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# Too Poor To Care?

Pro-poor Solid Waste Management in Manila



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## Abstract

This study of pro-poor solid waste management (conducted in Manila 2006) look at waste *both* as a health problem and as a livelihood for the poor. Pro-poor solid waste management policies optimize social- environmental- and economic benefits for the poor. In practice, this means creating job-security for informal waste-pickers (scavengers), establish subsidies to community based recycling schemes and empower local leadership structures. The formalization process in the Philippines have undermined scavengers' traditional safety nets and "hijacked" informal bonding (micro-level) social capital to the benefit of institutionalised (maso-level) social capital. Along with health and cleanliness aspects, creating "cash from trash" is the foremost incentive for urban poor communities to participate in a Community- based Solid Waste Management (CBSWM) project. The projects can create social capital for the poor through community mobilisation and vertical bridging- and linking networks established in barangay's (local administration) Multisectoral Waste Management Committees (MSWMC) *or* recycling cooperatives. Communities need to be given local ownership of the projects through *real* decision-making capacities.

Keywords: *Community Development, Poverty, Solid Waste Management, Social Capital, the Philippines*

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# List of Abbreviations

CBSWMP	Community-based Solid Waste Management Project
CBO	Community-based Organisation
DENR	Department of Environment and Natural Resources
DoH	Department of Health
ESWM	Ecological Solid Waste Management
EPWMD	Environmental Protection and Waste Management Department
HSRC	Holy Spirit Redemption Centre
KBF	Kaisahang Buhay Foundation
LGU	Local Government Unit
MSWMC	Multisectoral Solid Waste Management Committee
NSCB	National Statistical Coordination Board
NEC	National Ecology Centre
NCR	National Capital Region
NSWMC	National Solid Waste Management Commission
PO	People's Organisation
POG	Payatas Operation Group
PSA	Payatas Scavenger Association
SIDA	Swedish International Development Cooperation Agency
SMPMPC	Sambayan an ng Muling Pagkabuhay Multi Purpose Cooperative
SMRRS	Smokey Mountain Resource Recovery System
SWM	Solid Waste Management
VMSDF	Vincentian Missionaries Social Development Fund
ZWRMPF	Zero Waste Recycling Movement of the Philippines Foundation

# Explanations

<i>National Capital Region (NCR) Metro Manila</i>	Larger metropolitan area with an estimated 11,3 million (night-time) residents.
<i>Local Government Unit (LGU)</i>	Administrative unit also called city or a municipality (17 in Metro Manila). Number of inhabitants varies from 100.000 to 2.000.0000 in urban areas.
<i>Barangay</i>	Smallest administrative unit and constituency for local elections. Number of inhabitants varies from 7000 to 100.000 in urban areas.
<i>Purok</i>	Geographic area often translated as neighbourhood, smaller than a barangay. Based on generally known informal borders, without legal or administrative capacities.
<i>People's Organisation (PO)</i>	Community- based Organisation. Common among urban poor e.g. within housing rights, livelihood or cleanliness. Can be organised under an NGO which then function as an umbrella organisation.
<i>Recycling Cooperative</i>	Member organisation created around a recycling livelihood e.g. informal waste pickers. Capitalized through member fees (shares), minimum share e.g. 500 pesos. Returns are shared among members annually according to share. Registered with the Cooperative Development Authority.
<i>Peso</i>	Philippine currency. Exchange rate was 45 peso to one US dollar (2007-10-05).

# Table of contents

Introduction .....	7
<b>1 This Study .....</b>	<b>8</b>
1.1 Aim .....	8
1.2 Method and Material .....	9
1.2.1 Interviews .....	9
1.2.2 Written records .....	10
1.3 Scope .....	10
<b>2 Background.....</b>	<b>11</b>
2.1 Urban Poverty and Waste Management – Manila and Beyond.....	11
2.1.1 Definitions .....	11
2.1.2 Urban Poverty in the Philippines.....	11
2.1.3 Poverty and Democracy in the Philippines.....	12
2.1.4 Impacts from Poverty on Solid Waste Management.....	12
2.1.5 Environmental Impacts of Hazardous-Waste Management .....	13
2.2 Republic Act 9003 .....	14
<b>3 Social Capital, Poverty, Community Development.....</b>	<b>16</b>
3.1 Social Capital.....	16
3.1.1 Definition.....	16
3.1.2 Different Types of Social Capital.....	16
3.2 Social Capital, Economic Benefits and Poverty.....	17
3.3 Social Capital, Participation and Poverty.....	18
3.4 Social Capital, Community Development and Waste Management .....	20
<b>4 Waste Management among Manila’s Poor Communities.....</b>	<b>21</b>
4.1 “Cash from Trash”.....	21
4.1.1 Dry Recyclables - Non-biodegradables.....	21
4.1.2 Wet Waste - Biodegradables .....	22
4.1.3 Benefits from “Social Recycling.....	23
4.2 Usable Reuse Livelihoods .....	24
4.3 Poor and Non-poor Recycling Solutions.....	24
4.4 Children and Waste .....	25
<b>5 Towards Pro-poor Solid Waste Management .....</b>	<b>27</b>
5.1 Community participation.....	27
5.1.1 Responsible Communities .....	27
5.1.2 Information and Association .....	28

5.1.3	Real Decision-Making.....	29
5.2	The Informal and Formal Recycling Economy.....	30
5.2.1	The Role of the Informal Sector in Waste Management.....	30
5.2.2	The Meaning of Formalization for the Poor.....	30
5.2.3	Formalization of Dumpsites.....	31
5.2.4	Lack of Legal Implementations.....	32
5.3	Organisations and Cooperatives.....	33
5.3.1	Voice delivery and Delivering Recyclables.....	33
5.3.2	Existing Cooperatives.....	33
5.3.3	The Backsides.....	34
5.4	Bridging Governmental and Non-governmental Initiatives.....	35
5.4.1	The Need for Non-governmental Initiatives.....	35
5.4.2	The Need for a Structural Relationship.....	35
<b>6</b>	<b>Conclusion.....</b>	<b>37</b>
<b>7</b>	<b>Reference List.....</b>	<b>38</b>
7.1	Written Material.....	38
7.2	Interviews.....	42
<b>8</b>	<b>Appendixes.....</b>	<b>43</b>
8.1	Appendix 1- Guiding Questions.....	43
8.2	Appendix 2 - List of Stakeholders Interviewed.....	44
8.3	Appendix 3 – Overview of Interviews.....	45
8.4	Appendix 4 -Voices Echoed.....	49
8.4.1	Question 1-Incentives to participate.....	49
8.4.2	Question 2-Changing an reluctant approach.....	50
8.4.3	Question 3-To Bridge Niñas Cogon Mentality.....	52
8.4.4	Question 4-Livelihood projects and Skills Transfer.....	54
8.4.5	Question 5-Environmental Awareness.....	55
8.4.6	Question 6-Low Scale Technical Solutions.....	56
8.4.7	Question 7-New Organisations.....	57
8.4.8	Question 8-Social Capital Creation.....	59
8.4.9	Leadership.....	60
8.4.10	Project Organisation.....	61
8.5	Appendix 5 – Pictures.....	63

# Introduction

“The poorer you are the more resourceful you are, because the mother of creativity is lack of money. Necessity is the mother of invention.” (interview Alcantara, 2006-05-05)

All over the world, the favela citizen, the casteless, the destitute, the poorest of the poor are attracted to petty jobs of sorting out sellable material that someone more fortunate decided to throw away. One person’s trash is another’s treasure. For the western recycler; the emptied soft drink or wine bottle is left in the designated container without reimbursement; cash backs would be miniscule in relation to the household economy. Incentives to recycle are instead based on social and legal obligations.

A long existing and ever growing phenomenon in urban areas of the developing world are informal waste-pickers, also called scavengers, earning their livelihood by roaming the streets collecting recyclables in sacks, wooden carts or pedicabs, selling these onwards to middlemen. They produce societal benefits by converting waste into resources, but are not societal beneficiaries. While the Western world has moved on to more and more sophisticated recycling procedures, the unprotected, stigmatized and dirty scavengers seen in pictures from the 1970’s are practically impossible to tell apart from today’s scavengers.

The poor live closest to the waste; here they have access to livelihoods and available “free” lots of land because of their unattractive location. Waste constitutes a lifeline for the urban poor, but it can also mean death. An infamous accident struck the Philippines in July 2000, when faltering slopes of the garbage mountain in Payatas created a “waste avalanche” killing around 220 dumpsite inhabitants.

Poor areas are often hardest affected by irregularities of waste collection: they lack sanitary storage capacities and have undermined organizational capacity for collective action within waste management. Squeezed between non-services of government waste collection and NGO schemes unfit to narrow alleyways without electricity and sewage systems, many communities feel alienated and left out. In short, improved pro-poor solid waste management in policy and practice is needed for the developing world.

*This study (chapter one)* present the aim, method and material of this study, while *Background (chapter two)* introduces poverty and solid waste management as well as the Philippine legal framework; this is followed by a theoretical discussion in *Social Capital, Poverty, and Community Development (chapter three)* and some reflections on the practical findings in *Waste Management among Manila’s Poor Communities (chapter four)*. The main part of this paper; *Towards Pro-poor Solid Waste Management (chapter five)*, weave together theory and practice and discuss findings on pro-poor solid waste management. The findings are summarized in *Conclusions (chapter six)*.



# 1 This Study

*This chapter outlines the purpose (aim), methodological aspects (method and material) and scope of this study on pro-poor solid waste management in Manila (April-June 2006).*

## 1.1 Aim

Why focus only on the poor in community-based solid waste management when policy documents generally address heterogeneous communities? One reason surfaces in the study of Benneagen et al. on community responses to waste management in Manila, where; “it was necessary to limit the sampling to the middle-income communities, as the practice of segregation is still generally limited to households in middle and above middle-income communities” (2000: 301). This statement overlooks endless efforts undertaken by poor communities within “the practice of segregation”, and implies that proper waste management is a matter of will, rather than opportunity. A second reason for this study relates to the first; since the poor brackets of society often are excluded from statistics, they risk being overshadowed in policy guiding documents.

Solid waste management projects have certain “pro-poor potentials” because they only marginally intervene into the endless political struggles of land ownership, they have small capital inputs and strong participatory elements. The point of departure for this study is that local waste projects can ignite further community mobilization. Caring for the environment is connected with caring for society as a whole. Furthermore, projects can potentially create livelihood and improve health standards.

Before setting out on this journey it should be emphasize that no *generic* feature, location or trait of “the poor” can be found, henceforth an analysis based on such a wide merit as counteracting socioeconomic disadvantages and being pro-poor can only give general indications and no exact guidelines. This study acknowledges the dehumanizing and “othering” aspect of using terms like “the poor” and “poor communities” (Lister 2004:7), but for practical reasons - still utilizes these terms. Discussions in this paper shed light on some important fields within poverty alleviation, such as cooperative formation, informal sector interventions, and creation of social capital.

The overall aim of this study is to look at waste management from a pro-poor perspective with focus on community development, or described in one single question; *How do you best create a pro-poor community-based ecological solid waste management project in an urban poor community?*

## 1.2 Method and Material

As pointed out by Ishikawa and Ushijima, for Manila and many other developing urban centres, governments lack relevant information of the environmental situation among poor communities, and field studies are necessary to find detailed information (2000:252). This study adds to a pro-poor solid waste management perspective through canalizing oral records (interview material) and unpublished materials on solid waste management practices among Manila's urban poor. The method used is predominantly semi-structured interviews with key stakeholders. The study was conducted in Metro Manila between April and June 2006.

### 1.2.1 Interviews

The main basis for analysis is 36 face to face interviews, of which 17 are semi-structured (follow the guiding questions in appendix one). Interviews lasted between 30 minutes and 2 hours. Most interviews are conducted in the natural setting of the respondent such as an office or residence. This gives added value to the researcher able to make area-specific observations, but entails disturbances from telephone calls and visits from colleagues/neighbours.

Some interviewees have their full time work responsibility related to CBSWM while others (e.g. local and municipal public servants) also have other responsibilities. All interviews were conducted in English (of which two with an interpreter) and therefore some limitations due to language barriers must be considered. To cite the insights of Lister (2000:preface), another shortcoming of this study is based on a learned experience of poverty, as it is conducted by an author living in relative affluence.

Interviews were selected through so-called snowball sampling, where one respondent linked to another through informal or formal ties. Initial civil society interviews were set up through Save the Pasig River Movement (SPM), and government sector interviews through attending a SIDA fact-finding workshop on waste management (Mandarin Hotel, Manila, 2006-05-04).

## 1.2.2

## Written records

Unpublished materials were collected from participants of the study and from the Solid Waste Management Association of the Philippines ([www.swapp.org.ph](http://www.swapp.org.ph)), an invaluable source for local ordinances and workshop notes in the field. Financial constraints have resulted in a limited scope of records available in the Philippine public libraries. Instead, information from published books was extracted from the well stocked libraries in Singapore<sup>1</sup>.

## 1.3 Scope

This study looks at community-based solid waste management projects (CBSWMP) initiated by local administrations (barangays) or non-government actors (NGOs/CBOs). Municipal-, barangay-, volunteer- and private stakeholders within waste management were interviewed to give a wide picture of problems and prospects of CBSWMP in poor urban neighbourhoods.

Respondents affiliation with community-based solid waste management vary from informal leaders managing grassroot initiated recycling projects (e.g. Park 7, URLINA, La Isla) to public officials with leading positions in implementing institutions (e.g. MMDA, EPWMD). Some organisations interviewed (e.g. SPM, ZWRMPF) have worked as umbrella organisations supporting local organisations since the early 90's and inspiring recent government initiatives (RA 9003), while other organisations (KBF) are new to the scene of waste management. A list of stakeholders (institutions and organisations) included in this study is found in appendix two. *Detailed list of names and affiliations of respondents, as well as what type of interview was held (semi-structured, discussion-based or information-based) is found in appendix three.*

This paper does not communicate detailed projects setup, nor does the presentational approach follow the guiding questions. For the keen reader, selected quotes from interviews are found in appendix five; *Voices Echoed*, which gives a more (practical) in-depth understanding of findings.

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<sup>1</sup> Institute of Southeast Asian Studies (ISEAS), Singapore National Library, National University of Singapore

## 2 Background

*The first part of this chapter introduces Philippine urban poverty and linkages with solid waste management. The second part summarizes elements of the Philippine legal framework RA 9003.*

### 2.1 Urban Poverty and Waste Management – Manila and Beyond

#### 2.1.1 Definitions

Poverty is a multifaceted, interlinked and complex phenomenon. Discourses conceptualizing poverty and following moral imperatives exist in an endless format between media, academia, and politicians. Still, one-half of the world's population live on less than \$ 2 a day.

This study embraces a short but descriptive definition of *poverty* at times used by the UK government. Poverty is "lack of income and good quality health, education and housing, and the quality of the local environment" (Lister 2004:5). As shown by a range of authors (e.g. Adem 1992, Henry 2006, Sicular 1992, Wilson 2005, and Rouse 2005), waste constitutes both subsistence livelihood and an immediate health hazard for the urban poor. In summary previous research recognizes that: *pro-poor perspectives on solid waste management* take the poors' plight-dependency relationship of waste into account, and optimizes their social- environmental- and economic benefits (author's definition).

#### 2.1.2 Urban Poverty in the Philippines

The Philippine capital region has an estimated three million people living among informal settlements (Foreign Ministry, Sweden 2006). Manila engulfs Southeast Asia's largest slum - Tondo (Artén 1996:23). Like other developing urban centres, Manila has experienced stark urbanization from in-migration and high birth rates. Rural migrants are faced with higher living costs and a competitive job market,

and often end up in makeshift informal residences built from scrap materials (i.e. squatter communities or informal settlements<sup>2</sup>).

Philippine poverty statistics (2003) differ between individuals who are short of managing their basic needs (30,4% of the population), and those who cannot manage their nutrition requirements (13.8% of the population). Although poverty percentiles have slightly decreased from year 2000, the absolute number of people living in poverty has increased due to population growth (Schelzig 2005:15).

Domestic (regional) poverty lines are higher in the capital than other regions due to urban-rural variations of food prices. Despite this, the greater Manila area (Metro Manila) has the lowest *official* incidence of poverty (around 11%) (NSCB 2005:29-33). In a self rated poverty survey (2003) 15% of the Metro Manila residents rated themselves as hungry (Schelzig 2005:38).

### 2.1.3 Poverty and Democracy in the Philippines

The Philippines have one of Southeast Asia's strongest democracies and a constitution stipulating formal political equality. But staggering income gaps (the richest 10% have more than 20 times the income than the poorest 10%, Schelzig 2005 p.30) which create *substantive* political inequalities (see discussion in Brighthouse 2002:54-55). The poor are less able to lobby, set the political agenda or access information (ibid). Furthermore, political alienation due to firsthand experience of the misconducts of public servants, limit political participation among the urban poor (Racelis and Aguirre 2005:130). Locano shows that among the urban poor, personal loyalties are more important than moral principles and community (not family) norms are dominating (1975:38-41).

Contrary to common belief, the poor are rational actors in the electoral processes and base their choices on qualification, rather than patronage relationships (IPC 2005:78). The Philippine civil society has been given extensive freedoms and provides important compensations for under-funded and weak government policies (Ohmatchi - Roman 2002:5).

### 2.1.4 Impacts from Poverty on Solid Waste Management

Local authorities in the developing world spend a considerable share of their budgets (30%) on collection and disposal of refuse. Despite this, the collection rate is only 50-70% of the total waste (Henry 2006:94). In Kenya for example, the urban garbage truck fleet is under-capacitated from high frequency of

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<sup>2</sup> All informal settlements cannot be considered slum, some "squatter" residents have built middle class houses on their non-legalized lots.

breakdowns; remaining resources are focused on commercial or affluent areas (ibid).

The total bill for garbage collection for Metro Manila's 17 municipalities is 3,8 billion pesos every year (NSWMC website 14-09-2007). The city produces 5 tons of garbage each day (0.5 kilo per person), of which 20 percent is believed to be illegally dumped (JICA/ MMDA, 1997).

Ishikawa and Ushijima found that informal settlers in Sita Paz (Manila) rely little on local government waste collection due to infrequency of services. Instead inhabitants dispose of their household waste through incineration (burning of waste), illegal dumping or collection by children and illegal agents (2002:264). Accordingly, irregular waste collection among the poor communities was found as the main reasons for illegal dumping in this study; "If the truck does not arrive for one day, and one person starts to put out garbage, others continue in the same manner and piles of garbage are seen" (interview Collead, 2006-06-21)

But problems with scattered waste and filthy neighbourhoods are also found in poor communities properly serviced with collections (interview Encarnacion, 2006-05-18). This shows that other factors such as information, awareness and community organisation also play a part.

Lack of water- and electricity supply, common in poor communities, pose a threat to lose both livelihoods and cleanliness opportunities from waste management schemes (Henry 2006:99). In 1995 (the Philippine) Department for Environment and National Resources placed a large rotating composting drum (one tonnage capacity) in an makeshift housing area nearby Smokey Mountain (Manila). High density of illegal connections or "jumpers" tapping into the electrical supply, lead to a cut off of electricity services and a major (six months) disruption in the organic waste recycling project (interview SMRRS 21-06-2006).

### 2.1.5 Environmental Impacts of Hazardous-Waste Management

Waste is a prominent health hazard, methane and other gases from decomposing waste cause respiratory diseases. According to the Philippine DoH filth-borne diseases like bronchitis, diarrhoea, pneumonia and tuberculosis are the leading causes of death in Metro Manila (Siton-Nanaman 2000:20). The fundamental reason for solid waste management is to protect human health (CWG workshop 2006). Proper waste management benefits households through a decreased in the number of infections and the time spent on personal hygiene.

Illegal dumping and erroneously placed dumpsites contaminate surface groundwater. Due to a lack of modern sewerage systems and proper waste management, organic waste from informal settlers is seen as one of the key sources of water pollution in Manila (Ishikawa et al. p.249). Most informal settlements have a toilet tank which is emptied untreated into waterways or overflows during frequent flooding (Ishikawa-Ushijima:253). A sizeable part (9%) of the urban poor's income is spent on clean water. In Manila, those who cannot afford the onetime setup cost of piped water (around 4000 pesos) pay a three times higher price from a water dealer (interview Suan 2006-06-17).

## 2.2 Republic Act 9003

The Ecological Solid Waste Management Act of 2000, also called Republic Act 9003, cover the whole waste lifecycle from packaging to production, recycling and deposit. The volunteer sector had long worked to mainstream “reduce, reuse and recycle” of waste, and greatly welcomed the law (see for example ZWRMPF 2005). All projects included in this study get their mandate from the legal definition of *Ecological Solid Waste Management*: “activities which provide for segregation at source, segregated transportation, storage, transfer, processing, treatment, and disposal of solid waste and all other waste management activities which do not harm the environment” (RA 9003, article 2). Hence, further use of the term “waste management” refers to the *ecological* definition above.

In this study, *waste* or *solid waste* refers to everyday household waste, excluding waste occasionally produced by households such as special wastes (e.g. paints, batteries) white goods (e.g. refrigerator) or other waste directly hazardous to human health.

In order to minimize dumpsite waste, the law stipulates segregation at source, which means that the *generator* (e.g. an individual) is responsible for segregation and recycling. Examples of *recyclables* are material retrieved from the waste stream such as; newspaper, scrap metal, cardboard, aluminium and glass (article 2:z). *Recycling* denotes a transformation of waste material into a new product (reuse) or to be used as a raw material to produce other goods (article 2:bb).

The RA 9003 stipulates decentralized decision-making; the Local Government Unit (LGU) is primarily responsible for implementation and enforcement (section 10). In practice, the barangay is responsible for segregation and collection of biodegradable-, compostable- and reusable waste, and the LGU for collection of *residual waste (non-recyclable material)* (section 10).

A buy-back centre is an establishment that “purchases or otherwise accepts recyclable materials from the public for the purpose of recycling such materials” (article 2:d). In this study, a buy-back centre is either a *junk-shop* (a private dealer) or a *Material Recovery Facility* (MRF) managed by a barangay or a NGO/CBO. The RA 9003 stipulates that the barangay is obliged to set up a MRF (section 32).

As one of its ten overreaching goals, the RA 9003 aims to “institutionalize public participation” (section 2:i). An individual can file a civil, criminal or administrative action against any other person, department or public officer that fails to comply or implement the law (section 52). Cases are handled by two accredited lawyer’s organisations<sup>3</sup> (interview Ildefonso, 26-06-2006)

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<sup>3</sup> Integrated Bar of the Philippines (IBP) and Bar of the Philippines (BPA)

Two prohibitions of the RA 9003 primarily affect poor communities; first: “squatting in open dumps and second: “unauthorized removal of recyclable material intended for collection by authorized persons” (section 48). Thousands of impoverished families informally reside (i.e. squat) in and around the dumpsites in Manila<sup>4</sup>. Furthermore, to inhibit informal waste-picking affects the livelihoods of even more families. The law penalizes littering, dumping and open burning of waste (section 48), often used as an alternative for impoverished communities serviced with dysfunctional waste collection. Offence of above will give a 300-1000 peso fine, alternatively 1-15 days community service (ibid, section 49).

Although the law per se constitutes a serious attempt to address the increasing waste problem, the major challenge of RA 9003 remains the same as Henry (et al.) describe for Kenya: “although there is sufficient legislation covering waste management, local authorities lack the capacity to implement them” (2006:96).

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<sup>4</sup> In this study, site visits was made to communities living *on* the open dumpsite in Pier 18, Manila and communities *encroaching around* the controlled dumpsite in Payatas, Quezon City (see pictures 13-18 in appendix 5 from Pier 18).



# 3 Social Capital, Poverty, Community Development

*This chapter introduce social capital in relation to poverty and community development. The theoretical outlook forms a basis of discussion in chapter five.*

## 3.1 Social Capital

Social capital is an emerging concept in a development discourse where market forces and (formal) democracy have failed to provide the key to raise the living standards of the world's poor. In the same line of thought, this study hope to shed some light on the poverty alleviation potentials of community-based solid waste management projects through creation of social capital.

### 3.1.1 Definition

Social capital is an asset of cooperation- support- and trust-structures in society and “classify social interactions as a form of capital” (Chou 2006:889). In poverty research, social capital can be compared to other forms of capital such as human capital (e.g. education), natural capital (e.g. natural resources), and physical capital (e.g. infrastructure). (For discussion of the Philippines see Schelzig 2005 :41-70)

Social capital can give socioeconomic benefits through enabling information sharing, collective action and decision-making. In practice social capital influence society's capacities to build networks, match people to economic opportunities and decrease non-trusting behaviour. In economic theory, social capital is an *externality* - not regulated by, but affecting the market.

### 3.1.2 Different Types of Social Capital

Social capital research diverge between level (*micro, meso, macro*) form (*structural, cognitive*) and type of ties (*bonding, bridging, linking*) constituting the social capital.

*Micro level* social capital focus on networks between individuals and how norms and values affect communities, *meso level* social capital refer to relation

among groups rather than individuals, and *macro level* social capital includes “the most formalized institutional relationships and structures, such as the political regime, the rule of law, the court system, and the civil and political liberties” (Grootaert - Bastelar 2002:4). The difference between *structural* and *cognitive* social capital is that structural capital is realized through observable constructs (e.g. established roles, social networks, rules and procedures) and cognitive capital is based on intangible beliefs (e.g. shared norms values and trust). Structural social capital is indicated or “measured” through the number of networks and associations, while cognitive social capital is observed through community trust and strength of norms. (Grootaert - Bastelar 2002:1-9).

Social capital theories also diverge between *bonding*, *bridging* and *linking* ties. Bonding ties are built up between family members and close friends, bridging ties are established between people with different ethnic, geographical and occupational background, and linking ties e.g. between citizens and government agencies or banks. When looking at social capital in poor communities, bonding ties are popularly believed to be a safety net and substitute for public services, bridging ties are important for social change and creating public benefits, and linking ties represent an “opportunity to promote their interest with people of influence in institutions” (Cleaver 2005:893).

## 3.2 Social Capital, Economic Benefits and Poverty

Apart from positive social ramifications, social capital is believed to impact on socioeconomic growth. In mainstream literature, social capital can improve efficiency of decision-making, collective action, government monitoring as well as informal networks and information sharing.

Chou describes the positive effect of social capital through microeconomic models which includes other form of capital and labour. According to Chou, social capital has a direct impact on human capital, which in turn affects final goods production. The model shows that interventions facilitating the formation of social capital have both macroeconomic and social benefits, but since social capital is an externality these benefits it are not internalized (priced, valued) in the market system. Governments and firms can internalize the positive externality of social capital through subsidies, tax benefits or increased wages (Chou 2006:894-908).

In accordance with Chou’s theoretical model, Grootaert and Bastelar (eds.) show in a range of empirical studies, that social capital can have significant effects on economic growth and development through enhanced production output and more efficient use of human and physical capital (2002:5).

Contrary to other capital formation (physical or human) money is not a necessity for creation, but social capital instead “requires a significant amount of time and effort” to be produced and maintained (Chou 2006:892). Trust is more easily destroyed than rebuilt and social capital diminishes if not maintained.

Keeping inter-individual and institutional trust is a societal imperative. Differences in the level of social capital between countries<sup>5</sup> are based on level of “ethnic, linguistic, religious fractionalization in the country” since language homogeneity creates more fruitful communication and ethnic homogeneity creates greater trust between individuals (Chou 2006:907).

Chou presents a social capital poverty trap: in a society where few social organisations exist, an individual may feel that the decision to engage in collective action is too cumbersome and do not engage. Meanwhile in a social capital dense society with an existing structure of collective action, the threshold of engagement is much lower. “People who belong to groups with more social capital tend to invest more in social capital themselves” (Chou 2006:894). In areas where participation and levels of trust are high, social capital reproduces itself non-linearly<sup>6</sup> (ibid).

Pooling of information through social capital may happen through networks, clubs or copying behaviour, of which facilitate transmission of knowledge and further creation of social capital, but “networks tend to exclude the poor because they have less knowledge to pool” (Grootaert/Bastelar 2002:9).

While social capital has been predicted to offer large poverty alleviation potentials by the World Bank, Cleaver questions mainstream development literature and argues that creation of social capital is not a reliable escape route out of poverty, nor is it a substitute for other assets. He also points out that when individuals are viewed as rational social capital actors (e.g. investing in trust), responsibility to counter social stigma is put on the individual, rather than society (2005:984). In resemblance with Chou, Cleaver argues that there is a spiral of exclusion from social capital for some segments; “social relationships, collective action and local institutions may structurally reproduce the exclusion of the poorest” (2005:893).

### 3.3 Social Capital, Participation and Poverty

Government allocations that focus on social capital creation enable less current consumption in exchange for long term benefits. Policies to increase social capital include promotion of establishments where public interaction and trust can be exercised such as parent-school groups, lifelong learning programmes, libraries and other meaningful leisure activities. (Chou 2006:894)

Cleaver means that entrance fees to clubs and associations hinder participation of the poor. Based on his observations in rural areas of Tanzania (Uangu district) Cleaver points out that the poor are excluded from networks of labour days because of perceived incapacity of reciprocity. Community participation and

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<sup>5</sup> Level of trust is very high in Norway to very low in Brazil.

<sup>6</sup> “Production function for new social capital takes a cubic polynomial form” (Chou 2006: 907)

maintenance of social positioning is a costly undertaking that cannot be afforded when livelihood is disrupted (e.g. from death or theft) and exclusion from social safety nets further the downward spiral of poverty. (Clever 2005:896-905)

Warr sees bridging networks that link individuals from different social spheres as the most efficient way in achieving social capital. Poor communities are mainly built up of family and neighbourhood horizontal bonding ties, which limit the flow of material and information resources into the community. In her study of poor Australian suburbs, she shows that community members remain in their neighbourhoods for work, shopping, and sociable activities and lack bridging networks for accessing social capital. (Warr 2005:285-300)

Clever contradicts a current empowerment discourse relying on strong bonding ties among the poor; instead he argues that there are clear vulnerable aspects of relying on family for food, credit and childcare. Along with dependency physical capabilities and inability to articulate in public fora, fragile family ties are the main reasons why the poor to a lesser extent are able to benefit and construct social capital. (Clever 2005:896- 898)

Stigmatization of poor communities, including limited individual and community resources, erode trust and result in a decrease of residents' community participation. Stigma also presents itself in a process of *internal racism* where community members emotionally and physically distinguish themselves and isolate from their neighbours. Involvement present opportunities for social connections and to increase a person's level of community trust. (Warr 2005:285-293)

Hoddinott discusses efficiency aspects of community participation through *fomal (de jure)* and *real (de facto)* decision-making capacity where; "formal authority is the right to decide; real authority is the effective control over decisions" (2002:149). Real autonomy over projects has proven to increase efficiency while formal autonomy may lead to a decision-making standstill if links to authority structures are unclear (2002:163). According to Hoddinott, positive effects from community participation is fourfold; (1)knowledge of local conditions, (2)avoidance of moral hazard and adverse selection, (3)local monitoring and verification of activities and (4) lower costs e.g. through volunteer labour. Negative consequences from community participation are increased time and effort to reach consensus and risk of benefit-hijacking (corruption) from local elites in fractionalized communities. (Hoddinott 2002:149-160)

### 3.4 Social Capital, Community Development and Waste Management

As further discussed below, CBSWM projects have a participatory- economic- and social impact on communities. Informal sector recycling activities (scavenging or CBO initiatives) are positive externalities to the market.

In an attempt to specify an economic instrument that internalizes the positive impacts of informal waste recycling in the economy (e.g. reduced load of garbage to landfills and resource efficiency), Moreno-Sánchez and Maldonado suggest a recycling subsidy for organized scavenger groups<sup>7</sup>. This subsidy should provide “organizational and technical support to scavenging activity through the formation of cooperative societies or micro-enterprises” (Moreno-Sánchez/Maldonado 2006 :385). The groups may be aimed at improving working conditions, market arrangements and health standards for the scavengers. Increased level of organisation has strengthened the scavengers in Indonesia and Malaysia (ibid).

In a study focusing on the importance of social capital<sup>8</sup> for voluntary solid waste management practices in Dhaka (Bangladesh) Pargal et al. concludes that “the introduction of public-private partnerships or self-help schemes is more likely to be successful in neighbourhoods in which the level of social capital is high”(2002 p. 205). Based on observations among relocated railway squatters, Idefonso contradicts that fragmented communities are less prone to social capital creation, he means that CBSWM projects have an impact on social capital, “especially on communities that are new in the area” (interview 26-06-2006).

Panay and Sirisay found that lack of collective action and self efficacy was the root cause to environmental problems in Thailand (2003:74). Based on studies of urban poor in Manila (Sito Paz), Nakanishi show the importance of the informal patron-client system, including respect for the elders, in promoting environmental consciousness (2002:39-45). Ethnic homogeneity has shown to improve cooperation of the common good and a positive impact on environmental degradation (Chou 2006:908). The process of changing attitudes towards waste is profound. Initial physical environmental charges may bring about behaviour modifications in terms of sanitations and subsequently attitudinal change (Ortigas 2000:18)

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<sup>7</sup> The model also include a deposit-refund system with a distributional impact in that the individual with the highest marginal gain (the poor), would be the most likely to exercise the refund system.

## 4 Waste Management among Manila's Poor Communities

*This chapter discusses some of the practical findings from interviews and highlight livelihood- and technical aspects of CBSWM projects for the poor.*

### 4.1 “Cash from Trash”

This study shows that firstly income generation and secondly cleanliness are the main incentive for a CBSWM among the urban poor. “There is no problem in convincing informal settlements, firstly because they earn money and secondly because the place is cleaner” (interview Camacho, 2006-05-05). “Cash from trash” can be realised directly through selling dry recyclables (e.g. plastic, metal, paper), or indirectly from reducing costs of food and medicine (better health). Less equipment and services are needed for a dry-recyclable project (storage facility, running water, push-carts) than for organic recycling (shredder, composter and fertilizers). Incomes from organic composting projects are small compared to for dry-recyclables.

#### 4.1.1 Dry Recyclables - Non-biodegradables

The limited scope of this study does not allow a quantitative analysis of incomes from dry-recyclables (see instead MMDA/Jaakko Pöyry 2003 or MMDA/JICA 1997), however, some smaller observations have been made.

Incomes from dry recyclables vary depending on preparation (cleaned or not) volume and location. Waste-pickers organisations can sell in bulk and better negotiate prices received from junk-shops, alternatively, they can “jump” one step and sell directly to industry middlemen (interview Suan 2006-06-17). On top of the garbage mountain in Payatas, scavengers receive 12 peso for a kilo of plastics (interview Perez, 2006-06-17) while in La Isla community (San Juan), inhabitants can get 14 pesos for the same sold to a street collector. In the business district of Manila (Makati), Camacho's street side junk shop pay up to 20 peso/kilo for plastics cleaned from labels. Aluminium cans (around 60 peso/kilo) are the most valuable material for small scale informal collectors (interview Almendo, 2006-

06-21). Recycling market irregularities, e.g. discontinued purchase of coloured glass bottles, have big impact on local projects (interview Reyno 2006-05-18).

But who's is the cash for trash? The question of who is entitled to incomes from recyclables arise in the recycling markets' formalization process, where government, junk-shop and informal sector interests compete. Segregation at source on community level diverts recyclables from waste being destined for dumpsites. Barangay sized programmes can employ up to 10 MRF workers and have a monthly turnover of tens of thousands of pesos (e.g. barangay Greater Lagro), which is converted into salaries and societal benefits (interview Dajao 2006-06-08). Furthermore, garbage haulers extract an important additional income to their meagrely paid jobs (300/day at best), through extracting recyclables from truck waste (interview Lipata 2006-06-06). As a result, 3000 Payatas dumpsite scavengers have seen their income cut from 300-400 pesos a day (above minimum salary) to meagre 100 pesos a day (interview Sabater, 2006-06-16, see further next chapter).

#### 4.1.2 Wet Waste - Biodegradables

Most biodegradable waste in Manila is never retrieved for recycling and ends up in polluting air and waste from dumpsites. Ishikawa et al. mean that "recycling of organic wastes has the potentials to solve both poverty and pollution" (2002 p.251). Segregation of biodegradables minimizes attraction of disease spreading flies, cockroaches and rodents. The compost soil can be sold as natural fertilizer (10-20 peso per kilo) or to grow sellable plants. Furthermore, composting can help improve food security through urban gardening.

Not only segregation at source, but "preparation at source" should be applied in order not to loose the environmental and social benefits of biodegradable waste. Municipal waste facilities are often unprepared and under-capacitated to receive organic waste. At the time of this study (June 2006), bags with biodegradable waste were mixed with residuals in the main site of Payatas.

The greatest fixed cost for a local composting system is the machinery shredding the kitchen waste (50.000-300.000 pesos); needed to enable faster fermentation. This cost can be drastically reduced when purchasing locally produced products with inexpensive spare parts (interview Basug 2006-06-23). Los Baños "home made" heavy duty shredder is compiled of a tractor engine and welded iron sheets (picture 22 in appendix 5). Another large (but avoidable) capital input is an electric rotating composting drum (150.000-300.000 peso). This can be exchanged to windrow composting or a built-in composts (picture 19-21 appendix 5). The rotating drums drastically minimize the time (10 days) to get compost ready as compared to windrow composting (60 days). There are also hand-driven and pedi-powered options for rotating composting drums to avoid electrical bills (interview Basug 2006-06-23).

Many composting projects make ends meet, the ability to buy patented enzymes to accelerate fermentation process, control odour and minimize infestation of maggots and flies, is limited. Ingenious grassroots organizations

experiments with alternatives to market products; a mix of fermented boiled rice and brown sugar produce the right enzymes (interview Abaquin, 2006-06-02).

One way of using the nutritious ready composted soil which improves food security is urban gardening, or growing vegetables or herbs in small urban spaces (see picture 11, appendix 5). The Holy Spirit Garden Centre exemplifies how “compact farming” is done through growing vegetables in soil filled rice sacks and used tires, or aquaculture in backyard drums. The lush green centre undertakes trainings and offers 25 peso start-up pack for interested community members (interview Ballilla, 2006-05-26).

Alternatives to community composting systems are organic waste collected by hog-raisers directly from the households. In this “win-win situation”, households get rid of their biodegradables fast, easy and cost-free, while the farmers get free pig fodder (interview Rebuillida, 2006-06-08).

In order to reduce pollution from sewerage-less poor areas, an “Eco-toilet” septic tank system can be used. The tank hosts both kitchen garbage and human excreta and the content can be used as a fertilizer for farms, after heat treatment and quality control (Shinozawa et al. 2002 p.267-276). The WASH pilot project has installed a pilot septic tank system in Tondo (IRC, web 10-09-07).

#### 4.1.3 Benefits from “Social Recycling

In addition to increased neighbourhood cleanliness and employment opportunities, proceeds from local CBSWM projects have social benefits for the larger community. Examples drawn from this study are; purchase of a community delivery truck (e.g. used for changing houses, KKPC), social activities fund (La Isla), church reparations (Bankud) and meriendas (snack) for the child care centre (Park 7). Facilities established for the projects can also be multifunctional, in Park 7, the iron “cage” used to store recyclables is cleared and cleaned to receive medical missions (interview Divinagracia, 2006-06-09).

Community participation in CBSWM projects create opportunities for socialization and trust building, there are many examples of “social recycling” that gives the project leverage. Traditional patterns of community volunteerism “Bayanihan” are used for annual clean ups, followed by an evening fiesta. Sunday clubs within urban gardening or crafts of reusable products create a social learning event. Negative aspects such as polarized views of the project (in or out), and derogatory perceptions against individuals handling waste is also apparent among the communities; “some people think that what we are doing is dirty” (interview Divinagracia 2006-06-09).



## 4.2 Usable Reuse Livelihoods

There is no lack of ideas of livelihood projects from reused materials, the two foremost hindrances for these projects to become viable is lack of channels for putting products on the market, and access to capitals (interview Suan, 2006-06-17). In Manila, projects reusing materials and creating livelihood vary from simple rag-weaving out of T-shirt factory leftovers (barangay Pinagkaisahan) to (more machinery intense) table making from melted and moulded soft plastics (picture 1-6, appendix 5). The KILUS cooperative has broken ground in the western consumer market through their bags and various other products from discarded Doypacks<sup>9</sup>. KILUS collect the juice packs from e.g. funeral parlours and schools, which are reimbursed with 20 centavos (0.2 peso) per pack. Apart from gainfully employing 200 community members, the cooperative has a clear social benefit approach, in that all members (500) are expected to be active purok (neighbour-hood) leaders for cleanliness (interview Natividad, 2006-06-20, picture 12, appendix 5). Holy Spirit redemption centre “redeems” material through making vases, bowls and decorative swans out of tightly folded coloured magazines and newspapers (interview Amar, 2006-05-26). Similar paper artistry is seen elsewhere in small livelihood projects e.g. in Manila’s female prison.

## 4.3 Poor and Non-poor Recycling Solutions

Recycling systems are sensitive to cost- space- and household-constraints that vary between areas (barangays) with different socioeconomic structures<sup>10</sup>.

Economic distress and crime affect urban poor projects; the SMRRS had to chain their plastic bins aimed for collecting recyclables, as they were targeted for theft. In middle to upper class communities, housemaids normally handle household waste. Here CBSWM projects can be said to “survive on the mind-set of the house-owners and the action of housemaids” (author comment). For the dry recyclables, a point and time-specific collection patterns for citizens to follow are similar in poor and non-poor areas, but a reimbursement for recyclables has a significant impact on compliance in poorer areas. “People will not give you [recyclables] for free” (interview Camacho, 2006-05-05).

Non-poor areas with open green spaces can have household- drum- or flowerbed composting, while poor communities with confined small living spaces may prefer a communal system where biodegradables can be deposited. Despite a

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<sup>9</sup> Made from a mix of aluminium foil and plastic materials, named after the inventor Doyen.

<sup>10</sup> The middle to upper-class barangays included in this study is Phil-am and Blueridge.

large capital investment, rotating drum composting systems<sup>11</sup> were found in non-poor and poor areas alike. However, collection system of biodegradables varied, i.e. from being delivered (by housemaids) in high end areas (Phil-am) to being collected in poorer areas (Holy Spirit). In poor areas where house help is rare, working hours long and labour mainly physical, a collection system should be considered for optimal compliance. In the relatively poor barangay Bagumbuhay, segregation at source, including door-to door collection of kitchen garbage, resulted in a 50% reduction of residual waste (EPWMD 2005:49). Political will rather than capital is the main determiner for the successful introduction of a CBSWM system (interview Diaz, 2006-06-15).

Concerning enforcement strategies, different approaches are applied to non-compliants of different socioeconomic background. After an initial barangay summon for first time offenders, barangay Pinagkaisahan renders community service to their poorer citizens while non-poor citizens receive a violation ticket of 1000 pesos. The embarrassment of being forced to clean the surroundings can be a punishment in itself (interview Colleado 2006-06-21). Project resistance is not very different in poor and non-poor areas (interviews Pinagkaisahan and EPWMD Reyno). The “environmental police” (implementing officers) in Quezon City experience that; “the well-off, well-educated and well-connected” are more difficult to deal with (EPWMD 2005:77).

## 4.4 Children and Waste

Street children in Manila are seldom orphans, but rather “runaways fleeing the material and emotional deprivation of their homes” (Sison-Paez, 1993). Many resort to work as scavengers. Children lorry-hop on garbage trucks arriving at Payatas dumpsite (Quezon City) where they wait outside the gates for recyclables to fall off the trucks (interview, Sabater, 2006-06-16). Despite gates and a regulatory office (POG), under age children (below 14 years) are seen working in the dumpsite (author’s observation). The perception among children of Payatas is that scavenging is a “marker of poverty”, yet it brings money to buy food (Racelis – Aguirre, 2005:104)

In the communities, the so called “sacko-boys” are younger boys surviving on house-to-house collection of recyclables. Their services are used in communities tasked to recycle in lack other alternatives. “They are walking shadows; no-one knows their names but we are encouraging people to recycle and cannot tell them to stop” (interview Guzman, 12-06-2006).

The linkage of urban poverty and scattering of waste in urban poor communities can partly be traced back to the role of children. They are often

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<sup>11</sup> Rotating composting drum system distributed by the private company Lacto-Asia.

tasked to take out the waste (perhaps paid 1-2 peso) but unaware of the proper collection points, and simply leave it in the street or nearby creek (interviews La Isla community and SMPMPC, Ishikawa-Ushijima 2002:264).

Kaisahang Buhay Foundation (KBF) in Manila (NGO) plan a recycling livelihood programme employing out of school youth. The project includes leadership and team-building workshops. Recyclables will be collected without reimbursements to the households (but with raffle tickets as incentives) and salaries will be based number of recyclables. Expected problems are achieving citizen's compliance and gaining political will of the local authorities (interview Aman, 2006-06-22).

# 5 Towards Pro-poor Solid Waste Management

*This chapter link the theoretical literary review presented in chapter three and the practical findings presented in chapter four to create a constructive discussion on pro-poor solid waste management. More background material to this discussion is found in appendix five “Voices Echoed”.*

## 5.1 Community participation

### 5.1.1 Responsible Communities

Segregation at source puts a strong responsibility on the waste producer. “Before we just asked people to give us their garbage, now we are turning it around and telling people you have to manage your garbage, because it is your waste” (interview Pantua, 2006-05-19). Studies of waste management in Iligan City shows that behavioural change can be a major challenge to community participation (Siton-Nanaman 2000:18-23).

Changing attitudes towards waste includes changing deep psychological structures. When we create waste, we select what is connected to us and what is not, this process has a vital role in the care of the Self (Hawkins 2006:3). Participation is closely interlinked with area dimensions connected to oneself. Siton-Nanaman shows that highest importance for tidiness is given to “home and surrounding” while the area with largest circumference (the barangay), is least important (Siton-Nanaman 2000:72). Poor communities may have neat and tidy homes, while garbage is piling up outside their window<sup>12</sup>. This community “ignorance” to cleanliness can be explained by Chou’s social capital poverty trap; effort to involve in collective action may be perceived so large that potential initiatives do not materialize. Participatory approaches to CBSWM projects can widen the area of self-reflection; hence enlarge the area of tidiness. Exposure to

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<sup>12</sup> Based on (author’s) observation in president Aquino’s temporary housing development project, erected as a transfer accommodation in the 90’s, but still high in use.

areas high in tidiness can also trigger behavioural change (interview Velasco, 2006-06-26).

Communicating non-material aspects of waste management is important for compliance; “the absence of spiritual connection and consciousness is the root cause of failed waste management projects” (interview Alcantara, 05-05-2006). Furthermore, “discipline” is an often used word when speaking of community compliance; this encompasses everything from practical arrangements in life (e.g. having a job) to keeping one’s morale high. “We have to get rid of both the inner and outer garbage; the inner garbage is in the mind” (interview, Abaquin, 2006-06-02).

### 5.1.2 Information and Association

Information is a crucial aspect of CBSWM project implementation, but as pointed out by Cleaver, the poor are often exempted from information sharing networks. House-to-house campaigns are an effective tool for information dissemination in poor communities, where other forms of communication are less available (e.g. interviews Jimenez, Pantua, Ramos). Lack of personal safety can be an inhibiting factor for street meetings for urban poor project areas (interview Encarnacion 2006-05-18). In Los Baños municipality, the youth are tapped as house-to-house informants on segregation at source (interview, Pantua 2006-19-05).

A multisectoral approach with representation of CBOs is the foremost strength of a SWM project (Siton-Nanaman 2000:18-23). According to the RA 9003, the barangay should establish a Multisectoral Solid Waste Management Committee (MSWMC), where the urban poor are represented through so called People’s Organisations (CBOs). “As a part of the committee, they [the urban poor] get to be involved directly in the planning, policy making, and the actual implementation” (interview Rentoy, 2006-06-02). The committee has a potential to be a platform for social capital creation where vertical networks undertake multi-stakeholder management and problem solving<sup>13</sup>.

Interviews in this study show that added structural social capital (increased association) does not increase participation in CBSWM, instead existing structural social capital (e.g. neighbourhood organisations) are used to increase cognitive social capital (trust and coherence)<sup>14</sup>.

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<sup>13</sup> The SMRRS especially point out the tri-sectoral committee (police, PO, NGO) as a helping in the implementation of CBSWM. The barangay (MSWMC) have so far only to a limited extent been established.

<sup>14</sup> Much more analysis is needed evaluate the importance of structural and cognitive social capital, e.g. through associational density or trust evaluation forms.

### 5.1.3

### Real Decision-Making

Experienced implementers of CBSWM point out the role of the communities in decision-making “it is *they* who will try to translate the engineering design that will fit” (interview Alcantara, 2006-05-05). Communities should feel that the participatory approach does not rest with being a textual matter of the project framework.

The RA 9003 establishes *formal* decision-making of CBSWM projects. “It is not a bottom up approach because the framework is given by the law” (interview Encarnacion, 2006-05-18). The drawbacks of this formal structure are apparent; a typical projects standstill is an awaiting decision from the barangay or the National Housing Office (interview, Jimenez, 2006-06-25). Notwithstanding this, *real* decision-making capacity can be transferred to the communities.

To achieve long-term community involvement requires persistency and time. “You have to be first a listener before an implementer” (interview Quintiquit, 2006-05-12). The project leadership needs to be prepared for a low “community esteem” and scepticism towards imposed structures. In a foreign donor situation, alienation and lack of understanding between the “Santa Clauses” and the “charity cases” must be approached (various interviews). Trust is more easily lost than rebuilt (see Chou) and poor urban areas may be project-exhausted from previous failed attempts. Every project poses a risk being “anti-empowering” through mismanagement and perceived incapacity for collective action. In accordance with Hoddinott, real decision-making process increase time to reach consensus. “It is a slow and tedious process, people change and withdraw, then you have to change and talk it out again” (interview Encarnacion 2006.05-18).

Several project managers identified the local leaders as the main asset in reaching out to the urban poor; “The empowerment goes through the local leader” (interview Quintiquit, 2006-05-12). The forerunner of involving the urban poor in SWM, Holy Spirit (interview Rebuillida, 2006-06-08), was initially accused for having a hidden political agenda but overcame this through participatory training and strengthened local leadership (interview Ramos, 2006-05-26). Local leaders among the urban poor have the “hands-on” knowledge needed for planning and implementation (interview Rentoy, 2006-06-02). But informal local election processes may render leaders that are popular, but not productive (e.g. problem of passive house leaders in SMRRS).

## 5.2 The Informal and Formal Recycling Economy

If there were other jobs, there would be no scavengers, our government does not have good programme for the people working with waste. (interview Galang, 2006-06-20)

### 5.2.1 The Role of the Informal Sector in Waste Management

As put forward by Moreno-Sanchés and Maldonado, the informal sector help optimize waste minimization in developing countries since they have a lower opportunity and more recyclables are retrieved (2006:385).

Manila's recycling industry largely remains in the informal sector economy, including widespread scavenging and informal community-based MRF projects. Securing these livelihoods is a crucial aspect in a pro-poor perspective. A project that competes or simply neglects the informal livelihood of local citizens is likely to fail. "The common argument for not segregating is that half of the people living in this area survive on scavenging, they mean that if we separate our garbage they don't have any work. Only those employed in the programme can collect the recyclables" (interview Colleado, 2006-06-21).

Generally, the informal sector is viewed as poorly organised, low in productivity and with meagre contribution to economic growth, while it in fact, the sector contributes substantially to national total production (Llanto 1998:3) With government investments in human capital and technology, the sector would be more responsive to existing market conditions (ibid).

Focusing on income rather than social exclusion, some public officials wrongly place scavengers outside the group of urban poor; the scavengers are believed to lack education and discipline rather than money (anonymous respondents). Even if the daily income of the scavenger is around minimum salary, they are poor because they lack safety nets, have hazardous working conditions and are exposed to income irregularities and stigmatisation.

### 5.2.2 The Meaning of Formalization for the Poor

Some barangays have chosen to employ scavengers in their Material Recover Facility (MRF) and mainstream the "illegal roamers of the streets" to regular employees with monthly wages, ID card, and a time specific collecting route. But there is no guarantee that scavenger active in the area, rather than a barangay

trustee, are employed in the MRF<sup>15</sup>. Typically when a CBSWM is introduced, the barangay tanods (barangay security forces) get extended responsibilities, which limit the need for new recruits. There may also be trustworthiness and consistency reasons why locals are not employed in the SMW project (interview Encarnacion, 2006-05-18). Some areas, (for example Los Baños) implement the penalties of section 48 in RA 9003, and apprehend scavengers, working without local accreditation.

Junk-shop owners function as local patrons connected to the scavengers with informal ties. This vertical relationship may be represented in that the junk-shop dealer lend vehicle or money to the scavengers, or posts bail if the scavenger is apprehended by the police for illegally retrieving materials (Almendo 2006-06-21). In exchange, the Junk shop has a secure source of recyclables from their protégées. Scrupulous dealers may take advantage of this dependency relationship. Sicular show from Indonesia that the allegiance of the scavenger to the junk shop (buyer) is the most essential link in the scavenging system, and this is openly used in order to undercut prices to the scavenger (1992:28). The asymmetry of market information hit the poor hardest. In a formalization process, private junk-shop owners may choose to discontinue their trust based relationships with scavengers if offered a more steady and organized source of recyclables *or* if the work of their earlier protégées become unlawful.

In this respect, formalization of waste management can be seen as a substitution of social capital from *micro level* to *meso level*. Grootaert and Bastelaer points out that; “strengthening of the rule of law that results in better-enforced contracts may render local interactions and reliance on reputation and informal ways of resolving conflicts” (2002:3). Macro level social capital is created through the implementation of the RA 9003, which “feed on” the micro level social capital existing in bonding structures of the informal recycling sector.

Current academic discourse on the future of scavenging is polarized between “unacceptable” for humanitarian and sanitarian reasons, and “valuable” as a lifeline for the poor and a resource recovery system (CWG workshop 2006:16). Waste management formalization presumably mean more efficient handling of recyclables compared to the informal scavenging system. This drop in labour intensity may be compensated with larger uptake of recyclables.

### 5.2.3 Formalization of Dumpsites

A sanitary landfill that controls toxic leachate and extracts harmful fermentation gas (e.g. methane) is *per se* a timely and much needed environmental investment. In Manila and beyond, poor communities living in and around current open dumps sites are likely to be evicted when the site is developed into sanitary landfill (see RA 9003 section 39-40, Rouse 2006, CWG 2006:15).

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<sup>15</sup> With an underemployment of 22%, (NSCB homepage) there is no challenge to find aspirants for the projects.



What will happen to the people living out of the dumpsite? Currently, 10,000 people (Lupang Pangako) are depending on Payatas dumpsite for their livelihood, within scavenging, junk shops and other petty jobs (presentation in POG office 2006-06-16). Relocation programmes have had low impact. “The people surrounding Payatas is increasing, not decreasing” (interview Perez, 2006-06-16). In general, suburban areas prepared for resettlement of the urban poor are soon abandoned since they lack electricity, transport, job-opportunity and other basic facilities (Ishikawa et al 2002 p.248). The government loan programmes for resettlement, Balik-Probinsiya has failed to address the root cause of the problem (Sison-Paez 1993). To make sure they stay remain in “Provinsiya”, Payatas families that agree to the program to have their house demolished and picture taken.

#### 5.2.4 Lack of Legal Implementations

Formalized waste management work does not guarantee decent working conditions. The sector mainly employs individuals from the lowest socioeconomic strata, who are “the lucky ones to have a job” and unlawful wages or hazardous work tasks<sup>16</sup> are unlikely to receive vociferous complaints. Avella Lipata, manager of Jaram Hauling corporation, see herself as an exemption in the business providing safety equipment, health insurance and SSS (social security) contributions as well as immunization for her haulers (interview 06-06-2006).

In the RA 9003, the presidential commission, NSWMC are tasked to “develop safety nets and alternative livelihood programs for small recyclers and other sectors that will be affected as a result of the construction and/or operation of a solid waste management recycling plant of facility” (RA 9003, Section 5:o). This major undertaking is listed among *twenty-two* other areas of responsibility for the Commission. Not surprisingly, the area has received little political attention. Perhaps more noteworthy, a similar responsibility is not stipulated for the implementing Local Government Units.

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<sup>16</sup> The paleros (garbage haulers) jump on and off the open back of the truck and stuff the residuals manually.

## 5.3 Organisations and Cooperatives

### 5.3.1 Voice delivery and Delivering Recyclables

“Scavengers do not have the benefit of being seen providing a service, and as they rarely have an institutional affiliation, their only relation is the waste itself” (Sicular 1992 p.22). As Cleaver points out, potential poverty reducing capacities are never realized because the poor are less able to set the rules of socialization, and when the poor “do act and socially engage they are likely to do so in ways which recursively reinforce and reproduce their own inequitable positions” (Cleaver 2005 p.895). Moreno-Sánchez and Maldonado emphasize the importance flexible legislative frameworks towards groups of organized waste pickers (2006 p.388) Section 13 of the RA 9003 includes a provision on Multi-Purpose Environmental Cooperatives.

Cooperatives may create a parenthesis from the ruling power-structures and a social forum of equal socialization;. Organisation of CBOs among waste pickers into a cooperatives have beneficial effects through pooling of resources and better voice delivery with government institutions (interviews Suan, 2006-06-17). As previously discussed, cooperative can aggregate recyclables and increase the price towards dealers (interview Perez, 2006-06-17). Apart from gaining access to capital and distributing proceeds, a cooperative can increase socialization through meetings and information-sharing, and counter the asymmetry of market information between scavengers and buyers. Like the barangay MSWMC, the cooperative can create vertical inter-organisational bonding networks or institutionalized linking networks generally lacking in poorer communities.

A more “specialised volunteerism” from the NGO sector could help bring up the organisational capacities for informal recycling sector. Efforts such as access to unbiased information on market prices for recyclable material, and learning centres for basic market knowledge of the recycling industry, would benefit local efforts in establishing informal sector recycling cooperatives

### 5.3.2 Existing Cooperatives

The Philippine Linis-Ganda (Clean Beautiful) recycling cooperative is a well renowned path-breaker in establishing dignity of work for informal recyclers. The network employs around 1000 door-to door collecting eco-aides (employed by around 500 member junk shops) in Manila, with a green push cart, a uniform and an ID (Camacho 2000 p.129-133). The concept is now used in many MRFs, but some mean that the network have an inhibiting effect on the economic viability of local projects; “it moves into an area and retrieve the most valuable recyclables leaving only the low value” (anonymous public official). Due to this, some

recycling schemes have prohibited all other junk-shops to operate in the constituency. The Linis-Ganda does not include any social funds or welfare programmes since “that is the governments business” (interview Camacho, 2006-05-05)

In the cooperative spirit, barangay Pinagkaisahan has started a small recycling scheme with access of credit for the poor. Once the member’s have turned in recyclables worth 200 pesos, double the amount can be borrowed. The loan is later repaid though recyclables (interview Quitiquit, 2006-05-12). Relative to the limited capital access, the administrative burden of such a system on the larger scale may be high.

### 5.3.3 The Backsides

Increased organisation does not necessarily mean empowerment. To improve surveillance of scavenging activities of in Payatas, all scavengers are obligated to be a member of an association (organised by the POG)<sup>17</sup>. Through this reorganisation, scavengers have gained more organised access to work and experienced less work related violence (interview Perez, 2006-06-17). But the junk-shop headed associations have monopoly buying up recyclables from members due to outstanding loans (given to the scavengers). Exclusion of work and social structures are used as pressure points (anonymous respondent).

Cooperatives tend to grow without increasing the benefits social benefits for the members (interview Jimenez, 2006-06-25). Shared leadership is an important community-building strategy (Ortigas 2000 p.72), to widen the learning process of the CBSWM project and avoid power hijacking, several projects (e.g. KBF and KKP) practice rotating leadership.

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<sup>17</sup> The eight associations are organised into an umbrella organisation, PARE. Scavengers work in set shifts, when a new truck arrives to the dump, scavengers are given 20-30 minutes to retrieve recycleables. There are also a substantial number of illegal waste pickers, so called “rambolistas” (interview, Suan 2006-06-17)

## 5.4 Bridging Governmental and Non-governmental Initiatives

If we, the people's organisation, and the local government will go hand in hand and implement this programme we can be successful. Sometimes we are a threat to the local government. They want to be the first to implement. (interview Galang, 2006-06-20)

### 5.4.1 The Need for Non-governmental Initiatives

Local governments have much to lose from dysfunctional waste management; failures of legal implementations and environmental degradation, lead to loss of legitimacy (IPC 2005:42). Compared to private Junk-shops, NGO/CBO recycling initiatives return social benefit and actively work towards increased awareness (e.g. through "social recycling").

The government sector is dependent on civil society initiatives to break into political alienation. Strong trust based project should be anchored in a sector less affected by a swaying political agenda. Unwillingness to participate in a CBSWM project among the urban poor may origin from previous experiences of disenfranchisement. Community members do not want to "help" the local political leadership by their commitments (interview Divinagracia, 2006-06-09). Many poor citizens experience "asymmetry of benefits" for involving in something set out in a remote political agenda (interview Rebuillida, 2006-06-08). Informal leaders can bridge stigmatized communities and governments break inter-strata deadlocks.

### 5.4.2 The Need for a Structural Relationship

Decentralized legal structures within RA 9003 does not necessarily enable a better grassroot involvement; "Representation of the poorest is difficult to secure even through decentralized institutional structures" (Cleaver 2005 p.904). Local governments can feel threatened by civil society recycling projects undermining their popular support and economic strongholds. No legal constraint exists against a public officials to own a junk-shop or a similar establishment (interview Ildfonso, 2006-06-26). This causes problems for a CBO "challenging" the ruling elite by setting up their own recycling scheme (anonymous respondent). To avoid conflict of interest, private involvement of officials should be avoided.

The LGU is responsible for collection of residual waste. This service is contracted out to private haulers paid per area (and not per trip) to avoid previous

problem with corruption <sup>18</sup>(EPWMD 2005 p.18). Pilot studies show that barangay recycling projects are financially viable when reduced cost of garbage hauling is taken into account (MMDA/Pöyry 2003 p.60). Ordinances enable subsidy transfer from the LGU to the barangays e.g. if they provide their own garbage collection and/or reduce their waste load<sup>19</sup>. These benefits make sure that societal benefit of recycling is internalized in the economy and returned to the benefit-creator (the community). Despite proven economic and social benefits of non-governmental and informal organisations, this study has found no local ordinances directed towards this sector. Instead “in-and-out” commitments of one time investments (such as push-carts) have been granted. Structural incentives, instead of arbitrary “goodwill” grants, would invite a deeper cross-sector dialogue and break into an atmosphere of two-way alienation. Subsidy schemes towards civil society organisations are stipulated in chapter IV of RA 9003.

As shown by several waste projects in this study (e.g. KKPC, KBF, SMPMPC), finding a suitable location to handle recyclables can be a major challenge. The barangay can secure lease/ownership contracts to avoid problems. Running costs such as rent can be a deteriorating factor for project economy (interview Banay 2006-06-22), if the barangay contributes with a facility, projects face less risk of discontinuance.

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<sup>18</sup> With the previous pay per trip system, hauling companies lacked incentives for efficiency, and ran with half empty trucks, or trucks packed to look filled. Local officials were accused for signing “ghost trips” to extract funds.

<sup>19</sup> For example, Quezon City (LGU) give a subsidy to barangay Holy Spirit (own garbage trucks) and to barangay Phil-am (waste reduction).

## 6 Conclusion

“It is true that man can alter his environment but in doing so he also alters his own self” (Locano 1975 p.9).

The urban poor have a certain plight-dependency relation with waste. Failures of proper waste management in urban poor areas cannot be decoupled from under-funded administrations and poor infrastructure. Despite this, much can be achieved through pragmatism, political will and avoidance of derogatory views of the poor.

The main reasons for urban poor communities to participate in Community-based Solid Waste Management (CBSWM) are first income-generation and second cleanliness. A barangay (local administration) multisectoral committee where CBOs are represented or an informal sector cooperative can establish bridging and linking networks, important for social capital creation. Improved voice delivery and co-management structures can lower the threshold of participation and counteract a downward spiral of social capital poverty. Project should be formed in a dialogue with community stakeholders through real decision-making capacities. A decentralised leadership structure with empowered local (purok) leaders is the best way to break into two-way alienation between the local elite and the poor. Assigned leaders should have hands-on experience and be “doers rather than demagogues”.

The participatory aspect of CBSWM projects is a potential platform for social capital creation, but unless endorsed by the local administration (barangay), the capital may never be envisaged. Local administrations can return benefits from positive externalities created in informal sector recycling, through establishing local subsidy schemes (ordinances) or securing project facilities.

Due to high maintenance costs and dependency on access to water and electricity, technology can only to a limited extent solve the waste management problem in poor communities.

If not properly managed, the formalization process stipulated in RA 9003 may hijack bonding *micro level* social capital existing between scavengers and junk-shop owners, for the benefit of institutionalised *maso level* social capital. Furthermore, the poor may be excluded from their livelihood.

A multitude of successful projects show that *the poor are not too poor to manage their own waste*. With a pro-poor solid waste management approach in policy-making, including structural subsidies to informal initiatives, attuned formalization process and local project ownership, life among the waste does not have to be a poor life.

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## 7.2 Interviews

Alcantara, Odette	Convenor, Mother Earth Foundation
Almendo, Reynaldo	Svavenger, Smokey Mountain
Aman, Royce	Project Manager, Kaisahang Buhay Foundation
Amar, Ronquillo	Livelihood designer, Barangay Holy Spirit Redemption Centre
Basug, Arman	Supervisor, UP Training Centre for Solid Waste Management,
Camacho, Leonarda	Founder, Linis Ganda Cooperative
Colleado, Nanelita	Chairman of Smokey Mountain Environmental Committee
De Guzman, Ethel	Leader, Purok no 17, Barangay Commonwealth
Diaz, Jose	Phil-am Barangay Captain
Divinagracia, Linda	Director, Park 7 Neighbourhood Association, Loyola Height
Encarnacion, Elsie	Head Plans and Programs, Development Group for Solid Waste Management, Metro Manila Development Authority (MMDA)
Galang, Belen	Leader, Kapatinan Komunidad People's Coalition (KKPC)
Ildefonso, Eli	Technical Staff, National Solid Waste Management Commission (NSWMC)
Jimenez, Myrna	Director, Save the Pasig River Movement (SPM)
Lipata, Avella	Manager, JARAM Hauling Corporation
Velasco, Penny	Director, Happy Earth Foundation
Pantua, Leozardo	Executive Assistant for Operations, Los Baños Solid Waste Management Scheme
Perez, Nestor	Director, Payatas Scavengers Association (PSA)
Quitiquit, Vivian	Barangay Captain for Pinagkaisahan
Ramos, Romy	Legal Secretary, Barangay Holy Spirit
Rebuillida, Lourdes	Professor, Political Science Department University of the Philippines (UP)
Rentoy, Frederica	Head, Quezon City Environmental Protection and Waste Management Department (EPWMD)
Sabater, Luis	Payatas Operational Group (POG)
Suan, Aldrin	Pastor, Vincentian Missionaries Social Development Fund (VMSDF)

# 8 Appendixes

## 8.1 Appendix 1- Guiding Questions

*The following eight questions were guiding the semi-structured interviews on pro-poor solid waste management conducted in Manila April-June 2006.*

- 1) What are the incentives for disadvantaged communities to participate in Solid Waste Management? What are their arguments not to join?
- 2) How do you change a reluctant approach among disadvantaged communities towards involving in Solid Waste Management?
3. How do you bridge the so called niñgas cogon mentality (the attitude of beginning but not continuing) among the disadvantaged communities in a Solid Waste Management project?
4. What livelihood projects could be included in a Solid Waste Management Scheme? What skills could be acquired from the livelihood project?
5. Have you noticed any increase of environmental awareness among the poorer sections of society from a Solid Waste Management project? If so, how do you notice that?
6. Do you know of any new low scale technical solutions for handling garbage that have sprung up through the course of a Solid Waste Management project?
7. Do you know of any new organisation (eg. neighbourhood association, PO, NGO) being created among poorer communities in connection to Solid Waste Management?
8. Can you estimate if any so called “social capital” (e.g knowledge pooling, community capability building, community coherence and cooperation) have been gained among the disadvantaged communities from Solid Waste Management projects?

## 8.2 Appendix 2 - List of Stakeholders Interviewed

### *Academic institutions*

Environmental Studies Institute of Miriam College  
Centre for Integrative and Development Studies (CIDS), Univ. of the Philippines

### *Cooperatives*

KILUS foundation, Pasig City ([www.kilus.org](http://www.kilus.org))  
Linis Ganda (Manila)  
Sambayan an ng Muling Pagkabuhay Multi Purpose Cooperative (SMPMPC)

### *National Government Institutions*

Metro Manila Development Agency (MMDA)  
National Solid Waste Management Commission Secretariat (NSWMC)

### *Municipal Government Institutions*

Environmental Protection and Waste Management Department (Quezon City)  
Los Baños Municipal Solid Waste Management Scheme  
Payatas Operational Group (POG) (Quezon City)

### *Barangay (local administration)*

Barangay Batis (San Juan Municipality)  
Barangay Commonwealth (Quezon City)  
Barangay Fairview (Quezon City)  
Barangay Holy Spirit (Quezon City)  
Barangay Phil-am (Quezon City)  
Barangay Pinagkaisahan (Quezon City)

### *Non-Governmental Organisations*

Earth Day Network Philippines (EDNP)  
Happy Earth Foundation (HEF)  
Kaisahang Buhay Foundation (KBF)  
Kapatinan Kommunidad People's Coalition (KKPC)  
Save the Pasig River Movement (SPM)  
Vincentian Missionaries Social Development Fund (VMSDV)

### *People's Organisations (local organisation)*

Park 7 Neighbourhood Association, barangay Loyola Heights  
Upper Republic Lilac Neighbourhood Association (URLINA), barangay Fairview  
La Isla community, barangay Batis

### *Other*

Ayala Foundation (the Ayala Group)  
University of the Philippines Training Centre for Solid Waste Management  
Jaram Hauling Corporation

## 8.3 Appendix 3 – Overview of Interviews

### Explanation to table

**Semi-structured:** Exhaustive semi structures interview guided by questions in appendix 1. Respondent have thorough experience in community-based solid waste management.

**Discussion based:** Free flowing discussion inspired on question in appendix 1. One or more persons may have been attending. Respondent have thorough to medium experience in community-based solid waste management.

**Information-based:** Respondent may have specialised knowledge within waste management, but limited experience of community development. Interview where on a one-directed information-basis.

	Name / Date of Interview	Function and Organisation	Semi-structured	Discussion-based	Information-based
1.	<i>Abaquin, Juanita</i> 02-06-2006	Director, Zero Waste Recycling Movement of the Philippines Foundation (ZWRMPF) Philippine Ecology Centre, Quezon City, Manila	<b>X</b>		
2.	<i>Alcantara, Odette</i> 05-05-2006	Conveinor, Community Solid Waste Managment Projects, Mother Earth Foundation Barangay Blueridge, Quezon City, Manila	<b>X</b>		
3.	<i>Almendo, Reynaldo</i> 22-06.2006	Scavenger, Smokey Mountain, Manila			<b>X</b>
4.	<i>Aman, Royce</i> 22-06-2006	Project Manager, Family Outreach Program Kaisahang Buhay Foundation (KBF) Barangay Escopa 3, Cubao Quezon City, Manila		<b>X</b>	
5.	<i>Amar, Ronquillo</i> 26-05-2006	Livelihood designer, Barangay Holy Spirit Redemption Centre Quezon City, Manila		<b>X</b>	
6.	<i>Amparo, Reyno</i> 18-05-2006	Collection Coordinator, Barangay Pinagkaisahan Cubao, Quezon City, Manila			<b>X</b>
7.	<i>Arcena, Alma</i> 27-05-2006	Project developer, Environmental Studies Programme, Miriam College Quezon City, Manila	<b>X</b>		

	Name / Date of Interview	Function and Organisation	Semi-structured	Discussion-based	Information-based
8.	<i>Asporga, Virginia</i> 23-06-2006	Director of Barangay Batis Isla Neighbourhood Association, San Juan Municipality, Manila			<b>X</b>
9.	<i>Banay, Tony</i> 22-06-2006	Technical support, Solid Waste Management Barangay Batis San Juan Municipality, Manila		<b>X</b>	
10.	<i>Basug, Arman</i> 23-06-06	Supervisor; UP Training Centre for Solid Waste Management, UP Diliman Campus			<b>X</b>
11.	<i>Cacho, Rafael</i> 24-06-2006	Citizen, Subdivision Parkbridge, Manila		<b>X</b>	
12.	<i>Camacho, Leonarda</i> 05-05-2006	Founder of Linis Ganda Cooperative Barangay Valle Verde 2, Pasig City, Manila		<b>X</b>	
13.	<i>Colleado, Nanelita</i> 21-06-2006	Chairman, Smokey Mountain Environmental Committee Sambayan an ng Muling Pagkabuhay Multi Purpose Cooperative (SMPMPC) 230 Rodriguez street City of Manila, Manila	<b>X</b>		
14.	<i>Dajao, Oliver</i> 08-06-2006	Project Development Officer Environmental Protection and Waste Management Department (EPWMD) Quezon City, Manila		<b>X</b>	
15.	<i>De Guzman, Ethel</i> 12-06-2006	Leader, Purok no 17 Barangay Outreach Office Ardana Extension, Barangay Commonwealth, Manila		<b>X</b>	
16.	<i>Diaz, Jose</i> 15-06-2006	Punong Barangay (Barangay Captain), Barangay Phil-am, Quezon City, Manila		<b>X</b>	
17.	<i>Divinagracia, Linda</i> 09-06-2006	Director, Park 7 Neighbourhood Association Park 7, Loyola Heights Quezon City, Manila	<b>X</b>		
18.	<i>Encarnacion, Elsie</i> 18-05-2006	Head of Plans and Programs; Development Group for Solid Waste Management Metro Manila Development Agency (MMDA) Pasig City, Manila	<b>X</b>		

	Name / Date of Interview	Function and Organisation	Semi-structured	Discussion-based	Information-based
19.	<i>Galang, Belen</i> 20-06-2006	Kapatinan Komunidad People's Coalition (KKPC), Barangay Talalon Quezon City, Manila	<b>X</b>		
20.	<i>Holy Spirit Garden Centre</i> 26-05-2006	Barangay Holy Spirit, Quezon City, Manila		<b>X</b>	
21.	<i>Ildfonso, Eli</i> 26-06-2006	Technical Staff, National Solid Waste Management Commission Secretariat (NSWMC) EMB, Visayas Avenue, Quezon City, Manila	<b>X</b>		
22.	<i>Jimenez, Myrna</i> 25-06-2006	Director, Save the Pasig River Movement (SPM)	<b>X</b>		
23.	<i>(various) KILUS</i> 20-06-2006	KILUS Foundation Barangay Ugong, Pasig City, Philippines		<b>X</b>	
24.	<i>Licos, Adel</i> 06-06-2006	Project manager, Ayala Foundation BPI Building Makati City, Manila	<b>X</b>		
25.	<i>Lipata, Avella</i> 06-06-2006	Manager, JARAM Hauling Corporation			<b>X</b>
26.	<i>Mangullio, Joseph</i> 08-06-2006	President URLINA (Upper Republic Lilac Neighbourhood Association) Barangay Fairview, Quezon City, Manila	<b>X</b>		
27.	<i>Velasco, Penny</i> 26-06-2006	Director, Happy Earth Foundation Quezon City, Manila	<b>X</b>		
28.	<i>Pantua, Leozardo</i> 19-05-2006	Executive Assistant for Operations Los Baños Municipality Solid Waste Management Scheme, Manila		<b>X</b>	
29.	<i>Perez, Nestor</i> 17-06-2006	Director, Payatas Scavengers Association Payatas Controlled Dumpsite Barangay Payatas, Quezon City, Manila			<b>X</b>
30.	<i>Quitiquit, Vivian</i> 12-05-2006	Punong Barangay (Barangay Captain), Barangay Pinagkaisahan Cubao, Quezon City, Manila	<b>X</b>		



	Name / Date of Interview	Function and Organisation	Semi-structured	Discussion-based	Information-based
31.	<i>Ramos, Romy</i> 26-05-2006	Barangay Secretary ( legal department) Barangay Holy Spirit, Quezon City, Manila	<b>X</b>		
32.	<i>Rebuillida, Lourdes</i> 08-06-2006	Professor, Department of Political Science UP Diliman Campus, Quezon City, Manila	<b>X</b>		
33.	<i>Rentoy, Frederica</i> 02-06-2006	Manager, Environmental Protection and Waste Management Department (EPWMD) Quezon City, Manila	<b>X</b>		
34.	<i>Sabater, Luis</i> 16-06-2006	Payatas Operational Group Payatas Controlled Dumpsite Barangay Payatas, Quezon City, Manila			<b>X</b>
35.	<i>Santos, Govita</i> 26-05-2006	Supervisor, Zero Basura MRCF (Materials Recovery and Composting Centre) Barangay Holy Spirit, Quezon City, Manila			<b>X</b>
36.	<i>(various) Smokey Mountain Recovery Resource System</i> 21-06-2006	Sambayan an ng Muling Pagkabuhay Multi Purpose Cooperative (SMPMPC) 230 Rodriguez street Tondo, Manila		<b>X</b>	
37.	<i>Suan, Aldrin (Fr)</i> 17-06-2006	Priest, Vincentian Missionaries Urban Phase 1, Payatas B Quezon City, Philippines	<b>X</b>		
	<b>Total number of interviews (37)</b>		<b>17</b>	<b>12</b>	<b>8</b>

## 8.4 Appendix 4 -Voices Echoed

*This section cover parts of respondent's answers to the guiding interview questions (appendix one) and gives background information to the discussions in the main part of this paper. The original interview transcripts are condensed and slightly retouched for better understanding, but by and large reflect the oral record.*

### 8.4.1 Question 1-Incentives to participate

**What are the incentives for disadvantaged communities to participate in Solid Waste Management? What are their arguments not to join?**

"Now with the law we have an incentive, they can make money out of their recyclables, they can also have money out of their compostables. First you earn number two aesthetic value. Coupons are a good way of giving the households incentives to segregate. The households can change the coupons for rice or goods. There should be a signature to avoid forging upon redemption for this the barangay can assign coordinator for one row of homes".

*(Juanita Abaquin, president ZWRMPF)*

"You gain the absence of garbage, and they gain cash from the recyclables".

*(Oddette Alcantara, convenor CBSWM projects )*

"The primary motivation is economic, number two is cleanliness and sometimes they go hand in hand".

*(Elsie Encarnacion, Head of Plans and Programs development SWM, MMDA)*

"People had never heard of earning money form waste, we help them. People are learning to collect materials in the surrounding. They care for their waste because it can help for their daily needs to pay for their children's schooling or for the tricycle".

*(Linda Divinagracia, SWM project initiator, Park 7, Loyola Heights)*

"The main thing is hygiene. If they put their biodegradables outside in the provided bins their house will not be smelly. For the non-biodegradables, you can wait even a week before taking out the garbage".

*(Nanelita Colleado, Material Recovery Centre of Smokey Mountain Cooperative)*

## 8.4.2 Question 2-Changing an reluctant approach

### **How do you change a reluctant approach among disadvantaged communities towards involving in Solid Waste Management?**

“First thing we do is information campaign. We teach them that if you have a sanitary environment you prevent diseases and do not have to spend money on medicine”.

*(Juanita Abaquin, president ZWRMPF)*

“By making them understand why it is not in their consciousness, it’s because your church did not preach it, your schools did not teach it, your home doesn’t practice it, your government does not prioritise it”

*(Oddette Alcantara, convenor CBSWM projects)*

“We do information dissemination house to house. The residents are confusing recyclables and residuals. Some people are very resistant, they do not want to comply “why are you running after these recyclables so I have to explain to them that we are having people employed. There are resistance both among the poor and the non-poor. References to the law are a usual tool to make people comply”.

*(Reyno Amparo, collection coordinator, barangay Pinagkaisahan)*

“Spoken communication is the main way of changing reluctant approaches. We said - we are already living in a depressed area and we are dirty, we should let the other residents know, yes we are living in a depressed area but we are clean. Little by little it worked. Reluctant residents are questioning why they have to separate their garbage in order to be collected while there is garbage everywhere anyway. The ones that are reluctant are regularly being approached”.

*(Joseph Mangullio, president neighbourhood association URLINA, barangay Fairview)*

“We conducted street per street seminar on cleanliness. Law and order became a good basis for segregation of biodegradable. We used the slogan “there is money in garbage” and trained people from our barangay to become trainers”.

*(Romy Ramos, Barangay Legal Secretary, Holy Spirit)*

“It’s like teaching a baby how to walk, you have to be patient. Many do not believe in it. It took us almost a year to convince people. In the poor areas, you meet some resistance initially but when they see that your programme is serious and that you are persistent they will follow you”. *(Rey Gonzales, SWM implementer, barangay Holy Spirit)*

“It is hard, it is really hard, but what I know that when they see people like me working hard, even the ones who don’t want to comply, it is like a contagious disease, they will join you. There are so many people laughing at me, they think we are not serious in our task [of a river clean up]. I make people feel that they have a responsibility, I ask people to join us. I don’t let people watch me only”.

*(Ethel De Guzman, Purok leader, Barangay Commonwealth)*

“House to house information campaign is the best way for the poor communities to participate in the programme, or street meetings are very good, but be sure when going

in to a street meeting that you know what you are speaking about, or else they will feel it".  
*(Elsie Encarnacion, Head of Plans and Programs development SWM, MMDA)*

"I have gone from house to house in the area to explain the proper waste management. Some families are now followers. I do not feel that I have enough support from the barangay, only me and the Out of School Youth have been going around and collecting the recyclables. Working with the youth might create a problem with discipline".

*(Linda Gonzales, Barangay Kagawad Health and Sanitation)*

"The KKPC have different centres around Tatalon and we invite our member organisations for seminars in waste management. We gather citizens in meetings and have training and education. In every area [cluster] we have one meeting; we go to the area the day before and distribute flyers about a meeting the following day. One meeting is around 1-2 hours".

*(Belen Galang, Chairman, Kapatinan Komunidad People's Coalition , KKPC)*

"In the high end areas, it is very easy to explain what they have to do because they understand. In the poorer areas, like the informal sector, we have to go down directly to the household and teach them. You have to have a focus group discussion, teach them and speak to them from the hart. When we do house to house infomation we also make them sign papers in order to have a proof that they have received the information. We can use this as a basis for fines".

*(Leozardo Pantua, Executive Assistant for Operations Los Baños SWMS)*

"You have to be a mother; you have to listen to them, every problem are channelled thorough you. I am on a twenty-four hour call, when there is death or a birth in the community".

*(Vivian Quitiquit, Barangay Leader Barangay Pinagkaisahan)*

### 8.4.3 Question 3-To Bridge Niñas Cogon Mentality

**How do you bridge the so called niñas cogon mentality (the attitude of beginning but not continuing) among the disadvantaged communities in a Solid Waste Management project?**

“Historically this is a trait among the Filipinos, this was taught by the Spanish colonialist who did not want the Filipinos to be more productive. But we have to change this behaviour and there is always room for hope. Our way was to establish leadership by example. We have issued a memorandum for all the local leaders to set examples, they should themselves have segregation. If we found someone not following the solid waste segregation, we asked them to resign”.

*(Romy Ramos, Barangay Legal Secretary, Holy Spirit)*

“You need to follow up, you have to remind and remind, continuous monitoring. We are using incentives such as the “stick and the carrot approach”, the carrot is prizes and the stick are ordinances from the city of what is punishable within the law. The Barangay officials can be barred from running office again if they do not comply with the rules”.

*(Juanita Abaquin, president ZWRMPF)*

“I think the key is discipline, if they don't have discipline they cannot do it”.

*(Reyno Amparo, Collection coordinator, barangay Pinagkaisahan)*

“Projects need constant monitoring to make sure that people are working and to give them moral support. During the initial phase best thing is to visit the project every day after that you can go weekly or monthly. If some problems have appeared (like technical problems), it is important to get it working at once, otherwise the project will stop. Another important problem is the maintenance cost, it's not a good idea to have the MRF in a place where you have to pay rent”.

*(Tony Banay, barangay Batis technical support SWM)*

“When we start the project we where actually 10 people, the other 5 not active anymore is we call then niñas cogon. They stopped working because they are ashamed seeing the people, they say the work is dirty, bad odour. The people who decided to quit also have other business and are working elsewhere”.

*(Linda Divinagracia, SWM project initiator, Park 7, Loyola Heights)*

“My mental set is always to start small due to that attitude. I appreciate a project that start small and then proceed baby step by baby step as long as it is progressing”.

*(Elsie Encarnacion, Head of Plans and Programs development SWM, MMDA)*

“You have to transform people into being committed so when you leave they will continue. Commitment is bred by inspiration”.

*(Myrna Jimenez, Director, Save the Pasig River Movement)*

“Constant monitoring is needed. We have street coordinators who inform their allocated streets for any activity coming up. They are teaching people of how to bring out their biodegradables and disposables. The street coordinators are volunteers but we are looking at a way to give them some compensation”.

*(Vivian Quitiquit, Barangay Leader Barangay Pinagkaisahan)*

“If political will or a tireless NGO is there this can really a factor to overcome the niñgas cogon”.

*( Lourdes Rebuillida, Prof. Department of Political Science, University of the Philippines)*

“Despite being orientated people stopped and started to throw out garbage during night time. If the truck does not arrive for one day, and one person starts to put out garbage, others continue in the same manner and piles of garbage are seen. Some are paying their little kids 1 or 2 pesos to throw their garbage and the kids are not handling the waste properly. Households that are not following the right waste management practices have to be approached in a nice way not to create hostility. A big smile is the best protection to any bad talk. We need to work hand in hand with the NHA [National Housing Authority] because we are backed by a Republican Act. For us to overcome the niñgas cogon we are coordinating with NHA who has initiated a Tri-sectoral committee [barangay security, the police, PO’s and NGO’s. Perhaps community service is more viable because people do not have any money, imagine the person throwing garbage around would be forced to clean the surroundings. The embarrassment would be a punishment in itself. It is also very important to do follow ups with the environmental leaders also after the seminars are finished”.

*(Nanelita Colleado Chairman of Smokey Mountain Environmental Committee)*

#### 8.4.4 Question 4-Livelihood projects and Skills Transfer

**What livelihood projects could be included in a Solid Waste Management Scheme? What skills could be acquired from the livelihood project?**

“In Batis, the biodegradables are collected every day except Sunday door to door in a plastic container. The biodegradables are turned into nutritious soil that can be used as a fertilizer. This is sold for 10 peso per kilo at the Barangay office. Paper materials can be used to make “rosaries” used for religious purposes”.

*(Tony Banay, barangay Batis technical support SWM)*

“Right now there is a rag making livelihood project from a T-shirt factory that is giving away the small pieces for free. I have brought my sewing machine from home. We also have a garden connected to the eco-centre, but the vegetables are not progressing, we are selling flowering plants for 100 pesos a plant”.

*(Marou Pazeoguin, manager barangay Pinagkaisahan eco-centre)*

“Ofel Panganiban is the mother of invention in this area and a full time volunteer in the Zero Waste Recycling Movement. She educates communities to make crafts or even foods out of waste. She is the one making hamburger out of banana peel. From her people realise that if you do solid waste management you can have more nutritious food”.

*(Alma Arcena, projects assistant SWARMPlan, Miriam College)*

“In this redemption centre we make so many things. I am the design artist for swan figurines from twinned telephone directories and ropes out of twinned plastics. We call this a redemption centre because we waste is “redeemed” here. Other products from recycled material are tissue holder, hats and foot mats. I get inspired from books, attending seminars and from help from god. Seminars are held by the Technological Livelihood Resource Centre. Some schools have started to have the recyclables crafts as a subject. Twelve housewives are working making the products and they can get some extra income”.

*(Ronquillo Amar, Holy Spirit redemption centre)*

“Our aim is to improve food security through helping people feed themselves. With household’s biodegradable we show how to do pot-composts, plastic sack compost or tire-composts. The centre also have pump running on solar power and small scale aquaculture in barrels. Here, the community can receive seedlings of plants to grow on in small urban areas. One planting sack can be used for about three months; you pay only 25 pesos for sack, soil and organic fertilizer”

*(Davis Ballilla, responsible for Holy Spirit Garden Centre)*

“We sell three sacks of compost for 100 pesos (around 35 pesos for 10-12 kilos). Our compost is sold in a private shop, most of our costumers are home-owners”.

*(Arman Basug, Supervisor UP Training Centre for Solid Waste Management)*

“One is to make bags from rolled pieces of paper magazines or newspapers that can then be treated with a glossy cover to increase durability. Naturally, these bags would not withstand too much water. The cooperative also has a livelihood project within clothes making. We get pieces of fabric from the designer Jalo Laurel that is then used by skilful seamstresses to make skirts and dresses. This project is started by an Australian volunteer from VIDA”. *(Nanelita Colledo Chairman of Smokey Mt. Env. Committee)*

## 8.4.5 Question 5-Environmental Awareness

**Have you noticed any increase of environmental awareness among the poorer sections of society from a Solid Waste Management project? If so, how do you notice that?**

“After an orientation seminar the participants have an increased environmental awareness. Mostly the participants supporting the project are middle income community members”.

*(Tony Banay, barangay Batis technical support SWM)*

“There is great change of the views on garbage disposal. Before people had no idea of their garbage, they threw their garbage anywhere, on vacant lots, in the river”.

*(Joseph Mangullio, president neighbourhood association URLINA, barangay Fairview)*

“Slowly but surely we are increasing the environmental awareness through seminar workshop”.

*(Romy Ramos, Barangay Legal Secretary, Holy Spirit)*

“People that are joining the programme become more environmentally aware and they get more respect on themselves”.

*(Belen Galang, Chairman, Kapatinan Komunidad People’s Coalition , KKPC)*

“The issue of solid waste spreads to other environmental issues it is not only solid waste they also get into water. Dump sites are big contributors to global warming. This is hard for an uneducated person to understand, instead they experience the effects of heat, increased rain and skin disease”.

*(Myrna Jimenez, Director, Save the Pasig River Movement)*

“Some people are happier, some have started to care more about their environment”

*(Nanelita Colleado Chairman of Smokey Mountain Environmental Committee)*



## 8.4.6 Question 6-Low Scale Technical Solutions

**Do you know of any new low scale technical solutions for handling garbage that have sprung up through the course of a Solid Waste Management project?**

“You don’t have to buy expensive enzymes for the compost, you can make it yourself through boiled rice that you let ferment and mix it with brown sugar. The Styrofoam companies have come up with an idea to melt Styrofoam with oil and make this into furniture. Hydromex is a good machine that shreds residual wastes and make it into hollow blocks for building. We have houses here made form paper that has been soaked for a very long time into sludge. The shredded materials are mixed with cement. My vermicompost outside is made from 100 of these hollow blocks”.

*(Juanita Abaquin, president ZWRMPF, National Ecology Centre)*

“We teach people to acquire and maintain the machines needed for solid waste management, the most important one is the shredder that shred the biodegradable waste and fastens fermentation. We assemble shredders with diesel engines that cost 50.000 pesos and have minimized maintenance costs since all the spare parts are available locally. There is no difference with the cheaper equipment, we just avoid the middlemen and use our own designs. If the motor does not overheat, our shredder can last for up to five years. Windrow composting is generally not applicable to poor urban communities because lack of space. But with a rotating drum with enzymes waste can be turned into compost in 10 days. The centre sells hand driven composting drums with a capacity of 50 gallons that costs around 50.000-60.000 pesos. A new invention is the pedi-powered drum, where the composting drum is connected to a cycle. The cycling and the rotating of the drum is easy enough to being managed by a 5 year old boy”.

*(Arman Basug, Supervisor UP Training Centre for Solid Waste Management)*

#### 8.4.7 Question 7-New Organisations

**Do you know of any new organisation (e.g. neighbourhood association, PO, NGO) being created among poorer communities in connection to Solid Waste Management?**

“If you add another task for an organisation it might be another burden or project area that is not prioritized. In that way it is better to organise an entirely new organisation that is only into solid waste. But when you move into an area where there is only one organisation it might be better to activate the already existing organisation. People don’t want a new group. But then again, if that organisation have a bad track record of implementing project it might be better to introduce a new group”.

*(Myrna Jimenez, Director, Save the Pasig River Movement)*

“When we revived our solid waste management programme in 2001, we made a municipal [San Juan] wide coalition of PO’s involved in recycling and composting. The coalition is a conferential body. Today the project is not running because of equipment that is not functioning and lack of funds”.

*(Tony Banay, barangay Batis technical support SWM)*

“Some members involved in the project were already leaders, for example the Ladies Auxiliary. They are especially leading the control of the garbage. Smaller organisations in the community have been supporting the project even if it is not on their initial agenda”.

*(Joseph Mangullio, president neighbourhood association URLINA, barangay Fairview)*

“Included in this work was to create homeowners association [HOA], we also divided the barangay into puroks, each with an assigned leader. Purok is a known word for a neighbourhood without legal or administrative meaning”.

*(Romy Ramos, Barangay Legal Secretary, Holy Spirit)*

“We have a new organisation only for solid waste - Organisations of united neighbourhood association to segregate; we established the organisation first, before we introduced the concept to the member organisation. All council of leaders attended the seminar of Sagip Pasig Movement. Every organisation knows each others programme”.

*(Belen Galang, Chairman, Kapatinan Komunidad People’s Coalition , KKPC)*

“As a part of the reorganisation of Los Baños waste system, the municipality’s scavengers were organised into a Waste Pickers Association. The members get a Peda cab, a uniform, and an ID. It then became open to anyone to see if the person collecting the recyclables was accredited by the municipality or not. If not accredited, they would be apprehended. The Waste Pickers Association initially had 54 member but are today around one hundred members. The association got help from the Philippine Society for the Study of Nature”.

*(Leozardo Pantua, Executive Assistant for Operations Los Baños SWMS)*

“I don’t know of any PO’s especially set up for Solid Waste Management, we just tap the existing ones. Many people are already interested in Solid Waste, perhaps through our information campaign in Filipino which easily reaches the poorer sections”.

*(Frederika Rentoy, Manager, EPWMD ,Quezon City)*

“Instead of having one environment leader in each building we have cluster leaders that are responsible for four houses each. Every cluster leader is a member of the environmental committee. The leaders are available and take on their task seriously. To introduce cluster leaders instead of house leaders have made communications easier and helped improve the solid waste management. The cluster leaders are all members of the environment committee”.

*(Nanelita Colleado, Material Recovery Centre of Smokey Mountain Cooperative)*

## 8.4.8 Question 8-Social Capital Creation

**Can you estimate if any so called “social capital” (e.g knowledge pooling, community capability building, community coherence and cooperation) have been gained among the disadvantaged communities from Solid Waste Management projects?**

“Basically yes, these things are based in social capital. I know an area where the people involved in the eco waste management project were firstly non-involved in politics but they got to know people and got into the community more and then started running for local office. In the Philippines you have something called Bayanihan (mutual help and cooperation, the problem of one is the problem of all) and if you need to change your house everyone comes around to help. Often these projects involve money and therefore it’s important to have trust among the participants”.

*( Lourdes Rebuillida, Prof. Department of Political Science, University of the Philippines)*

“Now they care for the development of their community. People are now involved in cleaning their surroundings”.

*(Joseph Mangullio, president neighbourhood association URLINA, barangay Fairview)*

“The educational part of solid waste management has a social effect. We include the concept of Social Interpersonal Relationship (SIR) where reason for existence and ultimate reason why we are here are discussed. The programme puts people closer together because no one wants a dirty smelling community, everyone wants a cleaner community. We also organised a group of community organisers called COURSE [Community Organisers for Unified and Responsible Social Empowerment]. Here their experiences of planning, monitoring and advantages, disadvantages are shared in workshops”.

*(Romy Ramos, Barangay Legal Secretary, Holy Spirit)*

“People support us in the project, we work together. We have Bayanihan, a special days when everyone joins in and clean the surroundings in our community. The first priority of our project is to help the community and to clean the community”.

*(Linda Divinagracia, SWM project initiator, Park 7, Loyola Heights)*

There are so many volunteers in our communities, we call them social capital. Collective efforts are spreading new ideas; when you are many you have the courage. If you engage people in recycling as a livelihood it becomes more than that. They start talking about it to their children. They say to them that we recycle our paper and we have to segregate it. They start to teach people in day-care centres.

*(Myrna Jimenez, Director, Save the Pasig River Movement)*

“This is the reason why we want the communities to create their own solid waste management project and to create a committee. The committee is a multisectoral approach including the church, academe, the business establishments, PO’s and NGO’s, apart from the Barangay officials. The moment they start with their programme they will naturally have improved comradery or else the programme will not work. There should be a social dimension to these programmes in order to work”.

*(Frederika Rentoy, Manager, EPWMD ,Quezon City)*

## 8.4.9 Leadership

**In addition to the guiding questions, the interviews often include discussion on good leadership and leadership qualities, here are some extracts;**

“Important for my leadership is awareness and social responsibility that my parents taught me”.  
*(Royce Aman, project implementer, KBF)*

“If there is no good leader, I do not expect any good result. Problems with solid waste management appear only when there is no good leader. In these areas the role of the leaders is that they are giving information house to house. They are talking to the resident so that on the day of collection we avoiding negative comments”.  
*(Oliver Dajao, Project Development Officer, EPWMD, Quezon City)*

“One reason why it is hard to implement solid waste management programmes in poor areas is the lack of leadership”.  
*(Jonathan Villasa, street coordinator for Greenline)*

“All I know is that as a leader I have to help other people”.  
*(Joseph Mangullio, president neighbourhood association URLINA, barangay Fairview)*

“I became a leader because people believe in my ideas, my interests and care for the environment. I am afraid that the young ones will suffer, I am scared of the threats with the depletion of the ozone layer. I do my small contributions”.  
*(Ethel De Guzman, Purok leader Barangay Commonwealth)*

“In my situation, I want to be a leader. I feel happy helping others, especially children. I feel other people believe me and love me”.  
*(Linda Divinagracia, SWM project initiator, Park , Loyola Heights)*

“Process if identifying the natural leader is important. Natural leadership need to be consolidated and entered into the Core Group”.  
*(Elsie Encarnacion, Head of Plans And Programs SWM, MMDA)*

“I am a good leader because I am a good follower. Leader for me is not the one to sit down and tell people what to do, you go there and they will follow you. You help people to come to new solutions to a problem. Some just do not want to join us because they themselves want to be the leader. But here no-one are the boss, we are the servants, we don't feel like the bosses”.  
*(Belen Galang, Chairman, Kapatinan Komunidad People's Coalition , KKPC)*

“One committed leader creates another. You can be infected with commitment. Leadership is infectious...one of the strongest examples you can give to your community is to do it yourselves”.  
*(Myrna Jimenez, Director, Save the Pasig River Movement)*

#### 8.4.10 Project Organisation

**The following section include interview segments describing general project organisation**

“The *neighbourhood association of La Isla* have taken on the problem of waste management in the area. People in the area no longer throw their garbage into the river. The garbage trucks come every morning and the people bring out the trash to the haulers. An eco-boy from Linis Ganda called “Jun-Jun” collects the recyclables. He leaves the cart outside of the community while collecting in the area. The recyclables are an important income to the people, but one time I could convince them to donate the recyclables to a common pooled fund. For one glass bottle we receive around half a peso and for a kilo of plastics 14 pesos”.

*(Virginia Asporga, La Isla Neighbourhood Association, barangay Batis)*

“When the *Environmental Protection and Waste Management Department of Quezon City* start a programme in the barangay we first have to get the interest of the Barangay captain, if we don’t get the political will there it is for sure 100% it will not work. After gaining some interest we force the Barangay captain to create his own Solid Waste Management Committee (SWMC) because we know that without it no one will spend full time on the project. The members of the SWMC are the one drafting a plan for their community which gives a sense of local ownership of the project which is very important. They are the ones more familiar with the local situation. First we teach them how to do information material and dialogue with the community. After the awareness campaign we do a perception targets and set targets according to the characteristics of the waste of the Barangay. The first implementation is “no segregation no collection”. This is not made city-wise but slowly but surely, if all the areas were covered we would be flooded with illegally dumped waste from people who refuse to segregate”.

*(Frederika Rentoy, Manager, EPWMD, Quezon City)*

“[Implementation EPWMD] If streets are inaccessible for trucks a system of collection points are followed and the residents are asked to bring out their garbage at a designated time. In other places, pedi cabs are used or sacks where you cannot enter with a vehicle. Push-carts are used by the MRF eco-boys to collect recyclables. Greater Lagro with around 22.000 residents have proceeds around 40.000-50.000 pesos a month from the recyclables. For the residuals, two trucks appear on the collection, one truck collects the residuals, and one collects the biodegradables. A leader would go out to the collection point to see what bags belong to what resident. Segregation is often not followed and it is a problem. Sometimes the truck is delayed due to some controversies among residents with the no-segregation no-collection principle. It is not the responsibilities of the haulers to deal with angry residents. Along with the truck travels the environmental police, who are not trained policemen but trained to enforce the environmental laws. We often encounter threats, once in the village for retired military a man once came out with a gun in his hand. The hauling company are employing monitors or so called SWEEP coordinators who are assigned to travel with the truck and monitor the collection. If a barangay is eager, the transformation to an ESWMS can take only six months”.

*(Oliver Dajao, Project Development Officer, EPWMD, Quezon City)*

“The *Uurlina neighbourhood programme* involves 6 eco-aiders (2 men 4 women) who have volunteered and are self employed in collecting and selling the recyclables to the junk shop. They were people previously without work. Some residence prefer to sell instead to junk shops but other sell it to the programme in order to contribute a little bit to their

community. The most important part of the programme is segregation of biodegradable and non-biodegradable. If they separate the bio they don't have to wait for the collection, they can give it to the hog raiser. Some pests have lessened since the introduction of the project. This is because worms that attract cockroaches come mainly from mixed garbage and because less garbage is thrown around. Before someone was paid to clean the street, now that work is divided between the residents under the principle "tapas go, linis mo" meaning you have to clean your surroundings. It takes a lot of time to perfect the system but step by step little by little".

*(Joseph Mangullio, president neighbourhood association URLINA, barangay Fairview)*

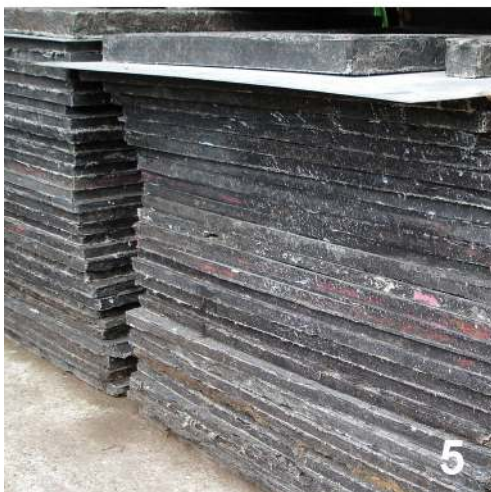
"*The Material Recovery Centre of barangay Holy Spirit* was initially set up by a fund from ADB and a devoted barangay captain Felicitio Valmoncina. Workers sorting the recyclables earn a fixed salary of 5000 pesos a month. The garbage haulers (paleros) are earning around 4000 pesos a month plus income from the recyclables. The fixed salary of the driver is higher. When the garbage trucks enter the centre a variety of recyclables are thrown down from the truck, these are consecutively weighed and valued by a secretary. In the end of the shift the value of the recyclables are split between the collectors and the driver. The income from the recyclables varies from 150-500 pesos each day for the Paleros. Utility workers sorts and clean the recyclables and sells it onwards to larger dealers. The business is like for any private junk shop profitable. The difference with the governmentally owned business is more control and benefits to the public. Owning their own trucks gives the barangay better communication with the ones managing the hauling routes and therefore better control and better cleanliness. In total the barangay owns 7 trucks, each with their own driver. In true Pilipino style, the money for the first hauling truck was raised from a beauty competition. Apart from the more usual recyclables such as glass bottles, aluminium and plastics, Holy Spirit also sorts and sells the soft plastic. After separated according to colour one kilo of soft plastics gives an income of 7 pesos. The centre has six composting drums with a capacity of 1800 litre, automatically rotating by an electrical engine. The equipment is bought from Lacto Asia from a cost of around 100.000 pesos each. It takes one week for the composted materials to become nutritious soil. The composting drums need not more energy than an electric fan, the total electricity bill of the MRF is around 13.000 a month".

*(Ronquillo Amar ,Holy Spirit MRF)*

"*Smokey Mountain Recovery Resource System [SMRRS]* was set up in 2001. The system then focused on livelihood we collected different company's discarded recyclable materials, and not community-based segregation. The SMRRS is one of the projects within the cooperative, SMPMPC. There had been some environmental activities before SMRRS was created but it all needed to be reactivated. Today the project includes composting, receiving recyclables (collection Tuesdays, Thursdays and Saturdays) as well as bag making out of recovered materials. Recyclables are collected from companies like Unilever Catholic Schools, biodegradables are collected from restaurants and put into a bioreactor. Today the biodegradables are not being taken cared of because the bioreactor lack electricity. The scheme has taken over some of the business previously handled by the private junk shops. The waste handling of the area was revitalised in February of 2006, seminars have been held by the Mother Earth Foundation of the Philippines. Before garbage was scattered around in the community and it was much dirtier than before. The area is now separating biodegradable and non-biodegradable. Not all are following the waste management scheme. The Environmental Committee is made up of cluster leaders; each leader is responsible for the cleanliness of four buildings. I have four designated buildings as well as being the overall leader for all the cluster leaders".

*(Nanelita ColleadoChairman of Smokey Mountain Environmental Committee)*

## 8.5 Appendix 5 – Pictures



**1-6** Recycling of soft plastics at Los Baños Eco-Waste Processing Centre. The collected plastics (1) are melted by person wearing protection equipment (2), then put into a mould (3) and pressed (4) in order to create hard plastic sheets (5) that can for example be used for tables (6).  
*(Karolina Huss 2006-05-19)*





- 7) Collected glass bottles near Pier 18 dumpsite, Tondo.
- 8) Outside a junk-shop in barangay Pinagkaisahan.
- 9) Inside a junk-shop, cardboard, paper and iron is piled up, Tondo.
- 10) Middleman buying up iron from scavengers in Pier 18 dumpsite.
- 11) Urban gardening; tomato plantation outside a railway squatting community.
- 12) Bag out of discarded juice packs (Doypacks) KILUS cooperative.

*Karolina Huss, Metro Manila, 2006*



13-18) People living and working inside Pier 18 dumpsite Tondo, Manila  
(Karolina Huss, June 2005)



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- 19) Happy Soil rotating composting drum (*Conexor Björn Walsthedt*)  
 20) Windrow composting, the organic matter is left on the ground to decompose.  
 21) Built in compost with controlled moisture through ventilation and drop holes.  
 22) Heavy duty shredder (300.000 pesos) used to disintegrate biodegradables.  
 23) “Scoop it up” MMDA San Juan river reactive measures.  
 24) Smokey Mountain former waste dump still smoke from spontaneous combustion (ignition of gas) inside the garbage dump.

(20-24 *Los Baños Eco-Waste Processing Centre, Karolina Huss, 2006*)