

**Brief**

C | A | S | I | N

# Wasted Opportunities?

NGOs in Waste Management Bridge the Social-  
Environmental Divide

**September 2006**

Stephanie Lepsoe  
Castlegar, Canada

**Programme on NGOs & Civil Society**

Centre for Applied Studies in International Negotiations  
Centre d'études pratiques de la négociation internationale

C | A | S | I | N

**Centre for Applied Studies in  
International Negotiations**

C.P. 1340  
Av. de la Paix 7 bis  
1207 Genève  
Switzerland

T +41 22 730 8675/76  
F +41 22 730 8690  
ngocasin@casin.ch  
www.casin.ch

**Stephanie Lepsoe**, Research Associate, prepared this report for the Programme on NGOs and Civil Society of the Centre for Applied Studies in International Negotiation.

**The Programme on NGOs and Civil Society**

Worldwide, the role of civil society has been increasing at rapid speed. Non-governmental organizations (NGOs) have become significant and influential players and generate much interest. Created in 1986, the Programme on Non-Governmental Organizations and Civil Society aims at contributing towards a better understanding of NGOs and the solutions of complex and conflictive societal problems involving NGOs.

The opinions expressed in this paper reflect only those of the author and not of the institutions to which he/she is or was affiliated.

Copyright CASIN © September 2006

## Table of Contents

---

INTRODUCTION .....	3
3 CAMPAIGNS TO WATCH .....	3
“Use it Again!”: NGOs Target the Beverage Industry .....	3
High Tech’s Dirty Legacy .....	4
E-Waste in the USA.....	4
The Global Reach of E-waste.....	5
Focus on Policy .....	6
Zero Waste.....	6
SUSTAINABILITY IN ACTION .....	7
Scavenged Livelihoods: Rag pickers turned Entrepreneurs .....	8
Small Starts, Big Plans.....	10
CONCLUSION .....	11



## INTRODUCTION

eBay launches *Rethink* to coordinate reuse and recycling activities of industry leaders in North America. Shell Oil opens a plastic recycling plant in Marsa Matruh, Egypt, employing 16 people per shift to process 183 tonnes of plastic per year. “Scavenger” cooperatives, extended producer responsibility, legislation that redefines waste as an asset—by holding industry accountable and creating opportunities from waste, NGOs are making waves in the global push toward sustainability. Initiatives of large NGOs such as Oxfam and Greenpeace are well documented. But what are the smaller, locally-based people’s organisations doing? This report sets out to highlight two parallel trends that tackle the global waste problem. The first initiative, largely inspired by the Green and Corporate Social Responsibility movements, directly targets wasteful practices of industries. Experiences with the beverage and electronics industries from Poland, India, Nigeria and the United States are provided as examples here. The Zero Waste movement is also briefly touched upon as a grass-roots initiative offering an effective philosophical framework to guide action in the environmental arena.

The second trend is more strongly rooted in the social and environmental justice movements. NGOs operating in this realm focus on creative, practical approaches to increasing living standards through decreasing waste-related environmental contamination. Examples from across the globe suggest that NGOs have particular strengths working with “scavengers”, people who have been traditionally marginalized by society and ignored by governments due to the nature of their work. I highlight several examples of ambitious NGO-initiated projects that have gained government attention in countries where civil society is a relatively recent phenomenon. Finally, I close with two concrete examples of how people in the U.S. and U.K., by supporting NGO recycling programmes, are advancing the work of NGOs in a variety of fields such as cancer research, alternative education, animal rights, and sports for people with disabilities.

## 3 CAMPAIGNS TO WATCH

A number of global and regional campaigns have been attracting widespread attention, and will continue to grow in the future. I have chosen 3 to keep an eye on: beverage waste, e-waste, and Zero Waste.

### “Use it Again!”: NGOs Target the Beverage Industry

The GrassRoots Recycling Network (GRRN: [www.grrn.org](http://www.grrn.org)) classifies its relationship with Coca-Cola: “We’re a little mosquito on the back hide of this \$19 billion elephant,” says Bill Sheehan, national coordinator of the U.S.-based nonprofit advocacy group. Since 1996, the network has

been pushing for corporate accountability for waste, and extended producer responsibility. According to Eric Lombardi of Eco-Cycle, the largest nonprofit recycler in the U.S, "The power of GRRN is that it doesn't have to compromise. GRRN is a group of people from the trenches, not your ivory tower types, who know you change the world one company, one electoral office, one country at a time."

The organization has drawn attention to Coca-Cola's plummeting rate of recycling plastic PET (polyethylene terephthalate) soda bottles—from 53 percent in 1994 to 35.6 percent in 1998. They calculate this difference to represent 800 million pounds of virgin plastic, land-filled each year—plastic that could otherwise be incorporated into the manufacture of pillow stuffing, fleece jackets, carpets, auto parts, or reformed into plastic Coke bottles, closing the manufacturing loop. The group has taken out full page ads in the *The New York Times* and *Wall Street Journal*, encouraging consumers to call a company hotline and mail crushed two-liter bottles back with the message to "Use it again!" When Working Assets, a long-distance telephone company joined the campaign, upwards of 300,000 customers received action alerts on their phone bills. GrassRoots Recycling Network partners with Friends of the Earth, Earth-Justice Legal Defense Fund and Sustain to tackle local and federal policies.

According to Pawel Głuszynski of the Waste Prevention Association ([www.otzo.most.org.pl/en/wpa.html](http://www.otzo.most.org.pl/en/wpa.html)), NGOs in **Poland** have been confronting waste associated with the beverage industry since the early 90s. They point out that fluids were once delivered in refillable bottles that were returned for deposits. However, plastic (including PVC) bottles, multilayer "Tetra Pak"-type boxes, aluminum and steel cans now pack the shelves. Lack of government legislation created the situation where it was cheaper to produce new glass bottles than to reuse old ones. In response, two of Poland's most active NGOs, the Kraków-based Polish Ecological Club (<http://www.zb.eco.pl/gb/18/pke.htm>) and the network of the Green Federation Gaja have been engaged in local activities to promote waste/packaging reduction and recycling, as well as to reintroduce systems of reuse or support those still in existence. The all-Poland packaging campaign lead by the European Sustainable Packaging Action Network (SPAN) and coordinated by Milieudéfense (Friends of the Earth Netherlands) is the largest campaign of its kind in the country.

## High Tech's Dirty Legacy

### E-Waste in the USA

Electronic waste intensified by the rapid growth of the high-tech electronics industry is a major environmental and human health concern for NGOs in the packaging and recycling field, as well as those championing environmental and economic justice. Largely as a result of NGOs such as the Silicon Valley Toxics Coalition ([svtc.igc.org](http://svtc.igc.org)), Campaign for Responsible Technology (CRT), and the National Recycling Coalition ([www.nrc-recycle.org](http://www.nrc-recycle.org)), e-waste has gained attention in the **United States** where under 10% of electronics is recycled. Given the fact that a typical computer contains components manufactured and assembled all over the world, the CRT expanded into the International the Campaign for Responsible Technology (I-CRT). For more than a decade, I-CRT

has been working with environmental, community, labour and health NGOs in the high-tech industry across the U.S. and the world. By collaborating with consumers, government policy makers, community residents, electronics and technology workers, these NGOs have exposed the toxic legacy of high-tech development, pushed the industry to abandon some of its most toxic chemicals, and to begin to adopt more sustainable practices.

ENGO efforts are paying off. In July 2004, *USA Today* announced that the retailer Office Depot along with its partner Hewlett-Packard, commenced recycling old PCs for free. Expense has been one of the greatest obstacles to e-waste recycling. However, as states such as California and Maine pass laws obliging manufacturers to take some responsibility for recycling, producers may no longer have a choice.

### The Global Reach of E-waste

E-waste is not confined to industrialized countries. In fact, the largest concentration of e-waste appears to be in countries with emerging markets. "Consumption of electrical and electronic goods is growing exponentially in **India**", asserts K.S. Sudhakar of the Indian non-profit group Toxics Link. "With the growing IT sector, increasing purchasing power of an average Indian citizen, the fall in electrical and electronic [item prices], government going in for computerization of its own set-ups, and penetration of electronics in rural markets, the consumption pattern is not set to plateau or fall in the near future." The NGO claims India annually generates \$1.5 billion worth of e-waste, or 146,180 metric tons a year, excluding imports. Mumbai alone generates 11,017 tons of e-waste, while Bangalore produces 8,000 tonnes. For comparison, the recycling firm London Remade puts London's e-waste generation rate at 150,000 tons per year.

A search through Indian news outlets quickly reveals that Toxics Link has effectively engaged the media in carrying its message. *The Business Standard*, *Hindustan Times*, *Business Today*, and *The Times of India* have all run stories on the organisation over the past several years, documenting the extent of the e-waste issue and highlighting what measures should be taken to address this growing concern.

The Basel Action Network (BAN) aptly points out that, "India and China perform both as cradles for the electrical and electronics manufacturing industry and as graves for part of its waste". Metals are shipped to Asian or Indian electronic manufacturing firms, then exported to customers in the West. A few years later, the products return as junk. Africa, India, and China all receive huge amounts of illegally imported cell phones, computers, and other castoff devices, most smuggled in as 'metal scrap', 'mixed electronic scrap' or 'second-hand goods'.

After importation, electronics are "cannibalized" for their precious metals and other—often toxic—substances such as antimony, arsenic, beryllium, cadmium, copper, lead, nickel, and zinc, and sold by scrap dealers. Cheap, unprotected labour work in the cannibalization process, as well as picking through the remaining waste. Dumped waste leaches toxins into groundwater and pollutes the air from incineration. According to BAN, there has been little investigation of e-waste

imports into South America, and most of the research in Africa concentrates on imports into Africa's largest city, Lagos, Nigeria.

## Focus on Policy

Many NGOs helped to shape the negotiation process and subsequent monitoring for the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, which entered into force in 1992. The Convention strives to reduce the transnational shipment of hazardous wastes, particularly from developed to less developed countries. The newly implemented Restriction on Hazardous Substances (RoHS) Directive in the **European Union** will minimize the use of mercury, lead, hexavalent chromium, cadmium, and two types of brominated flame retardants in an assortment of electrical and electronic products from any geographic origin. **China** intends to introduce its own variation of an RoHS law, the first phase scheduled to come into effect in March 2007. **South Korea** is also planning an RoHS law.

In the **United States**, the Basel Action Network, Silicon Valley Toxics Coalition and large NGOs like Greenpeace pressure the corporate sector and federal government to deal with the lack of recycling legislation in the United States, monitor the trade in international waste, and address national pollution problems resulting from e-waste. ENGOS are actively tackling waste and re-use issues in the **UK** as well. The Recycling Network, Green Alliance, Friends of the Earth, Furniture Reuse Network, and Women's Environmental Network recently released the *Waste to Resources* joint statement. The paper outlines these ENGOS' vision for 2020 and puts forth a set of 14 policy recommendations addressing waste and recycling targets, taxes and other mechanisms to internalize environmental costs associated with product manufacturing and disposal.

## Zero Waste

NGOs have been arguing for years that beyond reducing, re-using and recycling, waste must be addressed at source. To this end, they assert that eco-design considerations such as energy efficiency, low or no toxicity of components, and easy dismantleability should be a regular consideration in product planning. Extended Producer Responsibility (EPR) is an important step in this direction. Ultimately, achieving zero waste means phasing out landfills and incinerators.

The global Zero Waste movement itself exemplifies the NGO community's commitment to ecological and social sustainability. Organisations with a mandate of "Zero Waste" are active throughout Canada and the USA, Colombia, Brazil, New Zealand, Australia, Western Europe, India, Korea, and the Philippines. ([www.grrn.org/zerowaste/index.html](http://www.grrn.org/zerowaste/index.html)). Waste Not Asia succinctly outlines the principles of Zero Waste. Organised as GAIA's regional platform in Asia, Waste Not Asia is an alliance of Asia-Pacific Nations promoting clean production and a Zero Waste-oriented society. The coalition of citizens' groups and individuals share a commitment to:

- Decentralised community-based reuse, recycling and composting programmes that promote materials recovery rather than materials destruction;
- Opposing waste landfills, incinerators and other end-of-pipe interventions;

- Ensure that manufacturers are held responsible for designing products and packaging that are ecologically sound through every stage of their life cycle;
- Eliminate persistent organic pollutants (POPs) and move towards a toxic free future;
- Reduce generation of waste, promote clean production, and move towards a zero waste society ([www.no-burn.org/wna/wnavision.html](http://www.no-burn.org/wna/wnavision.html)).

## SUSTAINABILITY IN ACTION

While maintaining a strong environmental focus, many NGOs structure their projects to address key social concerns among marginalized people in communities where these organisations operate. Such projects underscore the tremendous potential of social, economic and environmental sustainability in practice.

The Community Recycling Network UK (CRN [www.crn.org.uk](http://www.crn.org.uk)) is the national umbrella organisation for community-based, not-for-profit and co-operative waste management groups working in reduction, re-use and recycling. It considers waste a valuable resource that can help to build the social economy through providing jobs and training for the long-term unemployed and people with special needs. Its 400 members range from single-person village operations to large, not-for-profit curbside collection services in major cities. By partnering with local authorities and waste management companies, CRN members have achieved some of the highest recycling rates in the UK.

UK-based *Create* ([www.createuk.com](http://www.createuk.com)), *Envie* in France ([www.envie.org](http://www.envie.org)), and Spain's *Asociacion Espanola de Recuperadores de Economia Social y Solidaria (AERESS)* ([www.aeress.org](http://www.aeress.org)) provide further, tangible examples of community level social-ecological projects. Recycling used electrical products provides the basis for training and work opportunities for long-term unemployed or socially marginalized people. Refurbished goods are then sold to low-income households at an affordable price.<sup>1</sup>

In the Philippines, the People's Recovery Empowerment and Development Assistance (PREDA) Foundation recycles hundreds of thousands of discarded foil drink pouches. Since its establishment in 1974, it has strived to “promote and protect the dignity and the human rights of the Filipino people, especially of women and children” ([www.preda.org](http://www.preda.org)). PREDA helps to create livelihoods for abandoned wives with children, recovering youth exploited in the sex industry, unemployed skilled sewers and paper collectors. Home-based sewers receive sanitised and cleaned pouches that they transform into bright, attractive carrier bags, backpacks, sun hats and wallets. Following a quality check at the Fair Trade warehouse, they are packed and shipped to Germany, Austria and Australia where some products are available through Oxfam.<sup>2</sup>

## Scavenged Livelihoods: Rag pickers turned Entrepreneurs

Across the globe, NGOs deserve applause for their creative, eco-livelihood initiatives. While there is a tremendous variety of activities based around waste reuse, the examples chosen here highlight NGOs' attempts to connect waste reduction to: income generation, public-private partnerships, entrepreneurship, and increased status of waste workers traditionally associated with filth and disease. As pointed out by Nas and Jaffe, " 'small businessmen' and 'micro-enterprises' sound more modern and hygienic than 'rag pickers' or 'vultures'".<sup>3</sup> Projects involving the separation and sale of common household materials have a number of beneficiaries: Employment is generated, households earn extra income, waste traders gain greater access to raw materials, and solid waste is reduced for city officials.

Many of the following examples are taken from city dumps where scores of waste-pickers around the world eek out a precarious existence. A 1988 estimate suggested that up to 2 % of the population in Third World countries survived by recovering materials from waste (Bartone, 1988). Scavengers live on the margins of the dump, finding and separating bottles, metal, plastics, and other materials to sell to junk shops where recyclables are combined and sent to factories for reprocessing.

Scavengers face a range of hazards and problems in the hostile physical and social environments where they survive. Buried by garbage, run over by garbage trucks or bulldozers, subjected to smoke and flames while sifting through burning debris—all constitute risks associated with this work; the degree of vulnerability often depends on age and physical ability. The tragedy at Payatas dump in Manila, Philippines illustrates this point: On July 10, 2000, more than 200 waste-pickers were killed when a large segment of the garbage mountain collapsed following strong rains. The victims were primarily older women and those with physical limitations, buried under smoldering garbage.

In **Colombia** alone, an estimated 50,000 families survive from waste picking at landfills. From start-up funding and loans, to technical, managerial, legal and economic consultancy services, NGOs have initiated and supported scavenger co-ops. Successful co-operatives have a number of benefits: scavengers' independence from middlemen, higher proceeds, better living conditions and legal recognition.<sup>4</sup>

Belo Horizonte, **Brazil**, provides an excellent example of NGO-government cooperation. A group from the local Roman Catholic Church, the 'Street Pastoral' helped to establish a street scavengers association which the municipal government included in its new 'sustainable development' inspired waste management model. Scavengers became 'preferential agents in the collection of recyclables in the city' while benefiting from education and operational support. Association members' living and working conditions improved as Belo Horizonte became cleaner.

Cairo's Zabbaleen illustrate another example of effective NGO involvement in using waste as a basis for progressive social change. The Zabbaleen, a group of former rural pig farmers, have

been involved in Cairo's informal waste management since the early 1900s. With NGO/World Bank backing, they upgraded from traditional methods of resource recovery to mechanization. Zabbaleen squatter communities were upgraded, other income-generating activities were created, education was offered, and micro-enterprises were established under the 'Zabbaleen Environment and Development'. While aspects of the program were not entirely successful, it was praised for "building on the foundations of an existing waste collection system, while improving it for maximum impact" through the use of appropriate technology and efficient management.<sup>5</sup>

For over 12 years, the Vincentian Missionaries Social Development Foundation has worked with thousands of families earning a living through recycling in Manila's Payatas disposal site. In 1993, the organization started a savings and credit program for the scavengers, catering primarily to women. Using a modified Grameen Bank microloan approach, borrowers established a people's organization, the Lupang Pangako ("Promised Land") Urban Poor Association, Inc. (LUPAI). As of 2003, LUPAI managed approximately \$300,000 in savings accounts for its 7,000 members. Many LUPAI members provide goods and services to local residents through their micro-enterprises such as small stores, junk shops, and metalworking. Some of its members have acquired land titles through LUPAI's community mortgage program. The program also offers funding for improved water and transportation infrastructure. In partnership with other organizations such as the Payatas Scavengers' Association, LUPAI lobbies for improved living conditions around the dumpsite. According to a 1996 survey of waste-picker households in Payatas, families earned an average of 20% above the legislated minimum wage, or \$175 per month.<sup>6</sup>

The NGO Natural Soap Association (NSA) has pioneered projects to improve the livelihoods of slum dwellers by recycling discarded cooking oil into soap. From its **Japanese** conception in 1987, the project has since spread to **South Korea, Thailand, Malaysia,** and the **Philippines**, with an Indonesian factory currently underway. Operations in Thailand provide an insightful glimpse at NSA's operations. This soap production facility is located in Bangkok's Klong Toei slum, where the Tokyo-based environmental NGO, the Shanti Volunteer Association (SVA), has been working to help improve people's living standards. NSA collaborated with SVA, setting up oil recycling equipment on its site where neighborhood residents bring their used kitchen oil. Most of the facility's annual production of 500 kilograms of powdered soap is sold to a consumers' cooperative in southern Thailand that grows organic bananas. The soap is used to wash the organic bananas prior to export. NSA was originally founded by Yoichi Tani in 1987 with the purpose of supporting victims of Minamata disease, an illness caused by mercury pollution of the sea. Tani founded his recycled-soap factory in Minamata City in 1987 with aim of addressing water pollution problems by recycling used oil into soap. He was later asked by the SVA to help to establish a recycled-soap production project in Klong Toei.

In September 2004, **India's** *The Hindu* reported The United Nations Human Settlements Programme (UN-Habitat) selected the Jaipur-based Centre for Development Communication for its Scroll of Honour award. The prize recognized its effort to improve the living conditions of slum

dwellers in the Rajasthan capital through its daily door-to-door municipal waste collection programme involving rag pickers and labourers.

In her paper, *Sustainable Consumption and Municipal Solid Waste Reduction in Developing Countries of Asia*, Christine Furedy identifies a number of NGO-driven initiatives for source separation and urban organic waste reuse.<sup>7</sup> Drawing on examples from the **Philippines, India and Nepal**, she documents projects that involve a variety of income-generating programs, many of which have received support from local authorities and financial institutions after demonstrating their feasibility. The projects generally fall in the following categories:

- Separation of dry reusables and recyclables (Clean-Green Project, Manila);
- Source separation that employs socially marginalized people to collect and sell wastes (Clean Environs, Waste Wise (Mythri Foundation) and the Centre for Environmental Education, Bangalore; Civic Exnora groups in Madras and Ahmedabad, Rotary clubs in Bombay);
- Source separation and composting (Women's Environment Preservation Committee (WEPCO) and Unnati Adhar Kendra, Nepal);
- Assisting waste dealers to form co-operatives, register their buyers, access business loans, and identify nearby sources of materials (Metro Manila Council for the Women's Balikatan Movement, Philippines).

From importing high-tech solutions to assisted local resource development, improved solid waste management systems are the focus of many NGOs, multilateral and bilateral organizations, and development agencies. Because governments frequently hesitate to become involved with scavengers, NGOs play a critical role in fostering sustainable urban management systems. Specifically, NGOs can provide a liaison between municipal governments, the private waste management sector, and the informal sector.

### Small Starts, Big Plans

These short descriptions outline small, local recycling initiatives that illustrate both the ability of NGOs to attract positive attention from government authorities, as well as the huge challenge confronting NGOs in the absence of state-run sustainable waste management systems.

The Organisation of Asia-Pacific News Agencies reported in August this year that tons of recyclable materials fill up **United Arab Emirates** landfills every year. In the absence of a government public recycling system, the Dubai-based NGO Emirates Environmental Group is the sole organisation involved in recycling in the country.

Also last month, the *Frontier Star* announced the Government of **Pakistan's** intent to operationalise the Provincial Sustainable Development Fund (PSDF), an initiative aiming to provide financial support to environmental projects. NGOs were the first recipients of funds. Action for Welfare and Awakening in Rural Environment (AWARE) will establish a plastic waste

recycling unit in Peshawar, while the Women's Association Struggle for Development (WASFD) will implement a small scale waste initiative in Mardan District.

**Lebanon's** Terre-Liban has been involved in cardboard recycling campaigns in schools, and "Shopping Green" campaigns teaching people how to buy, eat and manage waste in a healthy fashion. In June of this year, Environment Minister Yaacoub Sarraf announced a new plan to increase the amount of recycled garbage from 5 to 20 percent. In the absence of a national recycling program, Terre-Liban is exploring ways to implement a countrywide recycling program.

NGOs in Metro Manila, **Philippines**, pushed for the creation of the Ecological Solid Waste Management Act that encourages recycling as one response to the landfill crisis. Since the Act's implementation in 2001, Washington, D.C.-based Earth Day Network estimates the recycling rate reached 15% in 2004, up from 6% in the late 1990s.

## CONCLUSION

NGOs involved in the recycling and waste management sector have clearly shown leadership in operationalising the three pillars of sustainable development. Helping to transform "rag pickers" into small business owners, foil drink pouches into attractive accessories, and manufacturers' considerations from use to end of use, NGOs deserve applause! As a final note, creative recycling schemes are gaining popularity among NGOs whose foci are often entirely different from those mentioned above. For example, Recycling for Charities, a Michigan-based nonprofit, accepts old cell phones, pagers, PDAs, digital cameras, and some printer cartridges and sells them to a recycler. Most of the proceeds are given to a charity selected by the donor. Upwards of 60 organisations work with Recycling for Charities, among them the American Red Cross, Alzheimer's Association, and the Leukemia and Lymphoma Society. [www.recyclingforcharities.com](http://www.recyclingforcharities.com). Oxfam UK also recycles cell phones, printer cartridges, and computers. To date, Oxfam has raised £300,000 by recycling mobile phones alone, while diverting approx 22,500 kilos of electronic waste from landfill sites. ([http://www.oxfam.org.uk/what\\_you\\_can\\_do/recycle/index.htm](http://www.oxfam.org.uk/what_you_can_do/recycle/index.htm)).

Across the globe, NGOs have demonstrated both the need to recognize the total environmental impact of products through all stages of their lifecycles; and also the enormous potential of converting waste into assets. The question remaining is not *will* the rest of society jump on board, but *how* will we do it and *when*: Reluctantly like Coke, dragging its feet years after the problem became apparent? Or pro-actively like Yoichi Tani and his Natural Soap Association?

---

<sup>1</sup> Other listings of RREuse, a European network of reuse and recycling organizations: <http://rreuse.org/32>.

<sup>2</sup> “Philippines NGO Recycles Aluminum Drink Pouches to Raise Money” (June 2005) Human Trafficking <http://www.humantrafficking.org/updates/129> Retrieved 04/09/06

<sup>3</sup> Nas, P. and R. Jaffe (2003) Informal Waste Management: Shifting the focus from problem to potential, University of Leiden, Netherlands [www.leidenuniv.nl/fsw/nas/pdf/NasJaffe2004.pdf](http://www.leidenuniv.nl/fsw/nas/pdf/NasJaffe2004.pdf) Retrieved 04/09/06

<sup>4</sup> Svadlenak-Gomez, K. (1999) From Scavengers to Eco-Aides: The Environmental and Social Opportunities of Working with Informal Sector Recyclers, New York, CUNY Master’s Thesis p.82-86.

<sup>5</sup> Ibid: 35–47.

<sup>6</sup> Gonzales, E. (2003). “From Wastes to Assets: The Scavengers of Payatas”, Political Economy Research Institute, University of Massachusetts [www.umass.edu/peri/pdfs/CDP7.pdf](http://www.umass.edu/peri/pdfs/CDP7.pdf) Retrieved 05/09/06)

<sup>7</sup> Furedy, C., "Sustainable Consumption and Municipal Solid Waste Reduction in Developing Countries of Asia York University, Canada. Posted on Global Development Researc Centre [www.gdrc.org/uem/waste/initiatives.html](http://www.gdrc.org/uem/waste/initiatives.html) Retrieved 05/09/06)