

GARBAGE, WORK AND SOCIETY

Dr. Héctor Castillo Berthier

UNAM INSTITUTE FOR SOCIAL RESEARCH

UNAM INSTITUTO DE INVESTIGACIONES SOCIALES

Circuito Mario de la Cueva s/n

Ciudad de las Humanidades

Ciudad Universitaria

C.P. 04510 México, D.F.

Tel. (525) 5622-7400 ext. 294 and 302

(525) 5552-3218 (afternoon)

(525) 5271-1520 (home)

Fax (525) 5665-2443

e-mail berthier@servidor.unam.mx

ABSTRACT

The article seeks to review the main contributions of the book *The Garbage Society: Caciquismo in Mexico City*; written 20 years ago, when no official statistics on garbage production were available in Mexico, public information was extremely difficult to obtain, the ecology was neither a fashionable nor a serious problem, and environmental pollution was not regarded as a viable theme for the social sciences.

The objective of *The Garbage Society* was to provide a detailed description of all the stages involved in garbage disposal from the time when it is thrown away until it is acquired in products that hide their humble origin. This process could be summarized as Garbage + Working force = Merchandise.

The garbage problem in Mexico City is an accurate reflection of the Mexican political system that has traditionally supported corporatism in which caciques play a key role.

Current figures and data are used to verify the events of that first study, while the need to reformulate the problem of garbage production in Mexico is highlighted.

KEYWORD LIST

Garbage, society, recycling, solid waste, caciquismo, participatory research, marginalization, Mexico City Metropolitan Area, PRI.

INTRODUCTION

Garbage workers throughout the world have different names: *packs and teugs* (the latter belonging to an inferior social breed) in Dakar (Communauté Urbaine de Dakar, 1986), *wahis and zabbaleen* in Cairo (Neamatalla, 1985), *gallinazos* in Colombia (Birkbeck, 1978), *chamberos* in Ecuador, *buzos* in Costa Rica, *cirujas* in Argentina, *catadores* in Brazil, *scavengers or garbage pickers* (Ibid) in English speaking countries and *pepenadores or resoqueadores* in Mexico. In short, there are dozens of names for the thousands of men and women in the world who share the same activity: making their living from garbage.

Studies on the recovery and recycling of materials taken from the garbage have been carried out for several decades now. One of the most important early studies, concerning an industrial zone in Akron, Ohio, briefly analyzes the materials recovered, the public collection system, the use of convicts as a work force for the selection of materials and the commercialization of these products (Baldensparger, 1919). In addition, *The Manual of the Community's Recycling Programs* (Hoy, 1979), traces the history of garbage recycling in the United States from 1840 to 1945. This work includes an analysis of the New York City system under the direction of George Waring. In early 1890, Waring created a program for waste recovery, street cleaning and public health improvement, which reduced administrative costs for solid waste management. This program was subsequently implemented in other American cities.

During the first half of the twentieth century, several isolated studies were conducted on this issue. It was not until the end of the 1950s, however, that waste management and public sanitation was seriously addressed in developing countries. Studies and reports submitted by a number of specialists (Gotaas, 1956; Andrews, 1959; TIES, 1959), attest to this but in fact, the real "acceptance of the studies concerning the problems derived from the garbage began in the early 1970s, with attention given also to

the situation of non-industrialized countries like Thailand, Sri Lanka, Senegal, Egypt, Taiwan, Peru, China and Colombia, among others (World Bank, 1984).”

In the case of developed countries, waste management or garbage studies tended to focus on technological development, involving either the collection, transport and eventual disposal of these waste materials, or their recovery, processing and industrialization. In cities where scavengers or garbage pickers were found, the general recommendation was to “exclude them from the recovery processes” (SCS, 1974) so that the system could be as mechanized as possible. Despite having the approval of the United Nations, this recommendation should be reconsidered when analyzing the cases of Third World countries. There, situations range from the total mechanization of systems to the extensive use of labour in city dumps, all of which are directed towards reusing the waste of modern society. Not all the studies, however, refer exclusively to “technological advances”. Studies on Third World countries tend to focus on scavengers’ or garbage pickers’ modes of organization, their type of work, living conditions, income and the social and political interaction they engage in with other groups.

The analytical sections of these studies often contain references to the “informal sector”, “marginality”, “job independence” or “low productivity” in the manual recovery of discarded products, as well as the economy’s “duality” with its consequent “social exclusion”. As a result, their proposals are more oriented towards proposing the modernization of these systems, which incidentally promotes the sale of the technology produced in the First World (incinerators, compost plants, metal foundries, sanitary fills etc.)

Thus, on the one hand, there has been technological progress in garbage management that seeks to achieve clean cities, with maximum reuse of waste products and community ecological awareness. On the other hand, the Third World with its huge city dumps, has hundreds of thousands of people making a living from waste, thereby polluting the environment and creating more poverty and marginalization.

Moreover, the land available for managing and storing waste is reduced, while the problem of waste management is pushed into the background due to the recurrent economic crises in these countries.

Despite this, a Manichean reductionism that regards the First World as a place of “technological marvels” and underdeveloped countries as being on “the edges of civilization”, would be false. Not everything is right about the former or wrong about the latter. It is useful not to view technology as a miraculous panacea that solves problems such as this. One has to consider the multiplicity of social relationships that take place between the various human groups participating in the same activity.

In order to illustrate the complexity of the social relationships involved in solid waste management and disposal in a Third World country, the case of Mexico City is described below.

A SOCIAL PERSPECTIVE ON THE PROBLEM

Perhaps all societies deserve to be judged by their garbage. This is particularly true of the large, heterogeneous community living in Mexico City, since the perennial problem of garbage constitutes an accurate reflection of the traditional Mexican political system. Thus, the visible functionality of solid waste management conceals complicated relationships of power groups for which the garbage has been and still is an enormous political and economic booty. These have posed a serious threat to the development of long-term strategies in the area of solid waste management but, paradoxically, each group is crucial to ensuring that “everything functions efficiently and the city is kept clean”.

The first systematic study on the social problem of garbage in Mexico was published in 1983. At that time, there were no official statistics on the subject, no sources of public information, the environment was neither a fashionable nor a serious problem and, generally speaking, environmental pollution was not considered a viable area of research within the social sciences.

This study, published as *Garbage Society: Caciquism in Mexico City* (Castillo Berthier, 1983), provides a detailed description of all the steps involved in garbage disposal, from its being thrown away in houses, offices, industries, markets and commercial stands, to, after innumerable steps and bargaining, the last stage of the process when we acquire it again in the form of new products, its humble origins now hidden..

The lack of available information for undertaking this project required my direct involvement in the system, first as a temporary borough street sweeper and then as a garbage collector in a truck. I eventually searched for the scavengers' access to the legendary Santa Cruz Meyehualco city dump. This "little town" of scavengers that at that time housed over ten thousand garbage pickers (including men, women, children, and the elderly) covered an area of more than 165 hectares. Until its closure in 1984, it handled the city's garbage for over 22 years (Ibid).

As a result of this participatory research or participant observation as it is known in Anthropology, and the information obtained first hand, the main statements gathered in that first investigation have since served as essential references for the development of further studies related to the subject of garbage. A brief summary of the main ideas and conclusions obtained is given below to provide a general overview of the problem and gauge the progress achieved in this initial study.

One could begin by saying that garbage is worthless. When it is thrown into a wastepaper basket or bin it is worth nothing, but from the moment it is collected, transported, stored, classified, cleaned, sold and reused, it is transformed into merchandise. This means its use value and initial exchange value can be recovered if human labour is incorporated. This can be expressed in the following formula: **Garbage + Labour = Merchandise** (Ibid), which although apparently simplistic, implies a long, complex process of economic circulation.

In this respect, garbage is the link that allows the Merchandise Cycle to close:

Production – Distribution -- Consumption (Recycled Garbage) -- New Production.

In our society, garbage is regarded as something that has already lost its use and exchange value, something that is useless for us that we have to get rid of however possible. This way of understanding what garbage means to us has hampered our ability to see garbage in a different way and to determine its real meaning in our lives. To begin with, if it is true that different products and goods are transformed into garbage when they lose their utility for us as consumers, then it is also true that, from the start of its collection, recycling and eventual disposal, these former consumer goods gradually acquire new value through their recycling.

Nevertheless, this new “merchandise” is permeated by a complicated web of social relationships that largely define its future use and eventual forms of disposal. To begin with, Article 10 of the Current Regulations for the Federal District’s Cleaning Service states that: “The collection of domiciliary solid waste will be free”. Although subsequent reference is made to certain forms of regulation of merchandising establishments, this fact has contributed to a series of interpretations that have made waste collection “free” by law but “expensive” in fact.

This cost can be understood from very different perspectives. For the ordinary citizen, the payment he or she gives workers in charge of public collection or pick-up is either a “tip”, gratification, an aid, a voluntary compensation or a verbal agreement established with the official service employees. There are no receipts, contracts or negotiations and agreements are verbal rather than written. To begin with, given the low salaries of these employees, for many of them, “tips” become a complement to their salary earned “through extremely hard work”.

The problem acquires another dimension in commercial establishments. Let us think about all the kinds of businesses that exist in a city or town (neighborhood stores, mechanical workshops, stationery shops, public and private offices, schools, etc.) assisted by the same public system of garbage collection.

Everyone individually establishes with the truck driver the frequency, volume, type of waste and schedule for gathering them to ensure that the normal activities of these establishments will not be affected. These places, known among waste disposal workers as “*fincas*”, lend the process a squalid, vague, unclear quality, in which the trade union of over twenty-five thousand members (direct and indirect), starts imposing - according to the political tide of the time— certain shades and orientations that determine the fate of the city’s waste.

Added to this partial, somewhat obsolete view, there are several habits, customs and cultural traditions that exist in a town. These include the use of corners, house deposits, parks, gardens and vacant lots as “clandestine dumps” resulting from the lack of civic culture and awareness regarding waste management. Likewise, the illusion that the service is free and paid for through other taxes causes indolence together with a lack of cooperation and apathy among the system’s many users.

At the collection level, garbage trucks are family enterprises that work their routes, “*fincas*” and other businesses (removing rubble, transporting building materials, clearing up private gardens) in a totally private way. Protected by the complicity of the authorities who also get their share of the pie, which ranges from the payments they receive per “route”, per truck, per special service or the delivery and supply of gasoline, service vouchers for official workshops, new equipment, uniforms and so on. In this way, when the idea of “privatizing” the service turns up, one might well wonder how a service that already works privately could be further privatized. Who would benefit and who would be harmed by the change? What would the political impact of such an action be?

As for the final disposal stage, for many years it was thought that garbage should be carried “far away from” the city, to a remote place where it could not be seen and its putrid stench would not offend the city’s inhabitants. Nowadays, however, it is almost impossible to find somewhere that is “far away from” the city that is not near the next town. That is why the real problem of garbage is to understand

that it circulates within a closed environment, as if it were a pressure cooker, where what we throw away somewhere will be thrown back at us at any moment and in another unsuspected form (Small, 1970).

The question here would be when and how the garbage we throw away will be thrown back at us.

The search for these remote places led to the creation of rubbish dumps. If we could reconstruct the various places that have been used as city dumps in the past, we would be surprised at how close and how far inside our urban boundaries these dumps have been located. Moreover, since the 1940s we have known that these are the very places where people, mostly immigrants or fugitives from the law, came and settled, seeking refuge and some means of economic survival.

Nowadays, we know that brick factories were built next to these city dumps and they used the waste to stoke their kilns. We know that they installed breeding places for pigs that were fed on organic waste. We also know that within these groups, certain forms of leaderships were consolidated that, given the **strengthening process** of the central political power based on the Institutional Revolutionary Party (PRI), the creation of a broad union movement and the presence of the local bosses as a form of control and political domination, were decisive elements in the establishment of scavengers' groups that gradually began to play a key role in the reuse, recycling and eventual disposal of the city's waste.

In societies such as Mexico's, the very verticality and authoritarianism of the political system has required "Intermediary Agents" to implement the policies dictated by party leaders who know exactly how their grassroots supporters think as well as enjoying their backing. In view of this, an essential element in explaining *caciquismo* or the power of local political bosses is the concept of articulation, since it is through these political intermediaries that the dominant means of production becomes closely linked to the dominated means of production.

The *cacique* or chief liaises between all legal and political structures (the state) and the resulting benefits (health services, housing, light, drinking water, food allowances, schools, etc.) for workers, in this case, scavengers or garbage pickers.

It is in the link between these two broad sectors of society that caciques arise, through a group of leaders and **unconditional** assistants that organize the legitimization of informality, imposing their will, and receiving countless economic benefits as a result of this *caciquismo*. At the same time, they represent and organise their “sector” in relation to the state political agents, serving as spokesmen and liaison between the authorities and the community represented, and sometimes obtaining specific material benefits for the working population.

The metaphor of the hourglass could be used to explain the leader’s role in garbage collection and selection: At the top is the state infrastructure, where all the benefits it can (and must) provide pass through the “neck” of the hourglass where the cacique is located. He receives them, interacts with the authorities and administers these benefits in a way that enables him to strengthen his economical and political (real and virtual) power. Conversely, at the bottom of the hourglass is the group comprising the majority of the scavengers. On top of them is a smaller group of people in charge of the weighing and machinery, together with supervisors and corporals. On top of these are the buyers and sellers and people close to the leader who secretly exercise power and finally the cacique, who is the link between the two parts of the hourglass.

For the leader, control over the workers allows him to buy the recycled materials at a price he sets—when he doesn’t force them to give them to him for free; as he does with tins and cans— which he then sells at 8 to 10 times the price to the industries that reuse these materials. At the same time his union members regard him as the “good boss” who gives them the benefits that the state grants. This exchange is also extremely useful for the government during political campaigns, since it ensures

acarreados (peasants bussed in by the government in order to vote), voting (unconditional votes) or, in extreme cases, pressure groups for breaking strikes, pressure a government office or “create a crowd” identified with a specific political party.

For many years, the scavengers are said to have been part of the “scenic crowds” who either welcomed distinguished visitors at the international airport or sang *las mañanitas* (Happy Birthday) to the *tapado* (candidate running for President), broke company strikes or served as attack groups, as happened with the Group of the Hawks in 1968, whose contingents included one consisting almost exclusively of members of the city union of garbage collectors and scavengers which was extremely useful for the state.

The problem of these *caciquismos* is that many of them transcend the leaders, while their power is perpetuated by the charisma achieved by the original leader (Max Weber, 1944). In the case of Mexico City, despite the assassination of Rafael Gutiérrez Moreno, “The Garbage King,” by one of his 38 wives in 1997, his leadership remained in the hands of his heirs who have made every effort to protect the economic and political interests that organizing the city’s scavengers has entailed to date. In general terms, *caciquismo* is characterized by the following: 1) The cacique emerges from the community; 2) he achieves power through his own imposition; 3) he maintains an unconditional group of followers; 4) he establishes relationships of servitude with followers; 5) he is autocratic, informal, opportunistic and arbitrary; 6) he uses violence among other means of control; 7) he is recognized as a leader by residents of the community as well as by the authorities; 8) he is the main instrument for the material benefits granted to the community and his followers; 9) his economic power stems from his unlimited use of usury, pillaging and violence; 10) he legitimizes his power in the presence of the community when he is officially recognized as a part of the State; 11) he legitimizes his political power vis-a-vis the state through his enormous **economic power** and his role as a leader within the community; 12) he represents

the interests of a small, select group of individuals; 13) within this group, the leader maintains cohesion through his handling of dominant values –religion, nationalism, recreation, alcoholism, etc.; 14) he forms an informal government within the official government. (Wayne, 1972a).

These characteristics, described by the anthropologist Cornelius Wayne to define the means of survival and consolidation of Latin American caciques (Wayne, 1972b), also fit the profile of the leaders in charge of garbage management in Mexico City. This gives one an accurate idea of the true dimension of these relationships that have historically been maintained between these social and political groups.

Nowadays, garbage collection functions reasonably well although at the same time, the “garbage problem” exists largely because of the amount of solid waste generated daily and because of the pressing need **to gauge its effects at the metropolitan level**. However, the search for solutions no longer requires merely technological contributions or Civil and Environmental Engineering developments. Nowadays, the informality and prevalence of these sociopolitical relationships, which have proliferated under the aegis of the traditional Mexican political system, require the incorporation of a social and political vision of the processes involving the circulation, reuse and final disposal of waste. If we fail to incorporate these powerful social actors, the thousands of workers, who guarantee some level of economic survival for themselves and their families and relatives and take into consideration the real “feuds” linked to their political and economical power, the system runs the risk of “collapsing” under the pressure it already exerts and could exert on these groups of workers. Below are several data and figures that provide a more accurate picture of the actual scope of the problem of garbage management in Mexico City.

DATA AND FIGURES

It is estimated that every citizen in Mexico City generates an average of 1.2 kilograms of solid waste per day, management of which costs the community 1,500 million pesos a year, according to data from the Head Offices of Urban Services of the Federal District Government (DGSUGDF) (González, 1998). In 1997, the Federal District produced approximately 11,420 tons of garbage per day, which, added to the 10,305 tons from the 18 main adjacent metropolitan municipalities, yielded a total of 21,725 tons (Castillo, 1997). Given the continuous population growth in the Mexico City Metropolitan Area (MCMA), garbage production is obviously increasing, although paradoxically, in the case of the Federal District, the available areas for disposing of this tonnage of waste have been reduced, since it is no longer possible to speak about the “outskirts of the City”. There are other important aspects of the problem of the garbage, such as the informal economy and the assignment of “non-registered money” that has been generated around solid waste management together with the lack of a master plan for the AMCM. However, the most delicate issue is the political relationship established between the government and the actors who participate in garbage recovery and processing, such as the citizens’, the street cleaners’ and the scavengers’ associations, which can be described as follows:

- Community members produce garbage and their participation is limited to delivering it to the sweeper or to the garbage truck together with a tip. A survey carried out in September 1998 in the Federal District showed that citizens believe that it is the state government’s obligation to provide free garbage collection services, since the cost of these and other public services are paid for by their taxes. However, its community members are prepared to continue giving tips so that the service will not cease to exist, (International Cooperation Agency of Japan, 1998). It is estimated that every household in the Federal District spends an annual average of 500 pesos on tipping refuse collectors.

- The Federal District government, throughout its corporate and customer history, strengthened the power and the control of the Sole Union of Workers of the Federal District Government (STUGDF), whose origin dates from 1934 and which had 125,000 workers in 1999, making it one of the largest and best-organized trade unions in the country. The strong arm of the SUTGDF is Section I comprising 18,500 cleaners (International Cooperation Agency of Japan, 1998). Unionized workers have considerable advantages that have not always been the result of **workers' achievements** but rather of **prebends and non-regulated concessions** from the various city governments in exchange for their political support. Something similar happens in the 18 conurbated municipalities of the State of Mexico where the union of this state has the same privileges and not only supports union members but also other groups of collectors and garbage pickers organized by the Institutional Revolutionary Party (PRI) as well as benefiting independent, informal collectors.

- In the Federal District, a negotiation between the government and groups of scavengers unionized since the 1940s, has culminated in transporting them from the city dump to *residue separation plants*, where they have better living and working conditions. Even though this agreement did not constitute a victory for their leaders, they benefited by enhancing their image and further reinforcing their political and economical leadership through government legitimacy. At the same time, however, “the cost of maintaining the selection plants oscillates between 80 and 100 million pesos a year, from which nothing is recovered” (González, 1998).

- In the 18 conurbated municipalities, cacique-like relationships are handled in the same way as in the existing dumps. (see Castillo, 1997 and Figure 1)

In short, the governments of the State of Mexico and the Federal District **contradict themselves when they state** the need to modernize waste management when in fact they have turned a blind eye to the prevailing system of vested interests.

THE DAILY CYCLE OF GARBAGE

Someone in each household fills a plastic bag with one or two days of garbage, delivers it to the community's sweeper and pays 2, 5 or up to 10 pesos a week for them to take it away. The sweeper (who earns only the minimum salary) collects the bags from the houses, sweeps the streets and the sidewalks, eventually makes a first, simple material recovery and when filling his lorry with two trash cans of 200 litres each, goes to a certain point agreed upon by the zone's group of workers to empty his

trash cans into the collection trucks. In order to dispose of the garbage, the sweeper has to give a portion of his tips to the truck driver so that he will allow him to deposit it in the *garbage truck* with the object of coming back to end the sweeping and to collect the bags from his zone. The truck covers its route visiting the houses and all kinds of businesses (workshops, bakeries, stores, vegetable markets, dry cleaners, fish markets, self-service stores, etc.) specifically those customers whom he has agreed to visit periodically and for a fixed weekly payment. These routes or areas are defined as *fincas*. The truck driver and one or two assistants (*macheteros*) drive through the *fincas* while the other two or three, known as *volunteers*, empty the bags and go through them to collect materials that can be recycled (cardboard, bottles, furniture, hard tortilla, iron, paper, tin, rags and junk). Everything that is collected in the truck (between 10 and 15% of the total, depending on the zone) is put into bundles, sacks and bags so that it can be sold in any of the hundreds of the city's businesses dealing in *industrial waste*. Afterwards they sell them in full trucks to the industries that use the recycled materials in their production processes. Those materials include cardboard, glass bottles, tortillas, iron, paper, tin, rags, furniture and glass.

Once the money collected in each truck is distributed between the driver, *macheteros* and volunteers, the vehicles head for any of the city's fourteen transfer stations or directly to the city dumps. (see Figure 1) The transfer stations have tow trucks known as *transfers* that receive seven to ten trucks in their Dumpsters to avoid unnecessary trips to the final disposal sites. From the transfer stations, the garbage is taken to the *separation plants*, where, by means of a mechanical strip, what is recyclable is selected and separated, leaving the unwanted waste behind (see Figure 2). The rejected materials are taken to the Bordo Poniente landfill and Santa Catarina's final disposal site. (see Figure 1).

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Generation

This is the first stage of the residue cycle and consists of the remains of food and other decomposed objects that are no use to consumers. Table 1 shows the distribution of the waste generated

by *delegación* and municipality, outlining its high concentration in *the delegaciones* of Iztapalapa and Gustavo A. Madero (which account for approximately 35.2% of the Federal District's garbage) as well as for the Municipalities of Ecatepec, Nezahualcóyotl and Naucalpan, which concentrate 56.3 % of the total amount of garbage from the conurbated municipalities included in this study. Garbage can be classified in two ways: according to its original source (see Table 2) and according to what materials it is made of. (see Table 3). As we can see from the second chart, 47% of the total amount of garbage produced in the Federal District consists of organic non-recyclable residues, which is largely derived from domestic garbage. There are no studies available on the conurbated municipalities to determine the source or type of residues.

Collection

Garbage is traditionally said to be a *great business* and, of course, it is when large volumes of recyclable by-products are managed. When it is deposited in a *waste basket*, garbage is worth nothing but when we use energy for its collection, transport, storage, classification, cleaning, sale and reuse, then it is transformed into merchandise that creates a profit through its production.

In each collection truck, the driver serves as the principal actor of the *business* as well as the *macheteros* (helpers) paid by the corresponding government and the *volunteers* who live exclusively from this informal economy. The monthly income obtained by each participant varies, but it is estimated that the truck driver earns about 10 thousand pesos a month and that assistants earn 6 thousand pesos (see Tables 4 and 5). In these tables we see an above average income that could be earned by the sweepers and refuse collectors in the Federal District. Truck drivers almost quadruple their normal salaries as a result of the uses and customs that have been informally established in the city's sanitation system.

The Federal District government depends on 2,000 trucks, out of which an average of 1,700 work and have the same number of drivers and approximately 3,400 assistants and 4,000 unpaid volunteers, plus 8,000 sweepers. This means that this unique economy directly supports 17,100 people, including heads of household and indirectly their relatives, thereby benefiting an average of 83,500 people, who depend economically on the garbage collection service in the Federal District alone.

In the conurbated municipalities there are 849 sweepers and 2,113 garbage collectors as well as 4,067 people belonging to organizations created by political parties (mainly the PRI) who are engaged in garbage collection activities. This adds up to 7,029 people directly involved in public sanitation and garbage collection, which indirectly benefits a set of 35,145 individuals, assuming there are five members per family.

In the Federal District, garbage collection vehicles are directed to one of the 14 transfer stations. The adjoining municipalities have **only 2 transfer stations which have a low capacity for receiving waste materials**, (Castillo, 1997) and 4 mini-transfer stations for the service of the *burreros* (independent garbage collectors from Tultitlán). This is why most of the collection facilities in the State of Mexico, (trucks, lorries and wagons) have to make the journey from the collection sites to the dumps.

FINAL DISPOSAL

Since 1994, a mechanized system of by-product selection in *recycling plants* was incorporated for the purpose of reusing the resources contained in the residues and reducing the amount deposited in the landfills. At present time there are 3 selection plants with an installed capability for processing a total of 5,500 tons per day. One of these plants is located in the Federal Zone of the former Texcoco Lake in the landfill of Bordo Poniente; the other in the Gustavo A. Madero Delegación called San Juan de Aragón, and the third east of the Santa Catarina site. There, between 10 and 13% of the residue delivered to these three plants is selected for recycling and subsequently sold to the industry.

At present, 1,500 ex-scavengers work in these installations. In addition to these laborers, 6,000 family members benefit either directly or indirectly. Thus approximately 7,500 people make a living from garbage picking in the dumps or landfills.

The organization and operation of the plants is accomplished in the following way: the maintenance of equipment and instalments, the reception of residues and the general operation of each plant is an obligation of the DGSUGDF, while the profits generated by the recovery and sale of the by-products remains in the hands of the leaders who at the same time, use part of them to pay union members for their piecework. Although the income generated by these sales is not reported to the government, it is estimated that around 65,5 million pesos a year are obtained from this informal economic activity. (Castillo, 1998)

Obviously, the way garbage generation, collection and selection is organized means that it is not financially viable for the Federal District Government to maintain these installations, because the mixture of residues reduces the possibility of recovering as well as lowering the commercial value of the

by-products. If residues were separated at source, the established institutional arrangements could probably change, but this does not seem feasible, at least in the short term. The main materials recovered in these facilities are: paper, cardboard, glass, plastic, ferrous and non-ferrous material, cloth-based and other types of junk. In the conurbated municipalities no formal treatment of residues exists.

In the Federal District, the final disposal of the garbage is carried out in two places, intended to confine municipal residue. The landfill of Bordo Poniente takes in an average of 8,500 tons a day while the Santa Catarina site, which received an average of 2,500 daily tons until 2001, and which was also the last city dump, continues to be run by Guillermina de la Torre, the “official widow” of the man known as the “Garbage King”, Rafael Gutiérrez Moreno. Likewise, for the disposal of inert materials (gravel) there is a site located at the east of the city, which receives 382 tons a day.

In the State of Mexico there are no landfills. There are 16 open-air dumping areas regarded as environmentally hazardous since a large portion of this area is located in zones designated as ecological reserves. In 13 of these 16 sites, 1,604 scavengers live and work with a total of 8,020 people depending on this economic activity. **Data on separation and by-products sales are not available, although there seems to be an official procedure for drawing up such records even though this is not carried out systematically.**

FUTURE CHALLENGES

When speaking about the garbage produced in the MCMA, it is important to distinguish between Federal District waste and that of the State of Mexico. However the problem must be viewed from a metropolitan or area-wide perspective in order to give it the proper attention. To this effect, it would be important to reorganize the work of the Metropolitan Commission for the Preservation and Control of the Environmental Pollution in solid waste management in order to formulate and implement an Integral

Metropolitan Plan for Solid Waste Management, with proper legislation aimed primarily at achieving fundamental solutions for four areas:

- Depoliticize garbage management by eliminating the cacique-like systems and power structures established and legitimized by government.
 - Implement a separation program at the point where waste is generated.
- Create specialized collection subsystems for each source of generation, whether domestic, commercial or industrial). A propos of this, there has been a recent proposal by the Federal District Government regarding the creation of a collection subsystem for schools, markets, housing units, and government offices.
- Finally, there is a need to normalize and regulate the informal economy working in garbage management.

If progress is made in this direction, it would be possible to rationalize the current system of garbage collection and processing, and continue gradually eliminate the city dumps in the metropolitan municipalities in order to replace them with final disposal sites like those in the Federal District. Likewise, we could work to raise public awareness so that citizens would actively contribute to solving the problem of the accumulation of residues and trash in the streets, avenues, parks, ravines and all kinds of public places, which account for approximately 23% of the garbage produced in the city, i.e. almost five thousand tons, (Castillo, 1990). The thousands of tons of garbage in the public thoroughfare, which make the City look bad and are euphemistically known as “residues en route”, can stay there without being picked up for days or weeks, although they are not on the whole, accumulative and are periodically eliminated at the rate they are generated, meaning that the amount remains more or less constant. The solution to this problem lies not only in making garbage collection and processing more

efficient, but also in the possibility of achieving a cultural change that will make it possible for citizens to participate actively in the proper management of the garbage they produce.

CONCLUSIONS

The range of situations and phenomena concerning a subject like this requires a variety of ideas for interpreting the underlying factors. However, it is worth posing a number of questions and providing some final reflections by way of a conclusion.

It is true that the garbage problem is a recurrent theme in the cities throughout the world. As time goes on, ostensible progress is made in various fields of knowledge, which can influence its solution, even though this has not happened in a parallel fashion in research on the social and political aspects derived from waste management that are crucial for the Third World.

In the study of the problem of solid waste in communities, on the one hand, the economy has undertaken most of the studies on garbage, framing the problems in terms of feasibility and efficiency, with social groups appearing merely as “informal underground sectors” or “traditional sub-sectors” in a dualistic, exclusive society which does not contribute much to the knowledge of the interrelations between the various groups and society.

On the other hand, engineering has developed a wide range of specializations such as chemical, environmental, civil, mechanical and electronic engineering in which “technological development” is seen as a desirable, essential means of achieving “modernity”.

In the same sense, social analyses have allowed researchers to go “beyond” the knowledge of reality, particularly in the case of scavengers and garbage recyclers. Because of their extremely marginalized condition, their number, as well as their colour, smell and their isolation from society, they are considered socially “remote”, and therefore create closed societies with their own habits and customs, beliefs and values, and specific mechanisms for their marginal or interim integration.

A comparative analysis of different cities, city dumps and scavenger groups could undoubtedly offer new perspectives for analysing the problem, and incidentally permit the construction of “ideal types”, in the Weberian sense, or framing the extreme cases that appear in Mexico, Senegal or Egypt within a long-term vision.

Technically, it should not be too difficult to install more and better sanitary systems in the city dumps, but the thousands of scavengers that live and work there fear for their sole means of survival, which is also the only one they know in a world that does not like or recognize them and pretends not to need them. Garbage recycling creates many sources of employment for them and for the factories that depend on their work. Whether or not society chooses to recognize the fact, garbage scavengers perform a task which, however marginalized, is both useful and helpful for the ecology.

There must be a hidden message in this if only we could decipher it, but who knows whether it will ever be discovered.

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GLOSSARY:

Acarreado. Peasant bussed in by the government to vote

Burreros. Persons that collect garbage in carts pulled by donkeys (burros).

Cacique. A person who exercises absolute power over a group.

Corporatism (corporativismo). Social and political doctrine that defends the intervention of the State in the solution of the labor conflicts, by means of creating a professional corporation comprising workers and businessmen. In Mexico, corporatism is one of the pillars of the political system, together with presidentialism and the state party.

Delegación. Borough.

Fincas. Particular businesses where a garbage collector receives extra money for gathering their garbage in pre-established days and hours.

Machetero (assistant). This helper is the one who helps taking care or loading the content of a truck. The word is derived from *machete*, a long knife commonly used in the fields.

Pepenador Garbage picker, scavenger.

Pepenar (Pick through garbage). From the Náhuatl word *pepena* meaning to choose or pick up off the ground.

PRI. Institutional Revolutionary Party. The political party that ruled in Mexico for almost seventy years but lost the presidential elections on July 2nd, 2000.

Tapado (official presidential candidate). In Mexican political culture, the *tapado* was the PRI presidential candidate, whose name was revealed at a strategic moment.