigs as promised first in 2003 and again in 2009 – thereby enabling them to produce home-grown pork – would have been a relatively easy solution. Instead however, Egypt today imports pork meat from Brazil against hard currency, thereby increasing its dependence on food imports (cf. Gertel 2002).

5 Discussion

5.1 The waste management system: meeting the aims?

Exploring the outcome of the privatization decision against the proclaimed aim of a sustainable integrated waste management system, it is evident that the new system is a complete failure. Firstly, it has not managed to maintain or enhance *ecological sustainability*. The companies are only required to achieve a recycling quota of 20%. In reality they achieve even less (Fahmi 2005, 167). In addition, after the pig culling in 2009, most of the organic waste is actually "wasted" since the Zabbaleen can no longer make use of it and the capacities of the multinationals' compost facilities are insufficient to treat the entire amount of organic waste generated in Cairo. Secondly, the analysis of the Zabbaleens' socio-economic situation after the privatization clearly demonstrates

that *social sustainability* has not been met either. Thirdly, even the basic criterion of *economic sustainability* is not achieved by the new system. The contracts with the multinationals have engendered high additional costs for inhabitants and administration alike (cf. Anonymous 2005; Ibrahim 2004, 288), with huge sums seeping away in a morass of corruption and nepotism (Didero 2009, 120ff.). Due to this lack of economic sustainability and ongoing conflicts with the administrative bodies one of the multinationals has already terminated its contract. Finally, even the government's basic aim – to enhance Egypt's image by showing tourists a clean city environment – has not been realized. Contrary to the situation before the privatization, when the Zabbaleen worked in the early morning hours only, today the "waste roamers" can be seen at any time of the day in any street. The street bins and the companies' failure to organize an efficient waste removal system contribute to increasing amounts of garbage piling up in the streets. This means that both waste workers and the waste itself have become more rather than less visible.

5.2 The Zabbaleen: secured livelihoods?

The 2006 fieldwork proved that previous fears of a fully-fledged economic disaster due to the privatization decision had not materialized. Instead, thanks to their flexibility, the Zabbaleen managed to take advantage of those "niches" that the badly adapted and chaotic new system offered. Nevertheless, they faced severe income losses and found themselves in an increasingly insecure and vulnerable position. The Zabbaleens' generally bleak outlook on their future in 2006 was confirmed only three years later when the culling of the pigs came as a final blow to their livelihoods. In 2011 the Zabbaleen continue to creatively seek out new survival strategies (cf. Ibrahim and Ibrahim 2009), but it also seems evident that many of these coping strategies – such as taking children out of school or lowering nutrition standards – will contribute to further endangering the sustainability of their already highly insecure livelihoods. Hence, the Zabbaleens' vulnerability has been substantially increased because of two singular shock events. However, contrary to those shocks originally included in the SLF, these were not *natural* disasters, but purely and entirely the result of *political* decisions.

5.3 The multi-level analysis perspective: a case against globalization?

This paper has been able to support Ibrahim's (2004) interpretation of the waste management system in Cairo as a field in which the "global" and the "local" interact intensely. With hindsight, however, it also becomes clear that an attempt to construe the waste management reform as a clear-cut case of neocolonialism in which global actors dominate and exploit the local poor (cf. Ibrahim 2004, 296) would unduly reduce the complexity of the power relationships defining this particular field.

Taking into account the role of the IMF, World Bank, and economic restructuring programs on the one hand, and that of the multinational waste companies on the other, it is evident that indeed global actors and their ideologies set the stage for the restructuration of Cairo's local waste management. The piece to be played however unfolds through the practices of local and national actors. Having incorporated the implicit practical logic of a specific social field – the "rules of the game" – as well as their social positions within this field, the social agents tend to reproduce the social structures which they previously internalized and embodied in their habitus. The outcome of this local-global interaction thus depends on both the social structures unconsciously internalized by the actors and the field-specific rules (cf. Bourdieu 1992, 187).

In the case of Cairo's waste management system these rules correspond to those of a rentier economic system (cf. Ghazi el Dahan 2004, 56–63; Müller-Mahn 2000). This type of political economy hampers democracy while strengthening an authoritarian and paternalistic type of government (Ibrahim and Ibrahim 2003, 111). While a small group of politically important clients benefit from the rents, the large and politically irrelevant majority is excluded from political and economic participation. In such a patronage-based system linking capital to those in power is of utmost importance (cf. Rauch 2009, 262–266). Hence, a group such as the Zabbaleen that lacks this type of social capital and has little to offer to those in power will always lose out against competing interests of important clients. This also explains why those local NGO's who tried hard to lobby for the needs of the Zabbaleen and to develop alternative futures (e.g. CID 2001), were unable to prevent or attenuate the two shocks to the Zabbaleens' live-

lihood. Within this particular political economy even the support by international NGO's or the Coptic Church did not enable them to build up the necessary pressure.

During the last decade the political economy in Egypt has witnessed an increasing conflation of the political and the economic sphere. Economic and political capital are freely convertible and an important position in politics and administration can easily be translated into economic wealth and vice-versa (cf. section 4.3, Wurzel 2011; Roll 2011). As a consequence, the political-economic field is characterized by rent-seeking behavior on the one hand and political unaccountability on the other hand. While the Zabbaleen knew about the "rules" of this game, but were unable to impose themselves due to their subordinate position within this field, the multinationals were not prepared to play by these rules and lacked the appropriate dispositions. Therefore both adversaries in this local-global interplay lost out to a notoriously unaccountable administration and to a number of competitors trying hard to either defend their position in the field of waste management (e.g. the CCBA and the local waste management company) or to secure at least a one-time profit (e.g. the Wahiya who took advantage of the multinationals' inexperience and the Zabbaleens' economic dependency in order to increase their personal wealth).

As this paper has shown, the fate of the Zabbaleen is intrinsically linked to the Egyptian political economy. While for many years any kind of transformation in Egypt seemed extremely unlikely, this changed very suddenly in February 2011 when President Mubarak, after 30 years of unchallenged rule, was forced to step down following weeks of mass-demonstrations and protests. Change now seems possible and hopes for a better future have been rising. A brighter future for the Zabbaleen however will only materialize if the 2011 revolution leads to a successful democratization process bringing about substantial changes concerning the social, political and economic "rules of the game". Whether this will happen or whether those forces which work hard to stifle and frustrate meaningful change (The Guardian 2011; Malik and McCormick 2011) will manage to win the day remains yet to be seen. One can only hope that the dreams of a Zabbaleen girl (Fig. 4) will indeed come true.

Concerning Egypt, honestly, I wish that we could live in security. In a land which treats its citizens with due respect.	**Für Ägypten wünsche ich ganz ehrlich, dass wir in Sicherheit leben, in einem Land, in dem der Bürger behandelt wird, wie es einem Menschen gebührt.**
I wish that differences were abolished. Neither does the son of a doctor always need to become a doctor, nor does a Zabbaleen's son have to become a waste worker.	**Ich wünsche mir, dass es keine Unterscheidung mehr gibt. Der Sohn eines Arztes muss nicht immer Arzt und der des Müllmanns nicht immer Müllmann werden.**
It is an individual's capacities and achievements that should matter. Nepotism and corruptions should be eliminated, cliques should no longer count.	**Die Fähigkeiten und die Leistung eines Menschen sollten zählen. Vetternwirtschaft, Beziehungen und Korruption sollen keine Rolle mehr spielen.**
What I hope for most is that everyone cast their ballot uninfluenced and aware of what they do. If one goes to elections, ticks yes or no in a referendum, or votes for a president, everyone should know exactly just what they are doing.	**Am meisten wünsche ich, dass jeder seine Wahl ganz bewusst trifft. Wenn einer wählen geht, bei einem Referendum ja oder nein ankreuzt oder einen Präsidenten wählen geht, soll er genau wissen, was er tut.**
I hope that ignorance and illiteracy will disappear from this country. I wish that Egypt becomes the best country of all, because I do love this country.	**Ich hoffe, dass Ignoranz und Analphabetismus aus diesem Land verschwinden. Ich möchte, dass Ägypten das beste Land wird, denn ich liebe dieses Land.**
بالنسبة لمصر بقى نفسى بجد إن احن نعيش فى بلد آمنة فى بلد تقدر يعنى ايه مواطن يعنى ايه بنى آدم يعنى ايه إنسان بيقاش فيه أى تفرقة ميبقاش إن الدكتور يفضل دكتور وإبن الزبال يفضل زبال كل واحد حسب كفائته وحسب قدراته طبعا المحسوبية والرشاوى والحاجات الموجودة فى البلد نفسى إن هى تنتهى متبقاش موجودة وأكتر أمنية بتمناها واحنا بنختار إن كل واحد يبقى واعى هو بيختار ايه ولما بيروح قول نعم أو لا أو بيمضى أو بيكتب أسمه أو بيختار رئيس يبقى عارف هو بيعمل ايه نفسى البلد فعلا إن الجهل اللى فيها والأمية نفسى إن هى تنتهى نفسى نبقى أفضل بلد لإن أنا بجد بحب مصر	
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Fig. 4: Dreams of a Zabbaleen girl (Source: own design, Text: Theresa S.)

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