

Solid waste has become a big concern in Indian cities. The last 7 years have seen several policy initiatives by a range of players to handle waste in the least expensive and most sustainable manner. However, most of these have not been inclusive of urban India's most efficient local resources: the informal recycling sector, comprising almost 1% of a developing world city. Such lack of inclusive policy impedes the sector from recycling optimally. This reduces the efficiency of recycling and increases its cost through extra-legal payments. What is often overlooked is the possibility of using the opportunity for poverty alleviation. Most recyclers, particularly wastepickers, are poor. Strengthening their livelihoods through sound policy can enable them to break out of the poverty cycle. This opportunity should not be lost. But how can it be created?

This policy document offers practical, demonstrated ideas about how we can impact the livelihoods and conditions of the sector. Based on global experiences and initiatives, as well as widespread grassroots discussions, this document details policy framework that can be effectively used by municipalities and policy makers.



Wasting Our Local Resources

The Need for Inclusive Waste
Management Policy in India



CHINTAN
Environmental Research
and Action Group



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We are a registered, non-profit organization working on the issue of sustainable, equitable consumption and environmental justice.

Our mission is
to facilitate the participation of citizens in the empowerment of their communities and to advocate for local and national policies that ensure social equity and environmental safeguarding.

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Introduction

Are We Wasting Our Local Resources? The Need for Inclusive Solid Waste Management Policy in India

Solid waste has become an urban environmental nightmare. Conflicts and heated debates around waste have intensified and are being widely reported in various sections of the media. There is much more public as well as municipal concern about waste than ever before. This is for good a reason too. According to the Central Pollution Control Board, the space required for land filling has increased by 20,000% in the last 50 years, i.e., from 1947 to 1997. In the meanwhile, India has also moved on from being a culture where respect for frugality once existed to unbridled consumption by the middle classes. Needless to add, this has led to unprecedented waste generation as well. The data from the plastic industry bears testimony to this alarming trend—over a decade ago, the industry in India was already preparing for a sector-wide 10% increase per annum, and projected that 52% would comprise packaging alone. And the amount of waste being generated today speaks for itself—more and more waste is being generated and our municipalities are struggling to cope with the situation with their limited resources.

The law in India mandates that recycling is an important method to handle waste streams like paper, plastics, metals and glass. Furthermore, the Solid Waste (Management and Handling) Rules, 2000 declare that recycling is a means of handling inorganic, recyclable wastes. However, simply identifying technical pathways is not enough. Recycling in India is undertaken by the labour of millions of people—men, women, as well as children, segregating, bailing, trading and reprocessing recyclable waste, who together comprise the informal sector. A social pathway is therefore also essential.

A vast majority of these people working in the sector are poor, especially the waste pickers, who typically earn no more than the basic minimum wages, if that. Various estimates suggest that at least one percent of a city's population is made up of recyclers. In the light of India's rapid urbanization where it is expected that by the year 2030 about 50% of the population will be living in urban areas by—this one percent translates into a number that cannot be ignored.

At the outset a couple of things are fairly clear: A rapidly urbanizing India will generate a lot of trash and a lot of urban poor will recycle this waste.

Chintan and the several groups that we have worked within India and elsewhere, share our hypothesis that enabling indigenous recyclers to work in decent conditions will not only impact poverty alleviation initiatives, but also address critical urban environmental concerns.

Over the last 15 years several dozen pilot projects involving the informal recycling sector have been put forward. These initiatives offer us various lessons, insights and more importantly a foundation to build upon. Unfortunately, such projects have mostly been at the grassroots, poorly backed up by anything more than local support, such as interested local officials in local municipalities and government departments. Such support, welcome as it is, does not stem from broader policy or policy implementation. This results in inconsistent support to such initiatives and an uncertain future for them. In other words, the absence of policy creates livelihood insecurities for the informal recycling sector.

A paper in the 2007 summer edition of the Stanford Social Innovation Review emphasizes that stable jobs are the best way out of poverty. Author Aneel Karnani says, "If societies are serious about helping the poorest of the poor, they should stop investing in microcredit and start supporting large labour intensive industries."

Although there are now laws in place to tackle waste, there are few provisions within these rules that address the people who recycle a significant percentage of that waste. Not surprisingly, this has come in the way of up scaling lessons from pilot projects.

The poor aren't the only losers if poor policy that ignores them, in the first place, is implemented. The rest of the city stands to lose too, as an important new study points out. A study commissioned by the

German bilateral agency, GTZ and the Collaborative Working Group on Solid Waste Management (CWG) posed the question: What is the economics of the informal sector recycling? Can we do without them? They studied the question with reference to Zambia, Romania, Peru, the Philippines, India and Egypt. The results were startling.

When they compared the formal and informal sector on a per ton basis, the informal sector was significantly subsidizing the cost of waste handling and recycling. In the formal sector, there was a cost to recycling, while in the informal sector, there was a benefit. The data from Cairo, for example, revealed that the informal sector handling cost per ton of waste was 3 Euros and in the formal sector it was 10 Euros. Needless to add, it is actually much cheaper to handle waste per ton in the informal sector. As a policy maker, that is important news.

The GTZ- CWG study also shows that it is a 'bad idea' for formal sector players to colonize recycling. Counter-intuitively, it only makes it more expensive and less efficient. No where was this more dramatic than Lima. The tons per person handling waste, including recycling, in the informal and formal sector was an astounding 1:30 ratio here. In a country still mired in poverty, why shouldn't policy promote a system that allows thousands of players sharing a public resource, instead of dividing it up amongst only a handful?

Imagine for a moment that the informal sector were to simply disappear: The costs of recycling will rise dramatically, because it's far more expensive to recycle in the formal sector. In the Philippines, where, like Cairo, the recycling systems and sector is comparable with India's, it currently costs the informal sector 17 Euros per ton for waste recycling. For the same work, the formal sector must spend 81 Euros! In the absence of the informal sector, therefore, not only does the city stand to lose, so do its citizens, because they will eventually finance these rising costs, directly or indirectly. If India has to continue its growth, it must learn from these experiences and trends. Cities are important sites of growth and it is essential to increase the per-capita income here, particularly of the poor.

From all accounts, poverty alleviation commitments and environmental protection in a rapidly urbanizing country demand that there be a sound policy for the informal recycling sector.

This policy document has been written out of years of experience, grassroots work, lessons learnt globally and most importantly, based on brainstorming, interviews, focus group discussions with the sector in various parts of India, with an emphasis on North India.

Chintan has been working with the informal recycling sector for several years. The development of this document began long ago, as we worked to make sense of trends, behaviour, incentives and the impact of interventions in partnership with recyclers affiliated with us. In order to create this document, we based ourselves on this foundation of experience. But we didn't rest on it alone. We posed a series of questions to a number of waste pickers, junk dealers and reprocessors, sometimes in groups and at other times, as individuals. A small group of them were particularly keen to lead the process, resulting in remarkable insights which are reflected here. We worked with them to examine ideas from other countries and cities, and sought their perspectives and comments.

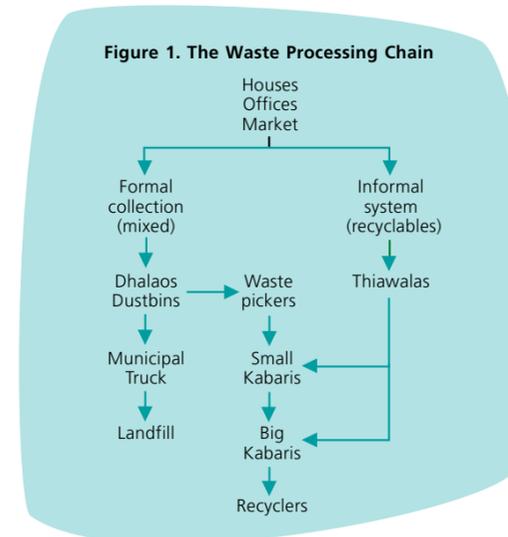
Several NGOs and others have also contributed to the ideas, based on their work in different areas of urban policy. It is therefore a document based on the knowledge of the sector itself, offering a pragmatic, do-able perspective of how the groups targeted by policy propose to help themselves.

While every aspect of this policy document may not apply to each arm of government, we expect that it will at least guide municipalities to think through the issues and formally mainstream some of the ideas presented here. Our central concept is that the waste recycling sector has a critical contribution to make to both urban poverty alleviation and environmental quality. Policy makers must enable them to do that by building urban waste handling policies around their specific needs and with them. If we begin moving in that direction, urban India will have taken an important step to address poverty and the looming environmental crisis.

Bharati Chaturvedi
Director

The Informal Sector An Overview

Recycling in India is largely undertaken by a huge mass of workers involved in the informal sector. This sector includes waste pickers, small kabaris (small middlemen), thiawalas (collectors) and big kabaris (larger middlemen). The World Bank estimates that 1% of population in cities of the developing world are engaged in recycling. The linkage among the workforce is best understood through the following figure.



It has been seen that while the urban poor produce the least amount of waste, they live in areas that have limited, or no waste handling facilities, as well as inadequate service delivery. Additionally, waste is generally dumped on the outskirts of the city where the poor also live. Almost all of the recycling is through the informal sector, which comprises waste pickers, small buyers, a host of agents and finally, the recyclers. Hence, while recycling is carried out by the poor and offers them a livelihood, it is fraught with risk. The immediate burden of the toxic waste is borne by them since there are no satisfactory systems or facilities in place which can handle waste generation.

Although waste pickers are the backbone of the waste collection process in Delhi, small kabaris are one of the most critical components in the chain. They buy the waste from waste pickers and sell it to big kabaris who deal with specific items and materials.

Figure 2. The Informal Recycling System



The informal sector of recycling works like a pyramid [Figure 2]. The first layer comprises several hundred thousand men, women and children in urban pockets who mine garbage heaps, landfills and bins for recyclable wastes like plastics, paper and metals. Most waste pickers do not use any implements, and often sift through heaps of garbage with their bare hands. The recyclable wastes are put into large plastic HDPE sewn bags that the waste pickers make at home and loaded onto cycles, cycle-rickshaws or even on their backs. The waste that they collect is then segregated near junk shops, in dhalaos, or local dumpsites. The second layer is made up of the small middlemen, often poor themselves, who buy waste from the waste pickers. Their payments determine the earnings of the waste pickers. They in turn sell the waste to the third layer, comprising large buyers who own huge godowns and deal with only one material. Finally, at the top, devouring all the labor and materials from below are the actual recyclers themselves. Most of the city interacts with the first and the second layer, whose labor actually propels recycling in India. These are also the repositories of knowledge and information about waste at the local level, and have no inhibitions – caste-based or otherwise – about handling waste. Many of them work in groups based on family bonds, kinship and simply companionship borne of living in the same area. These bonds are critical for their working.

Since the sector is not formally recognized, the people involved in it do not have access to social security, medical benefits or housing. Their work is also considered illegal by the police, as the sector has not been officially appointed for this task or is not employed by anyone.

Based on this broad canvas, we have framed policy as having 3 strands: Access to Livelihoods, Extended Producer Responsibility and Health and Social Security. This document discusses policy in these 3 realms, offering direction in each one.



This chapter examines the importance of access to livelihoods for the informal recycling sector and discusses the impact of policy on this area.

Chapter 1

Access to Livelihoods

This chapter examines the importance of access to livelihoods for the informal recycling sector and discusses the impact of policy on this area. Interspersed with relevant case studies, towards the end of the chapter you will also find recommendations for formulating sound policy that is focused on improving recycling rates and alleviating poverty.

I. What does access to livelihoods mean?

The waste recycling industry clearly cannot function without access to recyclable waste. However, in order to meet the stated objectives of efficiency and poverty alleviation, it is vital to involve the less wealthy sections of the population currently involved in the waste chain and trade: waste pickers, itinerant buyers and small junk dealers in delivering waste to reprocessing units. We are aware of the fact that this chain already exists, however, the key is to nurture the chain in diverse ways which will provide livelihoods.

It is also clear that access to livelihoods includes:

- Access to the recyclable materials themselves.
- Ability to transport the waste to a secondary segregation site.
- Access to space to segregate and store the waste.
- Opportunity to add value to waste through processes or collective action.

Therefore any recycling policy must include all these aspects to complete the chain.

The informal sector is deprived of access to waste on account of several conditions. Some of these are:

- Capital intensive privatization of waste where smaller players are unable to compete for contracts

and where recyclable waste is notified as the property of such contractors.

- Where the sector is not legally recognized in policy and in the ensuing laws. This also leads to harassment by multiple agencies, deepening vulnerability.
- Where small scale infrastructure, such as segregation spaces, materials recovery facilities and lanes on roads for non-motorized vehicles are not made available.
- Recovery technologies that require recyclable waste to burn, such as incineration, pelletization and Refuse Derived Fuel (RDF)

Waste Pickers are not wealthy and nor are many others in the recycling trade. However, by recycling waste they are able to earn a livelihood, hence, access to waste and other related facilities are critical for the sector.

Case Study 1 : Egyptian Waste pickers Lose out in Privatization

For years, the Zabaleen, or waste collectors, provided over a third of Cairo's waste collection services. They even recycled some of the plastic waste locally through extruding machines. Most of this was facilitated by the Community and Institutional Development CID, a support organization that works with such recyclers. Privatization of waste collection and hauling began in Egypt in 2001, with three global companies winning tenders. The selected companies did not turn to the Zabaleen for carrying out waste collection, resulting in job losses for almost 70,000 persons. However, the companies found it hard to pick up waste from several parts for the city, as garbage collection vehicles could not enter there. They therefore turned to the Zabaleen as a source of labour and to use their donkey carts. Unfortunately, they worked with the Zabaleen through the Wahai's, or middle men, which resulted in the exploitation and low payment of the Zabaleen. Hence, privatization resulted first in complete job loss and then in under-employment, coupled with ruthless exploitation. Cairo offers the developing world a lesson in how not to make policy.

Case Study 2: Carbon finance at landfills includes waste pickers' livelihoods

The World Bank's Carbon Finance projects have begun to include the issue of waste pickers and recyclers livelihoods as an essential part of their work. In Argentina, a 100 million dollar project includes as its objectives the creation of micro-enterprises or cooperatives for recycling which involves the recyclers themselves. In Nairobi, Kenya, a proposed project at the Dandora landfill involves working with the local communities (mostly waste recyclers) for future livelihood development and improvement activities for the existing community of waste pickers. Increasingly, the Carbon Finance for upgrading landfills include ensuring that the developer sets aside a sum for upgrading and enhancing the livelihoods of waste handlers and recyclers. Here is one way by which policy can significantly enhance access to livelihood.

II. Access in the Indian context

The following section analyzes the Indian situation in this context.

Privatization Policies

There have been several ways by which governments across the world have approached privatization of services. The early ideas of privatization began in the late 1970s and 1980s, with governments like that of Thatcher in the UK and Reagan in the US. In this context, privatization came to mean a shift in activities or functions from the state to the private sector as well as the shift of production of goods from the public to the private sector.ⁱⁱ Governments then gradually ceased to provide services directly, and instead enacted legislations and created frameworks for these to be privately produced.

Indian municipalities have been under constant pressure to improve the cleanliness of their cities. These have been driven in part by the courts, in response to a Public Interest Litigation (Almitra Patel Vs The Union of India), which has been monitoring the situation, particularly in Delhi and to a lesser degree in other cities. As a result, two strategies have been adopted, both conceptually aimed at 'making waste go away.' We will discuss here the privatization of waste collection and transportation.

Privatization of waste collection and transportation has been undertaken in selected parts of Chennai

and Delhi, and to a smaller extent, in non-metropolitan cities as well. The private operators—three in Delhi and one in Chennai—have invested in private waste collection vehicles, trash bins and receptacles and other equipment. The estimated costs of these is approximately Rs. 80 million (Rs. 8 crores) at least.ⁱⁱⁱ

The private contractors will be paid both by recyclables and by weight for the amounts collected and transported, thereby disincentivizing giving away any waste before the disposal site. The private contractors in both cases, are responsible for the overall maintenance around each waste receptacle and therefore have employed a single bin guide to safeguard the visual cleanliness of the area. In Chennai, the door to door collection is also partially privatized. In both cities, the ownership of the recyclable wastes has been transferred from the municipality to the private operator. Consequently, waste pickers and small junk dealers have lost their livelihoods or have seen a reduction in the access they have to waste.

The work of the waste pickers depends on a number of factors, including peer support, social networks and flexibility. Hence, merely employing a person as a substitute does not enable waste pickers in a given area to earn a livelihood—not only is it unviable, it overlooks the fact that they are a vulnerable social group. Besides, the available positions are seen to be less than the number of persons in need of livelihoods. Women, in particular, become unemployed. Clearly, in this model of privatisation, existing, smaller private service providers are not considered private actors at all. Efficiency in this regime discounts efficient poverty reduction.

One reason for privatization has been that it has the ability to handle waste more cost-effectively than the government. But the savings come from elsewhere. The World Bank in its 2006 report, *Improving Management of Municipal Solid Waste in India : Overview and Challenges* suggests that this difference is an India-wide phenomenon, and that the difference can be in the range of 20-40%. Comparing the costs of waste collection and transportation in 10 towns in Karnataka, the report shows the trend of cost reduction on account of privatization across the board. However, the Bank suggests that "One of the reasons for the relatively lower costs incurred by the contractor is quoted as differential wages, particularly when private contractors tend to pay lower than minimum wages to their sanitary workers." These savings are based on depriving workers.

Segregation of waste, mandated by the existing laws, and essential for waste handling, drops too. While on one hand, the informal sector segregates recyclables (dry waste) to well above 90%, the contract with the private operators demands only up to 20% in the final and 8th year of operations. This is a conscious

lowering of standards. Instead of providing citizens the best possible services, they receive less. With lower segregation levels, many low grade wastes with less value will land up in the landfill, taking up valuable space and adding to pollution. Additionally, recycling rates drop and more raw materials must be mined and manufactured, with additional environmental costs.

Legislation

Waste and its recycling are discussed in some rules and policy, as well as court rulings.

The National Environmental Policy (NEP) 2006

The National Environment Policy sets the guidelines for further rules and direction in the field of environmental protection. For the first time, it also made a mention informal sector recyclers and detailed their rights.

This policy mentions (Section 5.2.8, Part (iii) Soil Pollution, Box on Action Plan, Point E) "Give legal recognition to, and strengthen the informal sector systems of collection and recycling of various materials. In particular enhance their access to institutional finance and relevant technologies."

The Jawaharlal Nehru National Urban Renewal Mission (URM) 2005

The URM is a seven-year programme, covering 63 cities, from 2005 onwards with the following mission statement: To encourage reforms and fast track planned development of identified cities. Focus is to be on efficiency in urban infrastructure and service delivery mechanisms, community participation, and accountability of Urban Local Bodies/ Parastatal agencies towards citizens.

The URM expects to achieve, amongst others, the following:

- (1) City-wide framework for planning and governance will be established and become operational .
- (2) All urban residents will be able to obtain access to a basic level of urban services.
- (3) Financially self-sustaining agencies for urban governance and service delivery will be established, through reforms to major revenue instruments.
- (4) Local services and governance will be conducted in a manner that is transparent and accountable to citizens.

Solid Waste Management is one of the eligible projects under the URM. Although 60 of the 63 cities have submitted their plans, it is currently unclear what the proposals contain. Delhi, for

example, has put aside Rs. 9,00,00,000 for pilot projects with waste pickers, however it is not clear what these are. In other cases, proposals have been made without public consultation, increasing the chances of a poor fit. Nonetheless, the URM will impact access to livelihoods through the projects it funds and the context in which these operate.

Municipal Solid Waste (Handling and Management) Rules 2000

The MSW Rules came into force in 2000, after being discussed in detail for nearly two years. The provision of these rules included segregation and recycling (Schedule II, S.No2 and 5). Unfortunately, since it did not mention the informal sector as such, there was no pressure on the municipalities to abide by the spirit of the Rules. The Rules also included incineration as a form of handling dry waste "in specific cases." This is not only expensive but also takes away recycling from the sector.

Door to door waste collection

One of the outcomes of the Almitra Patel Vs Union of India case in the Supreme Court was that by December 2003, the court expected that the system for door to door waste collection of segregated waste, composting of organic waste and recycling of recyclable wastes was expected to be in place in all municipalities.

This created an unprecedented opportunity for waste pickers who were organized to any degree to be able to access waste directly from the household. A few groups did just this, thereby securing access to waste.

National Committees

There have been several committees in the last 13 years that have recognized the importance of including the waste recycling sector into mainstream activities. All of these favour the rights of waste pickers to access waste.

Asim Burman Committee^{vi}

This was constituted by the Supreme Court as part of the Public Interest Litigation Almitra Patel Vs The Union of India. The committee was headed by Mr. Asim Burman, Municipal Commissioner, Calcutta Municipal Corporation, March 1999. This important committee clearly underscored the work of the recycling sector and its rights over waste.

It made certain far reaching recommendations with regard to recycling and the informal sector. These included:

- Organizing wastepickers to collect recyclable waste from shops and establishments. It also acknowledged that these wastepickers help reduce the burden of Urban Local Bodies body by several million rupees annually in collection, transport and disposal cost and saving of landfill space.

- Ten per cent of waste produced in India can be reused or recycled. Part of it is collected by wastepickers and the rest goes to the landfills. Recycling can be encouraged by promoting recycling industry through incentives like land allotment, power, water on priority, tax holiday, preferential purchase of recycled products by government and semi- government bodies.

- All out efforts must be taken to retrieve recyclable material as feedstock to recycling industry. Segregation of recyclable waste at source is not seriously practiced. Fifteen per cent of waste can be easily source segregated for recycling.

Bajaj Committee^{vii}

This 1995 High Power Committee on Urban Solid Waste Management in India was created by the Planning Commission, the highest policy-making body of the Indian Government, soon after the 1994 plague outbreak. It was headed by Prof. B.S Bajaj, who was a member of the Planning Commission.

The Bajaj Committee made specific space in the waste management framework for the informal sector. This was in sharp contrast to the Municipal Corporation of Delhi's ban on the work of waste pickers during and after the plague. Some of the recommendations included:

- Replacing the informal sector scavenging from roadside dumps and disposal grounds by organised ward-level recycling and recovery centres, which could be managed by NGOs working with waste pickers. Municipal authorities could also employ waste pickers for this.

- Industries engaged in processing of recycled garbage should be given financial assistance to upgrade their technology.

- Assessing the state of present technologies used for recycling pilot scale studies to develop new technologies and upgrade existing ones.

- Promoting the use of products made of recycled materials like paper, plastic or glass through legislative and administrative measures.

- Fiscal incentives to encourage recycling and waste processing

It is therefore clear that various policies have been consistently in favour of recycling by the informal sector, specifically, the waste pickers. However, these have been ignored in plans of privatization and waste to energy, including the new urban renewal plans.

Regional Legislation

There have been many instances of progressive regional legislation.

- Ahmedabad: Gujarat: paper waste from offices is expected to be handed over to women waste pickers

- Maharashtra State Legislation: There has been some state-wise legislation on the issue as well. Among these, the order of the Government of Maharashtra; Water Supply and Sanitation Department. Government Circular No: Ghakavya 1001/ Pra. Kra 546/ Papu-22 Mantralaya Mumbai : 5 January, 2002 states that :

- The unorganized rag pickers collecting waste in different parts of the city should be organized with the help of the non-government organizations and register a cooperative. The local self-government should take an initiative to get these cooperatives registered. Registered rag pickers organization should be allotted the work of collecting waste in the city parts/wards with the help of non-government organizations.

- While allotting work to these cooperatives to collect waste from various places in the city, the citizens should be informed of this method. Also discussions should be held with non-government organizations, eminent citizens, Mahila Mandals and people's representatives.

- Those rag pickers who have not registered in the cooperative, can also be, under exceptional circumstances, allowed to collect waste on an individual basis after registering themselves.

- The civic authority should give preference to the cooperatives formed by the rag pickers to collect dry waste.

- If the city has a waste processing unit, the waste collected by the rag pickers should be used for the

same or the rag pickers should have the freedom to sell it in the market. This will provide income to the rag pickers and help improve their living standard.

- Civic authorities/ NGOs should issue identification cards to the registered rag pickers. This will enable the citizens to recognise the registered rag pickers.

- The civic authority/ NGO should allot a specific place, as per the situation, and give the task to the registered rag pickers or their organizations to collect waste from 250-300 homes.

- The task of collecting bio-Medical waste and polluted/ toxic waste should not be allotted to the rag pickers. Civic authorities should make provisions for collecting general waste and bio medical waste separately and storing it and disposing it and monitor it effectively.

Hence, it is clear that policy on Solid Waste Management has been in favour of creating an enabling environment for waste pickers, and to a lesser extent, for reprocessors via improved technologies.

Waste to Energy

Waste to energy includes technologies such as Refuse Derived Fuel (RDF), gassification, pelletization and bio-methanation. The latter option is the only one that is neither polluting nor competitive with recyclers of dry waste, such as paper and plastics, thereby diverting them from the recycling chain. Currently, under the Jawaharlal Nehru Urban Renewal Mission, funds have been made available to 63 cities in India for projects. There is no information currently available on how many plants, the types of technologies and the capacity, but there is a general concern about funding such technology.

Existing plants, such as in Hyderabad and Vijaywada, in Andhra Pradesh, run on a combination of rice husk and solid waste. They are of a smaller capacity but have already run in to technical problems, and are therefore not indicative of the causal link between waste to energy and recycling by the informal sector. It is, nonetheless, a reasonable presumption that waste to energy projects stated above are likely to disrupt recycling and the livelihoods associated with it.

This is therefore not in consonance with a policy that favours recycling. In fact, it is clear that the

National Environment Policy 2006, which specifically discusses enhancing and making legal the work of wastepickers, is being flouted by most waste to energy schemes. Moreover, the Solid Waste (Management and Handling) Rules 2000 also call for recycling, which is not possible to do if recyclable waste is used for such technologies.

It is relevant to recall here that this year, "in a vote on 13 February, the European Parliament gave an overwhelming backing to proposed waste legislation supported by its Environment Committee in November last year. The main provisions of the reports include:

- The introduction of a five-step waste 'hierarchy' that gives priority to prevention, reuse and recycling over landfills;
- EU waste-prevention targets to stabilise waste production by 2012 to the level produced in 2008, and for waste production to start declining from 2020, and;
- A rejection of the Commission's proposal to reclassify incineration from "disposal" to "recovery" for energy production.

The European Parliament also introduced targets for reuse and recycling. By 2020, 50% of municipal solid waste and 70% of waste from construction, demolition, industry and manufacturing must be re-used or recycled. In principle any waste must, wherever possible, at least be recovered". In June 2007, the European Council also voted on waste recycling to create the following waste handling hierarchy:

Prevention, re-use, recycle, recovery and disposal. Hence, it is clear that the European Union is favoring recycling over waste to energy. This privileges recycling. In India, this would have to imply a similar privileging of the informal sector.

Many of these 'burn' technologies are known for their emission of dioxins and furans. Even the best technologies, which are very expensive, require highly specialized operations, which are not undertaken in India as of now. Hence, the dioxins and furans produced are also in contravention of the Stockholm Convention.

Based on the European learning curve, India would do well to shift priorities from thermal waste to energy and to recycling.

Taxation

At the level of the higher selling points, Value Added Tax (VAT) has been imposed in certain states, such as Rajasthan. This makes waste paper less competitive in the market, since Delhi, another big scrap paper supplier, is exempt from VAT on scrap and waste. Other taxes on waste treat it as a commodity, thereby reducing its competitiveness for mills. The reduced profit is passed down the chain to the waste pickers, who receive less per kilo of waste sold.

Infrastructure and Space

Infrastructure and space are critical to the functioning of the recycling sector. Globally, no models exist that do not require space for segregation, storage and transportation. In most cases, these have been provided by the government.

Case study 3 : Junk Dealers classified as commercial

In 2006, the Municipal Corporation of Delhi (MCD), under directions from the Supreme Court, undertook a mass demolition of structures that were in violation of the Master Plan of Delhi. As part of this, a special committee was formed that identified commercial establishments in residential areas exempt from demolition. Small junk dealers were not included in this list. According to the Indian Express, "The order for sealing will, however, not affect 24 categories that were earlier allowed for regular colonies and commercial premises operating from 20 square meter area. Among exempted categories are photostat/STD/PCO booths, vegetable/fruit sellers, meat/fish shops, ATMs, chemists, general stores and paan/cigarette shops." This was a grave error and displayed a lack of understanding and utter ignorance of the solid waste management process^x in the country, as the basis of recycling was undermined. Moreover, it contradicted other legal provisions that mandate recycling. It is also significant that the categories exempt from being classified as commercial did not include segregation sites and junk shops, despite waste handling and recycling being an essential service. One important conclusion from this is that policy makers do not understand the working of the informal sector and that greater engagement is required in this sector.

Space required

Space is critical for segregation and storage of both the waste and the equipment. In India, only a few municipalities have provided space on a pilot basis

for waste pickers to run a scrap shop. However, this is not enough, as waste is itself not produced on a pilot basis neither is it a one-time activity, on the contrary it must be handled in each and every part of the city. In contrast, several investors running capital intensive projects have been granted land at highly subsidized rates for setting up infrastructure. In Delhi, private waste companies have also been assured that they too would be provided with land for storage and segregation of recyclable waste, but so far little has been done. It is quite transparent that a bias against the sector exists in planning, and a policy of favoring intensive capital investment even where it is not required, is evident. Such policy biases hit the recycling sector hard and therefore, also impact recycling rates and any steps that may be taken to alleviate poverty. Moreover, many scrap shops do not invest in infrastructure and improve standards, although this can be done, wholly on account of this uncertainty.

Land must be allocated on a long term concessional lease, based on mutually accepted performance standards. Furthermore, the allocation must be need-based, which could include the following:

- i. Land in local waste generating areas, for segregation and storage of vehicles and equipment
- ii. Land in such areas for Material Recovery Facilities
- iii. Land in each zone for reprocessing
- iv. Land in commercial areas for thias to buy waste from the establishments that operate there
- v. Land for second hand markets where they exist, as these promote re-use. The Sunday Bazaars of Delhi are a case in point.

The individuals who have been allotted space must be allowed to set up permanent structures to best safeguard their property.

India is one of the few countries that has not set up segregation centres or Material Recovery Centres. In 1910, the city of New York had already set these up to enable the waste pickers there to be able to segregate and recycle better.^{xi} In the developing world, the case of the Philippines is instructive.

Case Study 4 : Local Innovation in The Philippines^{xii}

Usually, being a junk dealer or a wastepicker allows you to work primarily on the dumpsite. The government has legalized junk shops and given them licenses to operate. It has also allocated recycling centres in every neighbourhood, or Barangaya, where waste can be segregated,

composted and the recyclables sold to a junk shop or other buyers. According to Frederika C. Rentoy, Head of the Quezon City Environmental Protection and Waste Management Department, this is what they are doing or have already done:

Organization of dumpsite waste pickers:

- Database of waste pickers established.
- Operating procedures on waste picking and recovery were set.
- Provided a trading center for waste pickers at the facility.
- Relocated some waste pickers from danger zones.

The junkshop standardized programme:

- Database of all existing junkshops in the city was established.
- Consultation meetings with junkshop owners were conducted.
- Standards on health and environment were developed.
- Ordinance on legitimacy of junkshops for purposes of tax rebates was approved.

Given the similarity in the conditions that exist in many parts of India and in the Philippines, this is an important learning for Indian policy makers and municipalities. Especially, in the light of the legal and policy framework that is in place in India, this is also desirable outcome.

Table 1: Plans by to integrate informal waste recyclers into waste management systems of Metro Manila, Philippines.^{xiii}

<p>Phase 1 (2007-2009)</p>	<ul style="list-style-type: none"> • Establishment of a database on the total number of informal sector players through a survey. • Consultation and dialogue with the informal sector on what support they expect from the City (ongoing). • Drafting/ Preparation of City Ordinances to support integration. • Conducting seminars and trainings on alternative livelihoods which may or may not be related to solid waste management. • Balik Probinsya (Back-to-the-Province), a financial incentive program for scavengers. • Relocation of waste pickers from danger zones to City-owned relocation areas.
<p>Phase 2 (2009-onwards)</p>	<ul style="list-style-type: none"> • Organization of the waste pickers as workers in a centralized Materials Recovery Facility (MRF). • Make itinerant waste buyers as members of existing waste cooperatives to give them a sense of dignity and self-esteem. • Encouraging Barangays to include informal recycling sectors as members of the Solid Waste Management Board • Junkshops will be made to serve as temporary non-composting Materials Recovery Facilities (MRFs) (formalized with a contract)..

Transportation

Transportation is critical in the case of waste recycling. At the bottom of the recycling pyramid, thousands of waste pickers pick waste across the city. A comparative use of various modes of transportation for Delhi is as below:

Table 2: Comparison between mode of transport of waste pickers in Delhi^{xiv}

Type of transportation	Range of waste collected per day (Kilos)	Distance traveled (km)	Approx daily earnings (in rupees)	Percentage of waste pickers using it when there were no legal restrictions	Percentage of waste pickers using it when there were legal restrictions on cycle rickshaws
Cycle rickshaw	40-100	10-15	Over 100	51%	18%
Cycle	40-60	20-25	100	19%	58%
Walking	Less than 40 kgs per trip, based on specific items	6-7	50	30%	24%

This table demonstrates that waste pickers chose to use the cycle rickshaw because it is the most profitable mode of transportation. However, when rules against it are enforced, they opt for cycles and suffer a decline in income. None of these modes of transportation are motorized. And so, if we are to assume that approx. 80,000 such individuals work in Delhi, it is a considerable environmental subsidy they offer the city by their use of clean transportation. Look at it in terms of 80,000 fewer 2 wheelers on the roads. This also has a positive impact on greenhouse warming.

Unfortunately, there has been a ban of these cycle rickshaws in many parts of Delhi, including the New Delhi Municipal Council area and many arterial roads, in part due to the slow speed of these rickshaws and their 'medieval appearance'^{xv} This makes delivering essential services illegal and encourages corruption. Many waste pickers cross from area to area, often via arterial roads, where they are caught and either fined on the spot, asked for a gratification amount or have their cycle rickshaws confiscated. Additionally, such laws tend to reduce the earnings of women who either walk or prefer to use cycle rickshaws, but not cycles.

Small junk dealers use motorized transport to transport specific materials to dealers or even

reprocessing factories. These vehicles are not allowed to ply except at certain specified hours. Consequently, waste is unable to be cleared on a timely basis from the junk dealers' shops and be sent to factories or other dealers. Additionally, operators of these vehicles also say that they must pay the traffic police, typically at the rate of Rs. 100 per error^{xvi} Currently, in many parts of the National Capital Region, NCR, these rates have increased to Rs. 600, increasing the cost to the informal sector of recycling.

Such is the system in place that neither is it foolproof, nor does it serve the city's needs for recycling and reprocessing, as required by law.

III. Recommendations

This section addresses the issues outlined above and suggests how these may be framed with a view to improving solid waste management, segregation and recycling. In India, both segregation and recycling is primarily being undertaken by the informal recycling sector.

Service Delivery

A normative shift towards 'privatisation' of waste handling services would be more sustainable and stable if the informal sector itself were to be

organised to transform it from an informal private player into a new avatar, a more visible private service provider.

- Privatization of solid waste must be revisited. Door to door waste collection and trade in materials must necessarily be left to smaller players. The right to recyclable waste should belong to the recyclers of the area, ideally organized or identifiable.

- Privatization has been seen to disrupt the lives of waste pickers and other informal sector recyclers globally, if it is not undertaken with care. It ought to be re-structured. Furthermore, it should be created such that local small companies with smaller investment capacity or even co-operatives are able to participate. In fact, they should be actively encouraged to do this, by capacity building, access to easy credit, and given priority in any projects planned. The number of contracts for this can also be increased to reduce the costs involved.

- Under no circumstance can space be allocated to capital intensive private companies for maintenance of dhalaos or local waste transfer stations, as this impacts the waste pickers adversely. These may be handed over for maintenance to the identified waste pickers, with performance standards clearly spelt out. Training for this can be imparted by either the government or other agencies for optimal outputs.

- Should the workers be employed in any condition, the government must ensure full compliance with all labour laws.

- It is often mentioned that it is hard to work with waste pickers and junk dealers because they are not organized into a distinct identity. However, the processes of formally registering a co-operative or a company are both expensive and tedious, specially for individuals from different states. This must be cut down to a bare minimum of deposit fees, costs and time as well as paperwork.

- Given the nature of work and the manner in which it is carried out, the flexibility which is needed, particularly by women, it is important to promote the entrepreneurial nature of the sector by finding avenues for them to offer services rather than be employed.

Case Study 5: Hyderabad Basics

In Hyderabad, the municipality initiated a process by which it gives a cycle cart and similar recognition to any group of waste pickers who can produce a letter from an association saying they will pick up

the waste from there. This no-fuss system allowed for many more waste pickers to take advantage of the service delivery opportunities that arose.

Case Study 6: Privatization alternatives in Dar-e-Salaam

In Tanzania's Dar-e-Salaam, the impulse to privatize, undertaken in collaboration with UN HABITAT, was driven by the poor impression of that country. Rather than foreign companies, local community based organizations and small local businesses were facilitated to provide waste collection services from households. The savings by the municipal bodies was used for road construction and maintenance.

Case Study 7 : Colombia prioritizes waste recyclers^{xvii}

Colombia has a long history of waste pickers being abused. Not only was the profession looked down upon, but in the late 1980s and 1990s, the country underwent a very turbulent time. During this period, cities were cleansed of several undesirable elements, including waste pickers—they simply disappeared from the streets of Bogota. In 1992, 40 dismembered corpses of waste pickers were discovered, and there was a strong public outrage. By this time, there were already a few co-operatives in operation, formed primarily when their work of picking waste from open dumps was threatened as the waste dumps became sanitary landfills. This was invigorated by the work of the Fundacion Social, which supported these enterprises. Approximately 10,000 waste picker families formed 118 cooperatives that allow them to bring in over 300,000 tons of recycled materials into the market. The strength of the groups lies in their ability to federate under the National Association of Recyclers, which helped them to enhance their business activities through capacity building and credit. In 1999 the Senate passed the Law 511, which recognizes waste pickers' work through a waste pickers' day, offers a housing programme for recyclers, establishes awards for recycling and created health benefits.

In 2003, under Decree 1713 (part 1505) waste pickers got the right to be included and to participate in solid waste management plans.

In Argentina, a Zero Waste Decree makes it mandatory for private waste handlers to provide facilities for the informal sector to segregate and store recyclable waste.^{xviii}

Recognition of other levels of the trade

The weakness of much policy until now in India is that it does not take into account any level higher

than the wastepicker. There are other layers, such as the itinerant buyers, thia buyers (who sit in one place and buy paper from offices during the day, and sell it in the evening) and the small middlemen, of whom 78% were once waste pickers.

These categories require inclusion as well.

- Thia walas must be legally given their thias or spaces on condition they continue to recycle.
- Junk shops are a business and must be treated as such. The Philippines model is the ideal one to follow. Some aspects should be immediately initiated, such as facilitating the creation of a process by which junk shop owners can apply for a license.
- Performance standards should be developed to safeguard health and create an inventory in these establishments.
- Women are particularly disempowered at work especially when they have young children to look after. Often, they carry these children with them during work, negatively impacting their health and eventually introducing and initiating them into to the work of waste picking. Hence, In order to discourage this unhealthy trend decent crèches with minimum fees must be set up in poorer localities, slums and for the use of the working poor. Special efforts must be made to ensure that these women participate in this scheme, further if it is to run successfully then it is imperative that their participation is complete in defining each scheme.

Transportation and Infrastructure

- Space has to be allocated for various tasks related to segregation and recycling at all levels, from residential areas to wards, zones and the city level. The space required is as below :

- An overhaul of any city's masterplan is required. In Metros and Class I cities at least, recycling of some kinds of waste must not be centralized in one area of the city, instead each zone should have its own recycling park to complete the loop within.

- Given how many waste pickers use cycles (apart from other cyclists), it is important to ensure that there are cycling lanes on all main roads.

- Cycle rickshaws have to be treated as an essential vehicle for providing essential services. Trucks carrying identifiable local scrap must also be treated similarly. Hence, it is critical that these vehicles are allowed to ply on main roads and at all times, as long as they are seen to contain waste materials.

- Special, speedy registration of such vehicles should be undertaken.

Legislation

- It is clear that policy in India has favoured waste recyclers of the informal sector for the last 13 years. However, this has not been understood by many policy makers when planning policy for cities. All policy must be guided by the National Environment Policy 2006 and committee reports. They must also understand that recycling is a system based on waste pickers and junk shop dealers.

- There is an urgent need to mention the informal recycling sector by name in the MSW Rules, 2000, so that their rights to access waste are protected and recycling is not interpreted as separate from the sector.

- Junk dealers must be able to obtain business licenses to operate with realistic performance

Table 3 : Space for Waste^{xix}

Category	Norm per 100,000 population	Guidelines
Waste pickers	215	Each waste picker handles 60 kg of waste per day and requires 60 sq ft of space near the dhalao for segregation.
Other workers	90	Each worker requires 125 sq ft of space near the kabari godown for segregation as well as road space for transportation.
Small kabaris	6	3000 sq ft has to be allotted in a shopping centre to each small kabari for segregation and storage of about 1500 kg of waste, and shelter for workers.
Thiawalas	33	Thia walas are located near markets and commercial centres and each thia wala collects waste from 150 shops and establishments daily.
Big kabaris	1.5	The big kabaris need storage space of 60,000 sq ft for roughly 60,000 kg of waste which they collect on a weekly basis from the small kabaris.

standards. India should learn from the example of the Philippines.

- Waste should be exempt from all forms of taxation as long as the origins can be shown to be Indian. There is no need to subsidize imported waste.

- The police and other law and order agencies must be trained to understand the work and the legal standing of recyclers, in order to ensure that any legislation has validity at the grassroots.

Case Study 8: New Delhi Municipal Council Partners Chintan

The New Delhi Municipal Council has formed a partnership with wastepickers organized by Chintan for the last 6 years. Under this partnership, wastepickers are given identity cards and access to medical facilities. A contract for door to door waste collection has also been signed for both commercial areas and residential areas, enhancing the livelihoods of people who earlier worked by picking waste in trash dumps. Additionally, itinerant waste buyers have been facilitated in their work and their cycles are no longer confiscated as illegal vendors. The police in such areas has been partnered and trained to minimize disruptions to work and harassment to wastepickers, resulting in a drastic decline in the number of cases of harassment, beating and asking for gratification amounts.

Waste to energy

There can be no doubt that burn technologies, such as incineration, gasification and pelletization will compete for recyclables with the informal sector, thereby damaging the poverty alleviation and livelihood potential of recycling. This is in almost direct conflict with the Millennium Development Goals (MDGs). It also contravenes the Stockholm Convention, of which India is a signatory.

Therefore, not only should these technologies be disallowed, absolutely no incentives should be provided either.

Process Recommendations

Simply picking up policy ideas is not enough. Rather, it is important that the policy making process is in consultation with local interest groups, including informal sector recyclers.

Training of urban policy makers on the complex manner of informal sector recycling and its benefits for cities, its impact on achieving the Millennium Development Goals and on poverty alleviation is critical if they are to make better policy.

Case Study 9 : How Privatization of Waste in Delhi Failed to Handle the Waste Problem

Over 3 years ago, Delhi's waste collection and transportation services were privatized. To do this, a consultant, IDFC, was selected to design the process and the contracts. At this point, there was little knowledge within IDFC about waste, the actors and the systems in which they operate. It is still not clear why they were chosen. A series of proposed concepts mooted with several Delhi's NGOs met with opposition, broadly because they promoted unsustainable waste management through disincentivised recycling, reduced segregation levels required of the contractors (the existing wastepickers were segregating at higher levels) and also reduced the incentive for local composting. The final terms of reference reflected none of these concerns when three contractors were given six of the most affluent zones to operate in.

The contract stated that the contractor would own recyclables. That clause made the wastepicker an illegitimate player. Another clause in the contract suggests that the contractors hire waste pickers (instead of other labour) for the large amounts of physical work this contract requires. However, Chintan's association with the DWM has shown that waste pickers are worse off because of less income, less flexibility and that the payments are not in consonance with minimum wages. Since the contractors sell the waste to the biggest dealers or mills directly, smaller players, such as small junk dealers, are being under or unemployed.



Throughout India and the developing world, millions of industrious individuals make a living sorting through other people's garbage.

Chapter 2

Waste Recycling, Health, and Extended Producer Responsibility

Throughout India and the developing world, millions of industrious individuals make a living sorting through other people's garbage. Despite their great environmental and economic services to society, performed at no cost to municipal authorities, these "waste recyclers" work in very hostile environments. Among the myriad problems they face are the enormous occupational threats to their health and safety. The health risks to these individuals are not only a humanitarian injustice but also a practical obstacle to sustainable development in light of the U.N. Millennium Development Goals of improving health, environment, and conditions of poverty.

Extended Producer Responsibility (EPR) can offer a proactive approach to address the occupational health of waste recyclers. Designed and implemented correctly, EPR can even transform waste problems into an opportunity to improve health, environment, and quality of life. In India, however, care must be taken to ensure that EPR programs do not disrupt the livelihoods of the very people who stand to benefit most directly from it. This requires a reinterpretation of the original EPR concept to account not only for the waste itself but the entire chain through which it passes, including the work environment of the individuals who handle the waste once it is thrown away. Because recycling is largely a labor-based activity in India, any EPR régime the country adopts must address materials and workers alike. This chapter examines these issues with a view to optimize safe recycling for India's informal recycling sector.

Health Issues of Waste Recyclers

This section examines the nature, causes, and extent of the health risks that waste recyclers face in the course of their work. Most research on waste workers and occupational health, or the link between employment and health, has been conducted in

countries that are relatively wealthy and has focused on the formal sector. Occupational health studies among the informal recycling work force in developing countries are much less prevalent because they are more challenging to conduct, in part due to the difficulties of reaching people who lack regular places of work or residence. Yet it is the workers of the informal sector who are likely even more at risk because they do not have the welfare or other social safety nets that protect formal sector workers.¹

To meet this research need, da Silva,^{1,2} recently conducted two large, cross-sectional studies in Brazil that used trained interviewers and structured questionnaires to evaluate waste recycler health. Chintan³ also conducted a study implemented by a network of organizations in three Asian countries involving site visits, focus group discussions, and interviews with workers at various levels in the informal recycling chain. In addition, several observational and descriptive reports based on anecdotal evidence have been published on the health of informal waste workers. Among these, Sandra Cointreau⁴ has written a definitive work illustrating the seriousness of the problem based on fieldwork, contacts, and literature from health practitioners in over 40 countries.

The various studies and reports have found that most waste recyclers work in environments that pose a serious threat to their health and safety. Cointreau's study identifies five factors causing health risks from waste:

- The nature of raw waste, its composition (e.g., toxic, allergenic and infectious substances) and its components (e.g., gases, dusts, leachates, sharps)
- The nature of waste as it decomposes (e.g., gases, dusts, leachates, particle sizes) and their change in ability to cause a toxic, allergenic or infectious health response
- The handling of waste (e.g., working in traffic, shoveling, lifting, equipment vibrations, accidents)

- The processing of wastes (e.g., odor, noise, vibration, accidents, air and water emissions, residuals, explosions, fires)
- The disposal of wastes (e.g., odor, noise, vibration, stability of waste piles, air and water emissions, explosions, fires)

The health risks to waste recyclers can be broken into at least three broad categories: toxins, pathogens and parasites, and accidents and injuries:

Toxins:

Waste recyclers are exposed to a wide variety of toxins through several means, such as:

- Directly handling household discards, industrial chemicals, and manufacturing byproducts, e.g. lead batteries, mercury thermometers, pesticides, cleaners, aerosols, motor oil, lubricants, acids, solvents, metals, and radioactive materials.⁵ One study found that more than 70% of children working at a dumpsite in Manila had blood lead levels exceeding WHO guidelines, with a mean level 2.5 times higher than the control group of children living in a slum away from the dump site.⁶
- Taking apart appliances and smaller items to sell individual components. For example, cutting open compressors from refrigerators and air conditioners to obtain copper exposes the worker to ester oils that can result in a frostbite-like effect, central nervous system depression, dizziness, confusion, poor coordination, drowsiness, unconsciousness, or death.⁷
- Inhaling contaminants from burning waste, either openly incinerated or burned to extract elements to sell (e.g. burning PVC coated copper wires to extract the copper). Burning releases particulate matter and poisonous gases such as nitrogen oxide, carbon monoxide, dioxins, and hydrogen sulfide that can cause asphyxiation, unconsciousness, brain injury, cancer, and a slew of countless diseases affecting the cardiovascular, respiratory, digestive, reproductive, and immune systems.⁸
- Searching through ashes from incinerators for salable materials, which is even more dangerous because of the ashes' high toxicity.⁹ Ash may include heavy metals such as mercury, lead, cadmium, and arsenic.¹⁰

Pathogens and Parasites:

Illnesses and diseases are commonly contracted from pathogens borne in waste products including:

- Decaying food, human waste (due to inadequate sanitation systems and disposable diapers), and animal waste (discarded into the general waste and from animals attracted to food wastes). These sources attract or harbor disease-carrying pests (e.g., flies, rats, roaches, and intestinal parasites) that spread diseases such as hanta virus, plague, typhoid, cholera, and especially gastro-intestinal ailments including dysentery, diarrhea, flatworms, and tapeworms. Studies have revealed shockingly high rates of intestinal parasitic infections: 98% among all children waste recyclers in Manila; 92% among all recyclers in Calcutta; and 97% among all recyclers in Olinda, Brazil.¹¹
 - Animal carcasses, foraging animals at open dumps, and the eating of diseased animals that feed on waste can all spread animal diseases like trichinosis, mad cow disease, and avian flu.¹²
 - Water collecting in objects like tires and cans provides a breeding ground for mosquitoes, leading to outbreaks of illnesses like dengue fever.
 - Infectious medical waste (commonly mixed with general solid waste in developing countries), such as used syringes, needles, surgical gloves, and even human tissue, spread all manner of diseases.¹³
 - Tuberculosis, bronchitis, pneumonia, and skin diseases are among other widespread diseases among waste recyclers. A study in Manila and another Bombay each found that among waste pickers, around 40% had skin disease and 70% had respiratory ailments.¹⁴
- **Accidents and Injuries:**
Waste recyclers suffer from both acute and chronic injuries due to:
- Cuts and injuries from handling sharp or broken objects.¹⁵ In Kathmandu, for instance, 82% of workers surveyed reported having received leg wounds and 70% reported hand wounds; in Bangkok, 88% reported injuries by glass, 73% by needles, and 25% by metal.¹⁶
 - Bites from dogs, rodents, and other animals attracted to the food wastes.¹⁷ Among workers surveyed in Calcutta, 49% reported having received dogbites.¹⁸
 - Victims buried by shifting mountains of garbage, run over by garbage trucks or bulldozers, injured in blasts of explosive materials, or burned from the

spontaneous combustion of flammable materials.¹⁹ For example, garbage slides claimed the lives of 200 waste recyclers in Manila in 2000.²⁰

- Physical stress and musculoskeletal strain resulting from awkward postures, lifting heavy objects, and repetitive movements.²¹

- Mental stress, such as depression and anxiety, linked to the difficult work conditions. Minor psychiatric disorders were found to be of significantly higher prevalence of among waste recyclers in Brazil than among a comparison group, reminding us that mental and emotional well-being needs to be addressed in addition to physical health.²²

From these studies and observations, it becomes very apparent that the waste recyclers' working conditions severely compromise their health and safety. Vulnerability varies with age and physical ability, but all waste workers are at risk.²³ The exposure to hazards is very direct, as usually workers handle the garbage with bare hands²⁴ without the protection of gloves, boots, goggles, or other gear,²⁵ and washing facilities are rarely made available.²⁶ The hazards at the worksite are exacerbated by poor, unsanitary living conditions; even at home, many are not motivated to wash hands or feet with soap or to change clothes because they know they will get dirty the next day of work.²⁷ Often workers separate and store the retrieved materials inside or just outside their houses,²⁸ exposing their families to hazardous materials. Because of their low status, waste recyclers are either not welcome or don't feel comfortable seeking public health facilities.²⁹ Many of the workers do not even seem to be aware of the occupational threats to their health; others report concern but continue regardless because they have no other employment prospects and are desperate to find some means of survival.³⁰

This situation can no longer be tolerated; something must be done to improve the hazardous environments of the informal waste recycling sector. On moral grounds alone, it could be argued that permitting such dangerous situations to continue is inhumane. Waste recyclers are already the poorest of the poor, driven out of desperation, barely managing to eke out an existence on very low wages and no benefits in return for their hard labor. The work is thankless; waste recyclers suffer from very low social status, and instead of earning respect, they may in fact be harassed and hindered by the police and organized crime. Turning a blind eye to the health concerns of this vulnerable population thus raises serious ethical questions about human suffering.

In addition to moral grounds, there is also the practical issue that health is a major requisite for sustainable development. In the year 2000, nations around the world agreed on a framework for sustainable development consisting of eight "Millennium Development Goals" to help realize their vision of a better world; these goals represent the most important issues for sustainable development and have become the primary benchmark for measuring progress toward this vision.³¹ Of the eight goals, three are related to health, clearly indicating the importance that health plays in achieving sustainable development: Reducing child mortality (goal #4), improving maternal health (goal #5), and combating disease (goal #6). Reducing extreme poverty and hunger (goal #1) is also integrally tied to having a healthy population.

Extended Producer Responsibility (EPR)

The health conditions of waste recyclers is a serious concern, but what can be done to address the matter? Several solutions have been proposed that primarily focus on ways to protect workers from hazardous materials, such as providing protective clothing. One particularly promising avenue, **Extended Producer Responsibility (EPR)**, is an innovative approach that aims to cut off the problem at its source by decreasing the amount of hazardous materials that ever reach the waste recyclers' environment. Rather than working from the assumption that workers must inevitably encounter dangerous materials, EPR offers a proactive way to diminish the presence of such materials in the waste stream. This section introduces the general concept of EPR, its benefits, and some of the major forms of implementation.

The concept of EPR is that manufacturers are held responsible for the items they produce not only up to the time of sale but throughout the products' entire lifetime, rather than leaving governments or consumers to deal with disposal issues.³² This includes "upstream" impacts from the choice of product material and the production process, as well as "downstream" impacts from product use and disposal at end-of-life.³³ EPR entails multiple types of responsibility on the part of the producer: physical, economic/financial, environmental, and informative/social.³⁴ It closes the feedback loop of the production process because when manufacturers are held responsible for the impact of their products, they have a very strong incentive to produce cleaner and safer goods, from the input materials, to the production process, to end-of-life collection.³⁵ The concept has already been applied to a variety of items, including cars, electronics, beverage containers, and common household chemicals.³⁶

Several types of EPR strategies exist for the appropriate handling of both toxic and non-toxic products/materials; each type has potential for improving the health of waste recyclers in a different manner (it is interesting to note that of the many potential benefits of EPR, the health benefits seem to have been completely overlooked in the literature and are not usually included in discussions of EPR):

- **Material Use:** Toxic and hazardous materials can be phased out and replaced by safer alternatives, and non-recyclable materials can be replaced with ones that can be recycled. Decreasing the presence of toxic substances from the waste stream would reduce waste recyclers' exposure to dangerous materials and fumes.
- **Product Design:** To reduce the volume of waste, products can be made more durable to last longer and made easier to repair or upgrade rather than needing to be replaced entirely when they break down or become outdated. To reduce the risk to untrained, unprotected waste recyclers, products currently dismantled for the extraction of saleable components can be re-designed such that dismantling can either be done safely or is not necessary at all.
- **Take-Back:** Manufacturers can take physical or financial responsibility for products/ packaging at their end of life so hazardous materials that are not phased out or redesigned "upstream" are at least collected and reused, recycled, or disposed of safely once they are "downstream." The pricing of product buy-back should be such that waste recyclers are incentivized only to collect materials and sell them to a properly equipped recycler rather than attempting themselves to disassemble hazardous products for recyclable parts.
- **Source Segregation:** Hospitals and industries can segregate health-care waste and toxic materials from general waste for separate collection so that waste recyclers do not come into contact with dangerous substances. Households, businesses, and institutional buildings can segregate non-hazardous waste in separate bins or use transparent garbage bags to increase visibility of sharp glass and metal objects so that workers would incur fewer injuries and accidents during collection.³⁷
- **Consumer Notification:** Manufactures might label their products to indicate the presence of hazardous materials as well as to indicate the particular disposal requirements and restrictions, including information on how to properly deposit

the product for producer re-collection. Consumers can be granted access to reports on each producer's compliance with EPR regulations.³⁸ Producers might also devote a portion of their advertising budget to anti-litter or recycling education.³⁹

In addition to health, some of the other more commonly recognized benefits of EPR that strengthen the case for its promotion are worthy of mention:

- **Environmental improvement:** Decreasing the use of hazardous chemicals and materials is not only beneficial to the health of waste recyclers, but it decreases the pollution of air and water with toxins as well. Encouraging the reduction, reuse, and recycling of products and component materials also increases the efficiency of resource use, thereby decreasing the volume of waste and hence the need for landfills and incinerators.⁴⁰ Like health, environmental sustainability is another important factor of sustainable development and is in fact another Millennium Development Goal.⁴¹
- **Potential to generate jobs:** Through its encouragement of recycling, EPR could possibly create more jobs than traditional waste disposal technologies like incineration: Recycling programs are labor-intensive, especially when waste is sorted thoroughly by hand, thereby potentially generating many times the number of jobs per unit of waste as do incineration programs.⁴²
- **Potential to save money:** EPR may allow local governments, already facing budget problems, to spend less on waste management and more on other important programs; taxpayers as a whole might be relieved of the burden of paying for waste management as the cost is shifted to the user and producer; and even producers themselves could ultimately save money by using more efficient product design.⁴³ At the same time, careful EPR schemes that take appropriate precautions to assure the health of waste pickers may necessitate a financial investment, but this burden must be shouldered as part of corporate social responsibility.

Corporate social responsibility is an important aspect of EPR. While every one of us, from citizens to consumers to governments, has to take some responsibility for our problems with waste, producers have an especially important part because they are most directly involved in the design and sale of the very products causing waste problems.⁴⁴ Many corporations have tried to address their social responsibilities by donating products or a portion of their proceeds to popular causes, such as cancer

research or education. While indeed important causes, some would argue that such donations are only surface efforts to improve corporate image and actually distract from the producers' most important obligation, which is to make their products cleanly and safely. Rather than attempting to address issues beyond their purview, corporations need to start by diminishing their own negative impact directly caused by their production process or products. Once they have addressed this problem, efforts toward supporting other important causes would be more appropriate.

Apart from Corporate Social Responsibility, EPR in India will also require responsibility to be embedded in government agencies, such as municipalities and other urban local bodies. Their role could be one of facilitating appropriate EPR and public behavior that strengthen this initiative.

Case Study 9: The Batteries (Management and Handling) Rules, 2001

Lead acid batteries are generated primarily from automobiles, buses, and heavy transport vehicles. Given their lead content, the Indian government has placed them under the Batteries (Management and Handling) Rules, 2001, so that this highly toxic material can be reclaimed under relatively safe conditions. The rules came after several studies about the high lead percentage, along with public concern generated by the media, created the climate for framing these rules.

The rules mandate that used lead acid batteries can only be sold to authorized collectors or recyclers. In the case of recyclers, such units are allowed to operate only after an appropriate authorization from the regulatory agency in order to ensure environmentally safe functioning. The industry was expected to set up collection systems in order to ensure the safe flow of the batteries into such facilities.

However, only a feeble attempt has been made towards meeting the legislative requirements. A large percentage of lead acid batteries in India are still recycled in crude semi-permanent units, with no precautions to protect either the environment or the workers. In addition, the industry has not set up linkages with existing collectors.

This example represents a common problem in India of EPR laws that are not followed, demonstrating the need for much stricter monitoring and public accountability of EPR in the country.

Adapted from: *Informal-formal: Creating opportunities for the informal waste recycling sector in Asia* (2005). Chintan Environmental Research and Action Group.

Reinterpreting EPR : Policy Recommendations for India

EPR has been met with success in Europe, particularly because many European companies understand that it can be a route to better efficiency and competitiveness; it is also spreading in North America, despite more resistance on the part of some US companies.⁴⁵ How can the concept be implemented in developing countries such as India? This section discusses how EPR can be re-interpreted in the context of India in order to address the country's informal recycling sector, particularly in regards to occupational health.

As with any program, care must be taken to adapt EPR to local cultures and conditions; programs simply copied from one country to another are much less likely to succeed than programs designed and implemented for local needs by local people.⁴⁶ In the case of EPR and waste management, the main difference between developed countries and India is the presence of the informal waste recyclers in the latter. However, since EPR was not originally designed to incorporate the informal sector, applying the concept in places like India requires expanding the scope of what EPR entails. Because recycling is largely a labor-based activity in India, any EPR régime the country adopts must address materials and workers alike. Re-interpretation of the EPR concept in India needs to account not only for the products themselves but the entire chain through which they pass, including the work environment of the individuals who handle waste once it is thrown away.

An interesting dilemma arises: On one hand, it is especially important to implement EPR in India because of the waste recyclers' direct exposure to toxins and other hazards (the health impact is less direct in the developed world, where few ordinary citizens come into contact with landfills or dumps). On the other hand, it is the waste recycler population that makes it trickier to implement EPR because programs must be implemented in a way that does not end these workers' means of livelihood. For example, if EPR programs were to promote private or municipal collection services for product take-back, countless waste recyclers would suddenly find themselves facing enormous competition. It would be unjust to deprive them the opportunity to collect and sell waste because, despite their low status and difficult work conditions, most waste recyclers have no other means of earning money, turning to their work as a last resort of desperation. As one author

points out, “those who bear a disproportionate burden of society’s environmental ills should not also be threatened with a loss of livelihood in order to rectify those ills.”⁴⁷ Therefore, waste recyclers must be allowed to continue their work but to do so under safer conditions.

The following policies are recommended for adapting and re-interpreting the concept for India with a particular emphasis on the health of waste recyclers. They take into account both toxics and other wastes which are also seem to cause illness amongst recyclers:

- **Toxics Reduction**

There is no shortcut to reducing the presence of toxics in products and materials. If the health of waste handlers has to be safeguarded, then it is critical that toxics in the materials and products be reduced. This includes toxics such as heavy metals, chlorine which results in dioxins and brominated flame retardants, amongst others. It also includes examining packaging which may contain residues of toxic chemicals such as pesticides.

- **Disposal of Sharps**

Blades, syringes and sharps generated within homes must be collected separately to avoid injuries and infection. This requires a system which includes wastepickers.

Case Study 10: REACH as Example for India

REACH, (Registration, Evaluation, Authorisation and Restrictions of Chemicals), which has just come into force in the European Union, is the world’s most far reaching chemicals legislation.

In a nutshell, the onus will be shifted onto manufactures to satisfy the regulators that the chemicals they are using are safe and be encouraged to use safer alternatives. The first chemicals to kick-start the process are the ones most used.

The world should celebrate this for many reasons. First, it shows that with adequate political will, the chemical industry can be made accountable for public health and safety. Secondly, investments will finally be made for testing a chemical on a market. This is important, because of the 85000 chemicals on the market, less than 3000 have ever been tested for their safety. Thirdly, this can cause a ripple effect both in terms of legislation and product safety globally.

India must begin thinking on these lines as well, so that, workers who make these products, waste handlers and recyclers and the user are all much safer.

Adapted from ‘Earthwatch’, the Hindustan Times, June 9th 2007

- **Involvement of the Sector in Take Back Schemes**

Waste recyclers—especially itinerant buyers and small scraps dealers—need to be granted first rights to handling recyclable waste. This means that when collecting their re-designed, safer products at the end-of-life, firms must also take care to collect via the waste recyclers rather than directly from households, private or municipal waste collection systems, or through a different middleman. Examples of these are pesticide containers, which are currently opened and washed for resale as metal. In some peri-urban parts of India, non-metallic pesticide containers are buried in the ground, contaminating ground water. The industry must buy back these containers from the recyclers and handle them in a safe manner.

For example, the electronic waste recycling discussion currently debated all over the world must include the sector. One means by which this can be done is for manufacturers to buy-back electronic waste from junk dealers or other informal sector players at rates which incentivize this buy back over direct crude recycling. Such waste can then be recycled under proper conditions without environmental damage or the loss of livelihoods to the sector.

- **Packaging**

Some packaging is more lucrative than others for resale. The most toxic products on the market must be packaged in less lucrative packaging, so that the incentive to sell the material is reduced and the incentive to sell the packaging intact is increased. This will make it easier for the industry to buy back the packaging for proper handling.

- **Basic Facilities**

Access to clean water, especially hand-washing facilities with soap, should be provided at the worksite.⁴⁸ When the worksite is not a landfill, then local colonies must be required to provide this, as should market places. Instead of only large dust bins, or dhalaos, small facilities offering water, space and storage facilities must be created and given to micro-enterprises. This is important so that when returning to their families, workers do not spread germs or other hazardous substances they may have touched and do not ingest these themselves.

- **Investment in Healthy Spaces**

- Adequate space should be provided for segregation and storage of recyclable materials before waste is hauled to the dump.⁵³

- Waste receptacles should be designed to allow waste recyclers to segregate the waste without incurring injuries,⁵⁴ and protective equipment and devices to handle materials safely should be provided.⁵⁵ If needed, special segregation spaces must be designed for this.

- Living space, including adequate shelter, lighting, and cooking facilities separate from storage space, would also ideally be provided for workers so they can live in more sanitary conditions and gain some protection from extortion and eviction.⁵⁶ Additionally, living spaces must be close to the place of work, otherwise wastepickers and waste recyclers tend to start opting to live off the streets and in hazardous sub-standard housing, even homelessness, rather than reduce their earnings or lose their livelihoods.

- **Design and Public Education**

Some kinds of waste, such as blades, require special disposal as they injure wastepickers and recyclers. This can only be done if the razor industry along with other manufacturers designs and undertakes an effective public campaign to dispose off such sharps in a safer way and works with local governments to design backward and forward linkages for this.

- **Consultation on System Redesign**

Because waste recyclers are most familiar with their own work environment, they should be consulted on EPR programs for redesigning the waste management system. This includes involvement in city planning and urban service delivery regarding ways to reduce dangerous materials from entering the waste stream, such as redesigning garbage bins or local transfer stations to decrease exposure to toxics and sharps. Rather than viewing waste recyclers as a nuisance or obstacle, firms and policymakers would be well advised to view them as a valuable resource with the knowledge and expertise to address waste management needs.⁴⁹

- **Facilitating Micro-enterprises**

Micro-enterprises are not only a useful means of pooling resources but also, a means of receiving facilities that safeguard health and working conditions. Formal job status should be given to waste recyclers in order for the informal waste management sector to be incorporated into the formal economy. They should be granted an occupation with the status of a “real” job with a basic wage and job security, viewed as small businessmen or micro-enterprises rather than as “ragpickers” or “scavengers” and treated with the according respect and dignity.⁵⁰

- Formally recognized networks should be created from existing informal recycling networks, expanding them while supporting the establishment of additional waste recycler organizations, including for-profit organizations. These enterprises would have the ability to bid for municipal waste collection contracts and negotiate with others as full actors in the system.⁵¹ Formal recognition is also an important step in receiving protection from harassment⁵² (e.g., of police and organized crime).

- **Access to Healthcare**

Although prevention is better than care, it is clear that waste recyclers will require healthcare even with improved and healthier systems. In part, this is due to their poor living conditions. Currently, most of them turn to private practitioners. To enable them to get improved healthcare, all government dispensaries should be open to them in practical ways. This includes training of doctors, adequate medical supplies and the willingness to treat them.

Moreover, most of them find the cost of medicines prohibitive. Identified associations and groups of wastepickers must be given access to significantly discounted expensive medicines, as prescribed. One proposed model is for them to identify registered medical practitioners they access, and whose prescriptions select pharmacies will accept and discount. This can be overseen in every ward by the municipality or others, with a few city-wide specialists for specific illnesses that require specialized care. Other health packages should be offered to organized recyclers; immunization, anti-rabies, tetanus and hepatitis vaccines are essential. These should be significantly subsidized by the private sector, the government or both, as part of a policy, instead of a one time event.

Chintan recommends this on a higher priority than health insurance in its current form. Also, health insurance for recyclers should include the cost of medicines and medical care for chronic illness, based on the model above, rather than only hospitalization. The quality of medical care should also be monitored.

- **Education, Training, and Awareness**

- *Worker training and education* must be developed to inform workers how to mitigate the potential health and safety risks of the job. Workers need to understand how to protect themselves against risks in order to ensure the effectiveness of programs intended to improve their working conditions.⁵⁷

- *International recognition* needs to be increased regarding the role of the informal sector and health

in poverty mitigation, emphasizing the importance of corporate social responsibility. Cross-country networks should be supported and enlarged for exchanging information and practices.⁵⁸

- *Public and consumer awareness* is necessary regarding the general importance of waste separation and recycling,⁵⁹ and consumers also need to be informed about the specifics of any new waste management program.⁶⁰ Educational programs in schools can be especially beneficial because children often impart the knowledge learned in school to their families.⁶¹

- *Police training* must be expanded so that local law enforcement officials know how to protect waste recyclers from harassment⁶² (this is indirectly related to health).

• Recycling Facilities

Recycling needs to be made a priority for non-toxics and should be increased and improved:

- Space for recycling facilities needs to be allotted through more efficient urban planning because urban spaces are already overcrowded and limited space is available.⁶³

- Environmental and safety standards must be set at recycling plants for both equipment and training to ensure safety and cleanliness for workers and communities located nearby. Facilities intended to improve environmental and health conditions should not cause additional problems of their own.⁶⁴

- Legalizing existing recycling units would make it possible to enforce environmental and safety standards, as currently most recycling plants in India are unregulated “shanty” facilities.

- Technology improvements should be developed to improve the efficiency of recycling,⁶⁵ as well as the quality of recycled materials to ensure that the push toward higher levels of recycling is truly beneficial.

Systemic Recommendations

- Balance of Individual and Collective Responsibility

Producers must balance both individual and collective responsibility for product take-back:

- *Individual responsibility* means each producer designs and funds its own program for handling its specific products at their end of life. This approach

can offer direct incentives to each manufacture and also encourages a strong “feedback loop” between product designers, consumers, and recyclers.⁶⁶ It might be the best scheme for new, branded products.

- *Collective responsibility* means industries as a whole are jointly responsible for recycling industry products of different types and brands. For example, producers might finance collection of such materials in proportion their respective market share.⁶⁷ This scheme is most appropriate for handling “historic” waste previously produced without reuse or recyclability in mind as well as for “orphan” or “gray” products that appear to be unbranded or that are refurbished from parts of several different brands.

• Using Voluntary Regulations

The various types of EPR discussed earlier can be implemented either through mandatory or voluntary means. It is generally preferable to first encourage industries to voluntarily address a given problem, imposing mandatory regulations only if industries are unable or refuse to take action.⁶⁸ This is because voluntary participation can be more effective, as rewards and incentives often encourage cooperation and innovation. Some types include:

- *Voluntary codes of practice*, or guidelines set by producers for their own material use, product design, take-back, etc. Public recognition of manufacturers by “naming and shaming” them for irresponsible actions or positively recognizing responsible activities is one way to motivate producers to set voluntary guidelines out of concern for their own corporate image.

- *Economic instruments*, serving as monetary incentives or disincentives for producers or consumers:

- *Fees*, e.g., “pay-as-you-throw” disposal fees based on the amount discarded to encourage source segregation/ recycling by charging consumers for garbage collection.⁶⁹

- *Taxes*, e.g., taxes imposed on producers for use of materials that cannot be recycled to encourage replacement by recyclable materials,⁷⁰ or tax breaks for using non-harmful materials.

- *Deposit-refund systems*, which return money to consumers when they return the product at the end of its use so it can then be reused or recycled, encourage product take-back and efficient resource use by consumers.⁷¹

• Using Mandatory Regulations

When voluntary regulations are not sufficient, as

has been the case in India, mandatory participation for producers and/or consumers should be enforced by a designated government body charged with regular and proper monitoring.⁷² Regulatory approaches to enforce EPR must nevertheless be used carefully because schemes that rely on penalties could actually result in resentment and avoidance of regulations or may be discarded or reversed by powerful industry.⁷³ Furthermore, law enforcement is less reliable in India and many other developing countries because of corruption and lack of transparency.⁷⁴ Some types of mandatory regulations include:

- *Government-imposed bans* on product disposal or use of certain materials (e.g. toxics, non-recyclables). When bans are imposed by law, it is most realistic to target only the most toxic materials (e.g. mercury).

- *Legal obligations* for product redesign, take-back, or consumer notification.

- *Requirements to file annual producer compliance reports*, with penalties for failure to meet EPR requirements.

Conclusion

The millions of men, women, and children in India and throughout the developing world who labor as informal waste recyclers face enormous occupational threats to their health and safety; meanwhile, their environmental and economic services to society—performed at no cost to municipal authorities—go unnoticed and uncompensated. The health risks to these individuals are not only a humanitarian injustice but also a practical obstacle to sustainable development in light of the U.N. Millennium Development Goals of improving health, environment, and conditions of poverty.

Extended Producer Responsibility (EPR) can offer a proactive approach to address the issue, so long as care is taken to ensure that EPR programs do not disrupt the livelihoods of the very people who stand to benefit most directly from it. Doing so requires a reinterpretation of the EPR concept to account not only for the products themselves but the entire chain through which they pass, including the work

environment of the individuals who handle waste once it is thrown away. Because recycling is largely a labor-based activity in India, any EPR régime the country adopts must address materials and workers alike. This chapter has suggested several policies for reinterpreting EPR in such a manner.

EPR has been successful in some countries and has potential to be very successful in other countries where an informal waste management sector is present. Designed and implemented properly, it can even help transform waste from a problem into an opportunity by providing mutual benefits to all parties involved: Waste recyclers’ occupational health and safety could be improved through EPR, and the EPR régime could benefit from the collection efforts of the waste recyclers. Indeed, by addressing the waste management issues of society at large, EPR can also benefit, ultimately, the health and safety of us all.



For the last few decades the size of the informal sector of the economy has been increasing steadily. Loosely defined, the informal sector stands for that sector of the economy where the employer is very difficult to identify or in many cases it's not at all identifiable.

Chapter 3

The Informal Sector and Access to Social Security

A Background

For the last few decades the size of the informal sector of the economy has been increasing steadily. Loosely defined, the informal sector stands for that sector of the economy where the employer is very difficult to identify or in many cases it's not at all identifiable. Workers in this sector also lack any kind of social security e.g. timely payment of wages, pension, leave, health insurance, maternity benefits etc. A few examples of informal sector occupation groups are—wastepickers, recyclers, agricultural workers, small and marginal farmers, forest workers, fish workers, beedi rollers, garment workers, construction workers etc. In 1971, 89 percent of the workforce was working in the informal sector of the economy which increased to 92.5 percent in 1995. Due to informalisation of the existing workforce and lack of creation of new job opportunities in the organized sector, the size of the informal sector has been growing each day. The situation has worsened since the 1990s. The living standards of the poor have declined, their incomes have decreased and over the years social protection has become inaccessible. Supriya Roy Chowdhury in an article in the *EPW*¹ called 'Old Classes and New Spaces' writes that 'besides other factors the decline of the industrial sectors, such as cotton, textiles, traditionally one of the largest providers of employment, and the complex process of its restructuring into modern, capital intensive production, has displaced large number of workers from regular employment. Thus the process of informalisation means both i.e. lack of job creation in the formal sector and the descent of the erstwhile formal sector into the world of informal employment. Here it is important to point out that the condition of women in the rapidly

growing informal sector of the economy is worse because they have to labor both at home as well as outside. Of the total number of working women in the country, a staggering 96 percent work in the informal sector.

In 1978-83 the job growth rate in the organized sector was 2.48 percent which fell to 1.38 percent in 1983-88 and it further fell to 1.05 percent in 1993-94. In urban areas the percentage of people drawing a regular salary in 1977-78 was 42.2, which fell to 41.5 percent in 1993-94. On the other hand during the same period the percentage of casual workers increased from 15.5 to 18.2 percent. The percentage of people living below the poverty line in India has come down to 22 percent² and all of them work in the informal sector. Families above the poverty line working in the informal sector continue to live a life of uncertainty³. The informal sector is also important because it contributes almost 65 percent to the national income.

Historically, the system of social security in India, as elsewhere, began with the organized sector. The first social security legislation was the Workmen's Compensation Act, 1923 followed by the Employees State Insurance Act, 1948, the Employees Provident Fund, 1952, and the Maternity Benefit Act, 1961 etc. All these acts, in course of time, were extended to more and more establishments, such as factories, mines, and plantations, however most of these belonged to formal sector. As a result the large mass of workers tended to remain uncovered by any social security. At the international level, the ILO recognized for the first time in 1986 the need to address the question of the masses of the informal workers lacking adequate social protection. In recent years, due to rising

awareness among the informal sector, the pressure is building on the state to bring a comprehensive legislation to give separate social protection to the informal sector workers instead of only trying to extend the existing formal sector schemes to new groups, since the needs of these workers vary from those in the formal sector. As a result of all these efforts, there are already a number of social security draft bills being debated. These bills have been brought out by different organizations working among the formal sector as well as by the government.

Unfortunately, no bill for the social security of the informal sector has been passed, despite a strong nation wide campaign for this for several years. Although such a bill is essential, this chapter does not focus on it. Instead, it is focused on other schemes and mechanisms that currently exist and how to find mechanisms for social security through existing schemes. We hope that the informal sector will also receive its own social security soon. Until then, however, we seek other means to protect informal sector recyclers.

Existing Schemes

The existing schemes have been examined here in table form. Aspects most relevant to the informal sector are highlighted.

1. FOOD AND PUBLIC DISTRIBUTION SCHEMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and nodal agency
1.	Targeted Public Distribution System Antyodaya Anna Yojana Annapurna	People below the poverty line (families whose household income is below poverty line viz. Rs.24,200/- per annum.)	Food grains supplied at concessional prices wheat- Rs 4.65/kg rice- Rs 6.15/kg sugar-Rs13.50/kg kerosene- Rs 9.08/litre	Source of finance Central Exchequer (Department of Food and Public Distribution). Nodal agency Local Circle Office of the Food and Supplies Department of the State Government where the food and supplies officer (FSO) sits.
2.		Poorest of poor families who are at the starving threshold	35 kgs of food grains supplied at highly subsidized prices (Rs. 2 per kg of wheat and Rs. 3 per kg rice)	Source of finance Central Exchequer (Department of Food and Public Distribution). Nodal agency Local Circle Office of the Food and Supplies Department of the State Government where the Food and Supplies Officer (FSO) sits.
3.		All indigent senior citizens who are eligible for old age pensions but are not presently receiving it and whose children are not residing with them. Only 170 persons have been identified under the scheme in Delhi	Supply of 10 kgs of food grains per month free of cost to the beneficiaries	Source of Finance Central Exchequer (Department of Food and Public Distribution) Nodal agency Local Circle Office of the Food and Supplies Department of the State Government where the food and supplies officer (FSO) sits.

2. SOCIAL ASSISTANCE PROGRAMMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and nodal agency
4.	National Old Age Pension Scheme(NOAPS)	The age of the applicant (male or female) shall be 65 years or higher. The applicant must be a destitute	The amount of the old age pension will be Rs.75 per month. The State governments are free to raise the level of pension e.g. in Delhi its 350 rupees per month.	Source of finance Central Exchequer (Department of Rural Development) Nodal agency Department of Social Welfare, Delhi Government GLNS Complex, Delhi Gate. N.Delhi-1
5.	National Maternity Benefit Scheme (NMBS)	Pregnant women of the age of 19 or above belonging to a household below the poverty line according to the criteria prescribed by the Government of India	Maternity Benefit in the form of cash assistance of Rs.500 per child birth for not exceeding two child births.	Source of finance Central Exchequer (Department of Rural Development) Nodal agency All the nine district offices of the Revenue Department of the Delhi Government where the Deputy Commissioner (DC) sits.
6.	National Family Benefit Scheme (NFBS)	When the primary breadwinner of the family dies whilst he or she is more than 18 years of age and less than 65 years of age, and the bereaved household comes under the Below Poverty Line (BPL) category.	Cash assistance of Rs.10, 000 on the death of the primary breadwinner, whose earnings contribute the largest proportion to the total household income.	Source of Finance Central Exchequer (Department of Rural Development) Nodal agency Department of Social Welfare (HQ), Delhi Government, 1 Canning Lane, K.G Marg, New Delhi

3. WOMEN, ADOLESCENTS AND CHILD RELATED SCHEMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
7.	The Integrated Child Development Services	The Scheme targets the most vulnerable groups of population including children from 0 to 6 years of age, pregnant women and nursing mothers belonging to poorest of the poor families and living in disadvantaged areas including urban slums. The beneficiaries must be the families below the poverty line.	<p>The ICDS aims at providing the following package of services:</p> <ul style="list-style-type: none"> - Supplementary Nutrition; - Immunization; - Health Check-up; - Referral Services; - Non-formal Pre-school Education; and - Nutrition & Health Education. <p>For children upto 6 Years: 300 Calories, 8-10 Grams of Protein</p> <p>For adolescent girls: 500 Calories, 20-25 Grams of Protein</p> <p>For pregnant and nursing mothers: 500 Calories, 20-25 Grams of Protein</p> <p>For malnourished Children: Double the daily supplement provided to the other children (600 and/or special nutrients on medical recommendation)</p>	Source of finance	Central (Ministry of Child and Women Development) and State Budgets
				Nodal agency	Department of Social Welfare (HQ), Delhi Government, 1 Canning Lane, K.G Marg, New Delhi-1
8.	The National Programme of Nutritional Support to Primary Education (Mid Day Meal Scheme)	Children studying in classes I-V in Government and Government aided schools	To provide nutritional food in the form of cooked meals or in the form of food grains	Source of finance	Central (Department of Education) and State Budgets
				Nodal agency	Concerned schools

Continued >

3. WOMEN, ADOLESCENTS AND CHILD RELATED SCHEMES (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
9.	Balika Samridhhi Yojana (BSY)	The Balika Samridhhi Yojana will cover girl children in families below the poverty line (BPL) in rural and urban areas who are born on or after 15 August, 1997. In urban areas wherever such lists are not prepared, the list of families covered under the Targetted Public Distribution System (TPDS) may be followed. Where neither of these lists are available, as a rule of thumb, families living in urban slums, both recognized as well as those not recognized, may be covered. Also, families which are in urban informal sector and working as rag-pickers, vegetable/fish and flower sellers, pavement dwellers etc. would also be eligible. Applications may also be collected from families in non-slum areas.	Under the Scheme financial help is given to families in which a girl child was born on or after 1st august 1997. The mother of the new born girl child receives a grant of Rs.500. The scheme also has provision a scholarship ranging from Rs.300 for class I to Rs.3000 for class X for the girl child's school education to be deposited in the name of the newborn girl child as a postal/bank investment. The deposit will mature and be paid to the girl when she attains the age of 8 years and remains unmarried till then.	Source of finance	Central Budget (Department of Women and Child Development) Department of social welfare, Delhi
				Nodal agency	Government GLNS Complex, Delhi Gate, Delhi-1
10.	Support to training and Employment Programme for Women (STEP)	The target group to be covered under the STEP Programme includes the marginalized, asset less rural women and urban poor.	To provide updated skills and new knowledge	Source of finance	Central Budget (Department of Women and Child Development)
				Nodal agency	Department of Social Welfare, Delhi Government GLNS Complex, Delhi Gate, Delhi-1

Continued >

3. WOMEN, ADOLESCENTS AND CHILD RELATED SCHEMES (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
11.	Rajiv Gandhi National Creche Scheme for the Children of Working Mothers	Parents whose income is less than Rs.1200 per month	Provides day care services to children in the age group 0-5. The facilities provided include sleeping and day care facilities supplementary nutrition immunization, medicine and recreation	Source of finance	Central Budget. Department of Women and Child Development This is a grant in aid scheme Rs.42384 is paid by Government per creche per year
				Nodal agency	State unit of Central Social Welfare Board and Indian Council for Child Welfare.
12.	Integrated Programmes for Street children	Street children, particularly those without homes and family ties and children especially vulnerable to abuse and exploitation such as children of sex workers and children of pavement dweller etc.	The programme has several components including the following: Contact programmes offering counselling, guidance and referral services to destitute and neglected children aimed at their eventual withdrawal from a life on the street. Establishment of 24 hours drop in shelters for children with facilities for night stay, safe drinking water, bathing, latrines first aid and recreation. Mobilising preventive health services and providing access to treatment facilities (Health care and treatment)	Source of finance	Central (Ministry of Social Justice) This is a grant in aid programme. 90% of the cost of the project (subject to a ceiling of Rs.15 lakh) is provided by the Government and the balance by the organization/institution concerned
				Nodal agency	NA

4. EMPLOYMENT AND HOUSING SCHEMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
13.	Swarna Jayanti Shahari Rozgar Yojana (SJSRY)	SJSRY is confined to below poverty line beneficiaries who have got education up to ninth standard with emphasis on those given a higher priority on the basis of the non-economic criteria. • Development of Women and Children in Urban Areas (DWCUA) component of (SJSRY) is distinguished by the special incentive extended to urban poor women who decide to set up self employment ventures in a group as opposed to individual effect	Self employment through setting up Micro enterprises and skill development. • Gainful Employment to Urban Poor, Unemployed and Underemployed. • Setting up self Employment ventures and provision of wage-employment. • Community Empowerment through creation of suitable community structures on UBSP pattern. Capability Building, Women's Group for small enterprises, Women's Thrift-cum-Credit Societies. • The maximum unit cost will be Rs.50,000/- and the maximum allowable subsidy will be 15% of the project cost, subject to a limit of Rs.7,500. The beneficiary is required to contribute 5% of the project cost as margin money.	Source of finance	Central (Ministry of Urban Employment and Poverty Alleviation) and State (urban development department) budgets in the ratio of 75:25
				Nodal agency	All the nine district offices of the revenue department of the Delhi government where the deputy commissioner (DC) sits. Any person who wishes to apply under the programme may contact the Deputy Commissioner of the area in which he/she resides.
14.	Valmiki Ambedkar Awas Yojana (VAMBAY)	Urban slum dwellers below the poverty line who do not possess adequate shelter	Construction and upgradation of dwelling units for the slum dwellers and providing a healthy and enabling urban environment through community toilets.	Source of finance	Central Government (Ministry of Urban Employment and Poverty Alleviation) provides a subsidy of 50 percent of the cost, the balance is to be arranged by State governments. The State's share may consist of funds from any source in the form of subsidy or loan from Housing and Urban Development Corporation Limited (HUDCO) or any other agency.
				Nodal agency	Principal Secretary of the Department of Urban Development, Govt. of Delhi is the nodal officer.

4. EMPLOYMENT AND HOUSING SCHEMES (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
15.	Prime Minister's Rozgar Yojana (PMRY)	<p>Age : For all Educated Unemployed between the Age Group of 18-35 years, in general with a 10 years relaxation for SC/STs, ex-servicemen, physically handicapped and women.</p> <p>Educational Qualification : 8th passed. Preference will be given to those who have been trained for any trade in any Govt Recognized Approved Institution for at least six month.</p> <p>Family Income: Neither the income of the beneficiary along with the spouse nor the income of the Parent of the Beneficiary shall exceed Rs.40,000/- per annum</p> <p>Residence: Permanent Resident of the Area for at least three years</p>	<p>The Main Objective of the PMRY Scheme is to provide easy subsidized Financial Assistance to Educated Unemployed Youths for starting their own enterprises in Manufacturing, Business and Service and Trade Sector.</p> <p>Project Cost: Rs.1 lakh for Business Sector, Rs. 2 lakh for Other Activities. Loan to be of Composite Nature, if two or more eligible persons join together in a partnership, projects upto Rs.10 lakh are covered</p>	Source of finance	Central Scheme (Ministry of Agro and Rural Industries)
				Nodal agency	All the nine district offices of the revenue department of the Delhi Government where the Deputy Commissioner (DC) sits. Any person who wishes to apply under the programme may contact the Deputy Commissioner of the area in which he/she resides.

5. HEALTH PROGRAMMES/SCHEMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
16.	National Illness Assistance Fund (In Delhi it is called Delhi Arogya Nidhi)	Poor patients who are living below the poverty line. The grant is permissible to only one member of the family only once within 1,50,000 Rs. limit.	<p>The Illness Assistance Fund has been created for providing grants to below poverty line cases that need major surgical procedures within & out side the state.</p> <p>The grant is sanctioned in the range of Rs.25000/- minimum to Rs.1,50,000 Maximum. The Cheque is issued to the treating institution. An immediate sanction of Rs 25000 is given by the mentioned hospitals/institutes which would be replenished as and when the report of its utilisation is received</p>	Source of finance	Central (Ministry of Health and Family Welfare) and State (Directorate of Health Services, Delhi Government) A sum of Rs. 10 lakhs is advanced to all the Central hospitals, Institutes of national repute such as AIIMS, NIMHANS Bangalore, CNCI Calcutta, Sanjay Gandhi Post Graduate Institute of medical Sciences, Lucknow, Gandhi Memorial & Associate hospitals and KGMC Lucknow, and CIP Ranchi.
				Nodal agency	Directorate of Health Services, Government of NCT of Delhi F-17, Karkardoma, Delhi-110032

6. OLD AGE RELATED SCHEMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
17.	Integrated Programme for Older Persons	Older persons (60 and above) particularly the infirm, destitute and the widows.	Under the Scheme financial assistance up to 90% of the project cost is provided to NGOs for establishing and maintaining oldage homes, day care centres, mobile Medicare units, and to provide non institutional services to older person	Source of finance Nodal agency	Central Budget (Ministry of Social Justice and Empowerment) Ministry of Social Justice & Empowerment R.No. 616, 'A' Wing Shastri Bhawan N Delhi
18.	Scheme of Assistance to Panchayati Raj Institutions Voluntary Organizations/Self help Groups for construction of old age Homes/Multi Service Centres	Older persons.	One time construction grant for old age homes/multi service centres	Source of finance Nodal agency	Central Budget (Ministry of Social Justice and Empowerment) Ministry of Social Justice & Empowerment R.No. 616, 'A' Wing Shastri Bhawan N Delhi

7. SUBSIDISED INSURANCE SCHEMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
19.	Janshree Bima Yojana-LIC	Rural and urban poor persons (between 18 and 59 years) below the poverty line and marginally above the poverty line. Group Scheme. Minimum membership size: Twenty five	In the event of death Rs.20,000 In the event of death by accident or partial or total permanent disability due to accident the following benefits will be payable : i) on death due to accident Rs.50,000 ii) Permanent total disability due to accident Rs.50,000 iii) Loss of 2 eyes or 2 limbs or one eye and one limb in an accident Rs.50,000 iv) Loss of one eye or one limb in an accident Rs.25,000 In addition the children of the insured persons studying in classes 9th to 12th standards will be entitled to scholarships at the rate of Rs.300 per quarter for a maximum period of four years (This benefit is restricted to two children only)	Source of finance Office Potential Coverage	A premium of Rs.200 per member to be shared as under 50% of the premium to be paid by members or nodal agency or State government at the time of submitting proposal and subsequently on each annual renewal date. The balance 50% of the premium will be borne by the social security fund of india- Local office of the LIC May be extended to all the workers in the unorganized sector
20.	Shiksha Sahayog Yojana-LIC	Students studying in ix to xii standards, whose parents are covered under Janshree Bima Yojana.If a student fails and is detained in the same standard, he will not be eligible for scholarship for the next year in the same	Scholarship of Rs 300/- per quarter per child will be paid for maximum period of 4 years. The benefit is restricted to two children per member (family) only	Source of finance	

Continued >

7. SUBSIDISED INSURANCE SCHEMES (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency
21	Universal Health Insurance Scheme	The Scheme is applicable to all the people but in the case of families below the poverty line government will provide a subsidy of Rs.100 per family (It was announced in the budget speech of the Union Finance Minister that the rate of subsidy would be raised to Rs.200 for individuals, Rs.200 for a family of five and Rs.400 for a family of seven)	<p>The policy provides reimbursement of hospitalisation expenses upto Rs.30,000/- to an individual /family subject to the following sublimits:</p> <p>A. (i) Room, Boarding expenses upto Rs.150/- per day (ii) If admitted in ICU upto Rs.300/- per day</p> <p>B. Surgeon, Anaesthetist, Consultant, specialists fees, Nursing expenses upto Rs.4,500/- per illness/ injury</p> <p>C. Anaesthesia, Blood, Oxygen, OT charges, Medicines, Diagnostic material & X-Ray, Dialysis, Radiotherapy, Chemotherapy, Cost of pacemaker, Artificial limb, etc upto Rs. 4,500/- per illness/ injury</p> <p>D. Total expenses incurred for any one illness upto Rs. 15,000</p>	<p>Source of finance</p> <p>Insurance premium For an individual Rs.1 per day; Rs.365 per annum</p> <p>For a family upto 5 Rs.1.50 per day; Rs.548 per annum</p> <p>For a family upto 7 Rs.2 per day; Rs.730 per annum</p> <p>(It was announced in the budget speech of the Union Finance Minister that the premium would be revised as follows: individuals Rs.125; for a family upto five Rs.248 and for a family upto 7 Rs.330)</p> <p>Office</p> <p>Branches of National Insurance CO, New India Assurance Co., Oriental Insurance Co., United Insurance Co.</p> <p>Potential Coverage</p> <p>One million as per budget speech</p>

Continued >

7. SUBSIDISED INSURANCE SCHEMES (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency
22.	Bhagyashree Child Welfare Policy	This scheme is meant for girl children in the age group of 0-18 years whose parents age does not exceed 60 years. The scheme provides relief to insured girl in the case of death of either of the parents or both, arising out of accident. Note: One girl child below the age of 18 in a family could be covered. Policies can be issued individually or as a group.	In the event of death of the parent(s), Rs.25,000/- will be deposited in the name of the child in any of the nationalised banks. Amounts varying from Rs.1200 per annum to Rs.2400 per annum will be payable to the surviving parent or guardian to look after the child and her education. On attaining the age of 18 years, the balance amount will be paid to the girl child, which will help her settle down in life. In the event of the death of the girl child, before attaining the age of 18 years, the balance amount standing to her credit will be paid to surviving parent/guardian.	<p>Source of finance</p> <p>Central (Ministry of Finance) The premium is just Rs.15 per annum per child and varies from 5 to 30 % if the insurance cover is taken in groups</p> <p>Office</p> <p>Branches of National Insurance CO, New India Assurance Co., Oriental Insurance Co., United Insurance Co.</p>
23.	Rajarajeswari Mahila Kalyan Bima Yojana	This scheme is intended to provide economic security to women in the age group of 10-75 years, irrespective of their income occupation or vocation can be covered under the policy.	There is a basic cover of Rs.25,000 on payment of a premium of Rs.15 per annum per woman for permanent total disablement or loss of two limbs/both eyes/one limb and one eye. An insurance cover of Rs.12,500 will be available for loss of only one limb or one eye. In the case of accidental death of the husband, a compensation of Rs.25,000 is payable to the wife. In the case of unmarried women, compensation on the accidental death of the insured will be payable to her nominee or legal heir. There is an additional cover which could be procured on payment of an additional premium of Rs.8 to cover temporary total disablement, expenses incurred for legal divorce proceedings and loss/damage to household effects, on account of fire, flood, riot, terrorism etc. The cover also includes death during the childbirth at hospital and surgical operation such as sterilisation, caesarean hysterectomy and removal of breast due to cancer provided that such death occurs within seven days from the date of	<p>Source of finance</p> <p>Central (Ministry of Finance) The premium under the policy will range from 4.25 to Rs.6 per woman in case of large groups and a further discount ranging from 5% to 20% will be given as a long term discount depending upon the period for which insurance has been taken.</p> <p>Office</p> <p>Branches of National Insurance CO, New India Assurance Co., Oriental Insurance Co., United Insurance Co</p>

8. SOCIAL INSURANCE, PROVIDENT AND PENSION SCHEMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency
24	Employees State Insurance Scheme, 1948 (ESI)	<p>The ESI Act, (1948) applies to following categories of factories and establishments in the implemented areas:-</p> <ul style="list-style-type: none"> • Non-seasonal factories using power and employing ten(10) or more persons • Non-seasonal and non power using factories and establishments employing twenty (20) or more persons. <p>The "appropriate Government" State or Central is empowered to extend the provisions of the ESI Act to various classes of establishments, industrial, commercial or agricultural or otherwise. Under these enabling provisions most of the State Govts have extended the ESI Act to certain specific class of establishments, such as, shops, hotels, restaurants, cinemas, preview theatres, motors transport undertakings and newspaper establishments etc., employing 20 or more persons.</p> <p>The ESI Scheme is mainly financed by contributions raised from employees covered under the scheme and their employers, as a fixed percentage of wages. Employees of covered units and establishments drawing wages upto Rs.6500/- per month come under the purview of the scheme for social security benefits. However, employees' earning upto Rs.40/- a day as wages are exempted from payment of their part of contribution</p>	<p>Medical Benefit, Sickness Benefit, Employment Injury Benefit</p> <p>i) Disability benefit</p> <p>ii) Dependants Benefit</p> <p>Maternity Benefit</p> <p>Funeral Expenses</p>	<p>Source of finance</p> <p>Contribution from employers and workers @ Employers 4.75 of wages of the employees</p> <p>Employees 1.75% of wages of the employees</p> <p>Budget Allocation</p> <p>Revenue Income: Rs.1704 crores (Rs.17048 million)</p> <p>Revenue Expenditure Rs.1118 crore (Rs.11183 million)</p>

Continued >

8. SOCIAL INSURANCE, PROVIDENT AND PENSION SCHEMES (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency
25.	Employees Provident Fund Scheme, 1952 (EPF)	<p>Employees' Provident Fund and Miscellaneous Provisions Act 1952 is applicable to:</p> <p>Every establishment which is engaged in any one or more of the industries specified in Schedule I of the Act or any activity notified by Central Government in the Official Gazette employing 20 or more persons. Cinema Theatres employing 5 or more persons.</p> <p>The Act does not apply to: the co-operative societies employing less than 50 persons and working without the aid of power. 16(1)(a) The establishment to which this Act applies shall continue to be governed by this Act, even if the number of employees falls below 20 at a later date. [1(5)].</p> <p>16(1)(b) Establishments under the control of state/central Govt. & employees who are getting benefits in the nature of 16(1) (b) contributory P.F. or old age pension as per rules framed by the Govt.</p> <p>16(1)(c) Establishment set up under any central, provincial or state act and the employees who are getting benefits in the nature of contributory P.F. or old age pension as per rules.</p> <p>Voluntary Coverage If any of the establishment is not satisfying the above two conditions for coverage and if the employer and majority of the employees are willing, the Act may be applicable to such establishment (Voluntary coverage under section 1(4))</p>	Provident Fund	<p>Source of finance</p> <p>Contributions by employers and employees @ Employers 12% of wages</p> <p>Employees 12% of wages</p> <p>In the case of beedi, brick, coir and guargum industries the employers as well as employees have to contribute @ 10% of wages only. Out of the contribution by the employers 8.33% of wages are transferred to the Employees Pension Fund</p> <p>Budget Allocation</p> <p>2001-2002 Contributions received Rs.11188 cores (Rs.111 billion)</p> <p>Claims settled Rs.5090 crores in respect of unexempted establishments only</p> <p>Potential Coverage</p> <p>Actual coverage 27.4 million</p> <p>Potential coverage: 28.113 million (Total number of persons employed in organized sector. (The scheme may be extended to unorganized sector with some modications)</p>

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8. SOCIAL INSURANCE, PROVIDENT AND PENSION SCHEMES (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
26	Employees pension Scheme 1995	The new Employees' Pension Scheme-95, repealed and replaced the erstwhile Family Pension Scheme, 1971. The Scheme on its introduction applied on compulsory basis to all the new members of Provident Fund and the existing members who were contributing to the Employees' Family Pension Scheme-1971.	Superannuating pension Retirement Pension Invalidity Pension Widow Pension Children's Pension Orphan's Pension	Source of Finance	Contributions by employers. Out of the employers contribution to the provident fund 8.33% are transferred to the pension Fund. The Central Government contributes 1.16% of wages
				Budget Allocation Contribution Recd claims settled	2001-2002 4449 crores Rs.1635 crores (including monthly pensions paid)
				Potential coverage	Actual Coverage: 27.4 million Potential coverage 28.113 million. The scheme can be extended to the unorganized sector with modification in the Act.
27	Employees Deposit Linked Insurance Scheme	The Central Govt with the motive of providing additional Social Security in the form of Life Insurance to the family of the deceased member of the Provident Fund, introduced the Employees Deposit Linked Insurance Scheme. Applicability: The Scheme applies to all the establishments to which the Employees' Provident Fund Scheme applies. Membership: All the members of the Employees' Provident Fund Scheme are covered as members of the Employees' Deposit Linked Insurance Scheme also.	Insurance Benefit. An amount equal to the deposit in the provident fund is paid in the event of death of the subscriber while in service subject to a ceiling of Rs.60,000 paid in the event of death of the subscriber while in service subject to a ceiling of Rs.60,000	Source of Finance	Contributions by employers at 0.5% of wages
				Budget Allocation	Contributions received Rs.153 crores. Claims settled Rs.52 crores
				Potential coverage	Actual Coverage 27 million Potential coverage 28.113 million
				Budget Allocation	1999-2000 Contributions received Rs.433 crores Benefits paid Rs.136 crores
				Potential coverage	0.8 million

9. EMPLOYERS LIABILITY SCHEMES

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
28	The workmen's Compensation Act, 1923 (WC Act)	Workers employed in the employments listed in the Schedule to the Workmen's compensation Act except those covered under the ESI Act. There are 49 employments listed in the schedule including unorganised construction industry	Compensation for temporary or permanent partial or total disablement or death arising out of land in the course of employment	Source of finance	It is the liability of the employers to pay the compensations they arise
				Budget Allocation	NA
				Potential Coverage	48% of the workforce excluding Government employees and those covered under the ESI Act
29	The Maternity Benefits Act 1961 (M.B. Act)	The act is applicable to mines, factories, circus industry, plantation, shops and establishments employing ten or more persons except employees covered under the ESI Act 1948. It can be extended to other establishments by the state governments. There is no wage limit for coverage under the act	Maternity Benefit at the rate of the average daily wage for the maximum period of twelve weeks, six weeks before and six weeks after the delivery and the date of delivery	Source of finance	It is the liability of the employer concerned to pay the benefit as it arises
				Budget Allocation	NA
				Potential coverage	May be extended to all employments where there is employer employee relationship.
30	The payment of Gratuity Act, 1972 (PG Act)	Persons employed in factories, mines plantations ports railway companies, shops and establishments and such other classes of establishments to which the Central Government may extend the application of the Payment of gratuity Act	Payment of Gratuity on termination of employment after five years of continuous service at the rate of fifteen days wages for each completed year of service	Source of Finance	It is the liability of the Employer to make the payment of gratuity as it arises
	Payment of Lay off and Retrenchment Compensation	Establishments in which less than ten persons are employed are excluded from the applications of the Act.		Budget Allocation Contribution Recd, claims settled	NA
				Potential coverage	May be extended to all employments where there is employer employee relationship; there is a proposal to merge the scheme with the Employees Provident Fund Scheme or the Employees pension Scheme.

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9. EMPLOYERS LIABILITY SCHEMES (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
31	Payment of Lay off and Retrenchment Compensation	Workers employed in industrial establishments employing not less than 50 persons and other than seasonal establishments	Payment of compensation for the period for which a worker is laid off at 50% of basic wages and dearness allowance. Payment of compensation for retrenchment after one year of continuous service at the rate of fifteen days average pay for every year completed year of continuous service.	Source of Finance	It is the liability of the employer to make the payment as it arises
				Budget Allocation	NA
				Potential coverage	May be extended to all industrial establishments where there is employer employee relationship unless an unemployment insurance scheme is introduced.

10. WELFARE FUNDS

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency	
32	Beedi Workers Welfare Fund	Workers employed in beedi industry including contract labour and home workers drawing wages not exceeding Rs.3500 per month	Health Care, Housing, Education, Water Supply, Recreation, Construction Of Godowns and Workshops, Group Insurance (Those employed in establishments employing 20 or more persons are also covered under the Employees Provident Scheme Employees Pension Scheme and the Deposit linked Insurance Schemes; they will be entitled to the provident fund pensions and insurance benefits under those schemes)	Source of finance	Cess on manufactured beedis at Rs. 2 per 1000 beedis
				Budget Allocation	Rs. 533 million in the year 2001-2203
				Potential Coverage	Estimated: 4.4 million No. of identity cards issues: 3.9 million
33	Cine Workers Welfare Fund	Cine workers employed in connection with the production of not less than five feature films to work as an artist or to do any other work whose remuneration with respect to such employment has not exceeded Rs.8000 per month or Rs.1,0,000 if paid lumpsum	Health Group Insurance Education	Source of finance	Cess levied on production of films @Rs.10,000 per each Hindi film. Rs.5000 per Tamil Telugu and Kannada film. Rs.3000 per Bengali Marathi and Gujarathi Film. Rs.2000 per film of Oriya Assamese and other regional languages
				Budget Allocation	Rs. 5 million
				Potential coverage	64, 483 workers

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10. WELFARE FUNDS (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency
34	Iron ore Manganese ore and chrome Ore Labour Welfare Fund	Workers employed in iron ore, manganese ore and chrome ore mines drawing wages not exceeding Rs.10,000 per month	Health Care, Housing, Water Supply, Education, Recreation	Source of Finance Levy of cess on export of iron ore, internal consumption of iron ore, manganese ore and chrome ore at the following rates: Iron Ore Rs. 1 per M.T. (Metric Tonnes) Manganese Ore Rs.2 per M.T. Chrome Ore Rs. 4 per M.T. Budget Allocation Rs. 89 million in 2001- 2002 Potential coverage 78,000
35	Limestone and Dolomite Labour Welfare Fund	Workers employed in limestone and dolomite mines drawing wages not less than Rs.10,000 per month	Health care, Housing, Education, Water Supply, Recreation	Source of Finance Levy of cess on internal consumption of limestone and dolomite ore @ Rs.1 per M.T. Budget Allocation Rs.61.8 million in 2001-2002 Potential coverage 55,000
36	Mica Mines Labour Welfare Fund	Workers employed in mica Mines drawing wages of less than Rs.10,000	Health care, Housing, Education, Water Supply, Recreation	Source of Finance 4.5 percent cess and valorem in the nature of customs duty on export of mica Budget Allocation Rs.14 million Potential coverage 1714 (1993-94)

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10. WELFARE FUNDS (Contd.)

No.	Scheme	Target Group/ Eligibility	Benefits	Source of Finance and Nodal Agency
37	Building and Other Construction Workers Act 1996/ The Delhi Building and other construction workers welfare scheme	Construction workers. a) Under the Act a building worker who has completed 18 years of age but has not completed 60 years and has been engaged in building or any other construction work for not less than 90 days during the preceding 12 months and who is not a member of any other Welfare Fund established under any law for the time being in force, is eligible for registration as beneficiary by paying a registration fee of Rs.25/-. b) A beneficiary under this Act shall cease to be as such when he/she attains the age of 60 years or when he/she is not engaged in building or other construction work for not less than 90 days in a year	Welfare measures like financial assistance to the families in case of accident, old age pension (the amount of pension shall be Rs. 150 - per month and all increase of Rs. 10/- shall be given for every completed years of service beyond 5 years), housing loans, payment of insurance premium, education, medical and maternity benefits to the workers registered with the Board. b) To sanction financial assistance to the extent of Rs. 15,000/- to nominees/dependants of a member towards death benefit in case of death. In case the death is due to accident during the course of employment the nominees 1 dependants of the member are to be given Rs. 50,000 /- towards death	N.A.

Recommendations

The matrix of social security schemes shows that many schemes can be made applicable to wastepickers. Moreover, several of them require that the beneficiaries be organized into groups, although a few can be accessed by individuals. However, some of the most important benefits are those which an employer can give its employees. Therefore, the question is how does this work for wastepickers?

Types of Schemes

For the purposes of access by waste-pickers, the various social security schemes can be grouped as under:

Individual schemes

These are schemes where the concerned individual has to apply for the benefit and no association membership is required. However, the presence of an association can enable the individual to access the scheme, particularly if the association can provide the participatory mechanism to identify the eligible individual. The following schemes fall within this category:

- Public Distribution System schemes: Antyodaya, Annapurna
- Old age pension, Maternity benefit, Family benefit
- Balika Samridhi Yojna
- Prime Minister's Rozgar Yojna (PMRY)
- Rashtriya Arogya Nidhi (RAN)
- Shiksha Sahayog, Health insurance, Rajarajeswari

Collective schemes

For these schemes, some kind of association membership is required that either provides the physical structure (school, crèche, old age home etc) through which the benefits are made available, or the organizational medium whereby individuals can collectively obtain the benefit (STEP, VAMBAY, Janashree etc). These include the following schemes:

- Integrated Child Development Services (ICDS),
- Mid-day Meal Scheme,
- Support to Training and Employment Programme for Women (STEP),
- Rajiv Gandhi National Crèche Scheme,
- An Integrated Programme for Street Children,

- Swaran Jayanti Sahari Rozgar Yojna (SJSRY),
- Valmiki Ambedkar Avas Yojana (VAMBAY),
- Old Age Homes Scheme,
- Janashree Bema Yojana (JBY),
- Bhagyashree Child Welfare Policy,

Employer schemes

Finally, there are schemes that require the presence of an employer who contributes to the funds required for the scheme and who is accountable for providing the benefit to the employee. These include:

- Employees State Insurance Scheme (ESI),
- Employees' Provident Fund Scheme (EPF),
- Employees' Pension Scheme (EPS),
- Employee's Deposit Linked Insurance Scheme (EDLIS),
- The Workmen's Compensation Act, 1923 (WCA),
- The Maternity Benefit Act, 1961 (MBA),
- The Payment of Gratuity Act, 1972 (PGA),
- Payment of Lay off and Retrenchment Compensation (PLRC),

It is clear therefore that the wastepickers must be enabled to enhance their social security via being organized. Chintan has tried to organise several groups, and found the legal structures not conducive to many of the needs of the sector. As service providers, they require work that earns them a profit that they can share. They also require associating and federating for advocacy of their other rights. Hence, the following steps are recommended to combine a number of needs of a highly vulnerable sector.

Characteristics of Association

Any association formed by the waste-pickers may need to have the following characteristics:

1. It should be able to democratically identify and assist individuals in obtaining assistance.
2. It should provide the organizational structure through which the assistance can be made available to groups.
3. It should be able to identify an employer who makes enough surpluses to provide benefits to employees.

An optimal mix of these is critical.

Consequently, the association's purposes may best be served by:

- First, registering a Society (or Cooperative, which is more limiting) that enables members to constitute a

general body and elect an executive committee that functions according to the guidelines democratically set out by the general body. In order to make the Society as participatory as possible, the rules can be framed in such a way as to enable the general body to meet regularly and periodically (on a monthly basis, say), rather than the normal annual meeting as followed by most Societies. However, while Societies can apply for exemption from Income Tax, it cannot make profits, and all business income will be taxed.

- Then, registering a Trust that receives all the money and can engage in activities that make profit that can be distributed amongst the beneficiaries. The advantage of registering the Society first is that the Society can nominate the Trustees who manage the Trust. Also, under the Societies Act it is easier to change the constitution and the rules by passing a resolution at General Body meetings and informing the Registrar, rather than under the Trust Act, which requires the permission of the Court.

- Finally, the Society and the Trust can, from time to time, and if necessary, set up specific business enterprises such as Partnership Firms (up to 20 partners), which can be the employer required for the social security benefits under the third category of schemes above. In most cases, the Trust itself can act as an employer and receive all the surpluses produced through collective business enterprise.

In this manner, wastepickers can not only receive benefits currently denied to them, but also enhance their earning and their own security.

Safeguards

The essential safeguards to be followed is that the Objectives and Rules and Regulations that are framed while setting up the Society or the Trust must be carefully made to ensure the priority of the Society in taking decisions, and the enabling of the Trust to engage in business activity. Furthermore, these must be extensively discussed and understood by all the members constituting the Society. The assistance of a good lawyer would be of great value in working out the details of these associations in dialogue with the prospective members.



It is clear that the work of the informal recycling sector must be facilitated through sound policy, if we are to simultaneously address poverty alleviation and optimize resource recycling.

Chapter 4

Conclusions

It is clear that the work of the informal recycling sector must be facilitated through sound policy, if we are to simultaneously address poverty alleviation and optimize resource recycling. Global experience also sets a good precedence, showing that these ideas are feasible. India therefore faces less risk and a richer pool of ideas and concepts to borrow from. There are a few good initiatives to expand upon within India as well. These reinforce the need to involve the sector for any meaningful intervention in improving the quality of life for all urban inhabitants.

Evidence from all over India shows how vibrant the recycling sector is. It has created a complex trade chain, based on factors ranging from kinship to chemistry, which feeds materials to reprocessing factories all over India and the world. Why rupture something that is already efficiently providing essential services?

Instead, the sector must be strengthened, so that it can carry out its work without the health and other costs it bears. Recycling waste must be safe, clean and secure for the recyclers too. It should not force them to internalize the costs of such work. Without such safeguards in place, what appears to be a 'green activity' is essentially a highly exploitative and brutal business.

No amount of pilot projects can address these issues on a long term basis, without sound policy in place. This report identified three areas of policy intervention: access to livelihoods, health and extended producer responsibility and social security. We focussed on livelihoods as a critical means of addressing poverty and ensuring sustainable recycling. Our chapter on health suggested that reinterpreting the idea of Extended Producer Responsibility provides a sound policy framework. We acknowledged that in the area of social security, the pending bill for

social security for various informal sectors is an important step forward, and a good step forward. However, till that happens and even when it happens, there are many other government schemes that help the poor in many ways. Wastepickers in particular must organize themselves to be able to access these in any case.

This report makes detailed, practical policy recommendations in each section. However, there are some broad guidelines that should we emphasize.

These are:

- Policy must consider the entire recycling chain, from wastepickers to reprocessors, giving a special focus to wastepickers. Piecemeal policy is less impactful and delivers less sustainable results
- Policy should not dictate how recycling work will be done. Rather, it should facilitate the sector to undertake its work smoothly by enabling it to access recyclable waste, letting the professionals decide their strategy for recycling. In fact, most recyclers find their way into this profession because they need the flexibility
- The recyclers know their own work. They must be consulted at every step of planning and their opinions reflected in the final policy document
- Waste recyclers, particularly wastepickers, need to be formally organized in order to be able to avail of the benefits that a shift in policy offers them. Such organization must be made easier, with less paper work and documentation, as well as less costs
- The work of the sector must be recognized. This can be done through specific mention of their work and its details in legislation (such as the Solid Waste (Management and Handling) Rules, 2000. It can also be done through allocating licenses to operate

a business to waste traders. In this case, all existing traders, or junk dealers, should be surveyed and given a license coupled with performance standards

- The first right over waste must be that of the wastepicker
- Space for recycling based activities-segregation, storage and space to set up reprocessing plants-has to be formally planned for and allocated to organized groups of recyclers
- Manufacturers of materials and products must not be exempt from their responsibility in the disposal of their products. Extended Producer Responsibility (EPR) is a concept that can be re-interpreted in the Indian context, to include the work of the informal sector while making it safer and cleaner. This concept will require legislation and its strict enforcement, as voluntary producer responsibility has not succeeded in India
- EPR in India does not concern the manufacturer alone, but implicates the government and the consumer too. The government is responsible for the health and well-being of all its citizens and must act to prevent accidents, injuries and sickness from this work. In fact, policy must aim to make the work itself safe
- Strategies to ensure responsible waste disposal by the consumer are also important. However, these must not be at the cost of reducing responsibility of the manufacturer or the government
- Medical facilities and costs of medicines must be subsidized and made readily available to organized recyclers
- Every waste dump and landfill has wastepickers working at it. Rather than ban them, they must be organized to recycle safely
- Organized facilities must be made available for their use across the city. A typical unit should comprise space to segregate, store waste and equipment, wash and bathe as well as space to meet. Anything less is inadequate

- Policy objectives must be to ensure clean, safe and decent livelihoods to the informal sector recyclers, perhaps enabling them to access many of the securities of the formal sector without losing their inherent strengths and flexibility.

Urban Indians benefit from the work of the recycling sector every day. They are our local resources for managing waste. Unfortunately, they are poor and their work hazardous. Policy must correct that.

Appendix 1: MATRIX SHOWING DIFFERENT TYPES OF COLLECTIVES THAT CAN BE FORMED

No. Type of Organisation	Laws	Definition	Provisions	Profit or Non-profit	Tax Provisions	Members participation: Direct or representative	Benefit accrual/ sharing mechanisms
1 TRUST	Indian Trust Act 1882	A "trust is an obligation annexed to the ownership of property, and raising out of a confidence reposed in and accepted by the owner, or declared and accepted by him, for the benefit of another, or of another and the owner.	<ul style="list-style-type: none"> • Formed u/s 4 the Act for a lawful purpose, which should have written and signed document by trustee(s). It can be formed through a will. • No definite form required to create a trust but the objectives should be clear and unambiguous. 	<ul style="list-style-type: none"> • Beneficiary may be allowed to share profit • The Trustee will get the monthly remuneration 	<ul style="list-style-type: none"> • Audit statement not applicable for pvt. trusts 	Only Managing trustee	Only for the trust assets
2 ORGANISATIONS/ CLUBS/ ASSOCIATIONS	Societies Registration Act, 1860, Companies Act 1956	Charitable societies, the military orphan funds or societies established at the several presidencies of India, societies established for the promotion of science, literature, or the fine arts for instruction, the diffusion of useful knowledge, [the diffusion of political education], the foundation or maintenance of libraries or reading-rooms for general use among the members or open to the public or public museums and galleries of paintings and other works of art, collections of natural history, mechanical and philosophical inventions, instruments, or designs.	<ul style="list-style-type: none"> • Not less than 7 members at the time of registration u/ registrar societies • Memorandum of association should contain, the name of the society, the object of the society, the names, addresses, and occupations of the governors, council, directors, committee, or other governing body to whom, by the rules of the society, the management of its affairs is entrusted. • Address of the Registered office of the society is one of the mandatory provisions. • Annual general body meeting to be held every year and the minutes should be file to the Registrar of Joint-stock Companies. • For non-profit making charitable society, one can apply under section 25 of Companies Act 1956. 	No Profits	<ul style="list-style-type: none"> • Audit statement is mandatory. • Can apply for exemption u/ s88 of IT Act • Deduction of tax at source according to IT Act 	Executive committee manages, subject to approval of general body	None

Appendix 1: MATRIX SHOWING DIFFERENT TYPES OF COLLECTIVES THAT CAN BE FORMED (Contd.)

No.	Type of Organisation	Laws	Definition	Provisions	Profit or Non-profit	Tax Provisions	Members participation: Direct or representative	Benefit accrual/ sharing mechanisms
3	PRIVATE LIMITED COMPANIES	Companies Act 1956	Any business operated privately	<ul style="list-style-type: none"> Apply for the name to the Registrar of Companies File the memorandum of association and articles of association MoA should contain the objective, address of the company, names of members, authorized capital Paid up capital of 1 lakh Mandatory provisions include 2 members, 2 directors and 2-50 shareholders to begin with 	Board of Directors will decide about the profits, after analyzing the total expenditure, turnover and income of the company.	All taxes applicable u/IT Act	Only Board of Director can take decision, the minutes have to be filed in Registrar of Companies (ROC)	If the Company carries out export or import than it will be eligible for all benefits under the import and export schemes of the govt
4	PUBLIC LIMITED COMPANIES	Companies Act 1956	A public limited company is also registered under Companies act	<ul style="list-style-type: none"> With the same provisions as the private limited company It should have 7 members, atleast 3 Directors and atleast 7 shareholders. The paid up capital should be atleast 5 lakh It must hold statutory meetings and obtain government approval for the appointment of the management. 	Board of Directors will decide about the profits, after analyzing the total expenditure, turnover and income of the company.	All taxes applicable u/IT Act The company have to submit papers to ROC as given under the Act	Only Board of Director can take decision, the minutes have to be filed with Registrar of Companies (ROC)	Same as above
5	CHARITABLE SOCIETIES	Societies Registration Act 1860, Companies Act 1956 Trade Union Act 1926	Same as organisation (see No.2)	Same as organisation (see No 2)	Non-profit	<ul style="list-style-type: none"> Audit statement is mandatory. Can apply for exemption u/ s88 of IT Act Deduction of tax at source according to IT act 	Executive committee manages, subject to approval of general body	None

Appendix 1: MATRIX SHOWING DIFFERENT TYPES OF COLLECTIVES THAT CAN BE FORMED (Contd.)

No.	Type of Organisation	Laws	Definition	Provisions	Profit or Non-profit	Tax Provisions	Members participation: Direct or representative	Benefit accrual/ sharing mechanisms
6	TRADE UNIONS	Trade Union Act 1926	'Trade Union' means combination, whether temporary or permanent, formed primarily for the purpose of regulating the relations between workmen and employers or between workmen and workmen, or between employers and employers, or for imposing restrictive condition on the conduct of any trade or business; and includes any federation of two or more Trade Unions.	<ul style="list-style-type: none"> Atleast 7 members with their names and complying with the provisions of the Act apply for registration of the Trade Union under this Act. The application to be filed to the Registrar with the rules, address and name of the TU and the names, occupations and addresses of the members making the application. Registrar cannot refuse to register a Trade Union and shall issue a certificate of registration. Trade unions cannot be registered under the Societies of Registration Act 1860, Cooperative Societies Act, 1912 and Companies Act 1956. 	Non-profit	<ul style="list-style-type: none"> Audit statement is mandatory. Can apply for exemption u/ s88 of IT Act Deduction of tax at source according to IT act 	Executive committee manages, subject to approval of general body	None
7	CO-OPERATIVE SOCIETIES	The Co-operative Societies Act, 1912, The Delhi Co-operative Societies Act, 1972	A Cooperative society with an object for the promotion of the economic interests of its members in accordance with co-operative principles, or a society established with the object of facilitating the operations of such a society, may be registered under this Act with or without limited liability	<ul style="list-style-type: none"> The society should consist of at least ten persons above the age of eighteen years and, where the object of the society is the creation of funds to be lent to its members. The registration should be applied to the registrar of the societies of the respective state governments. 	Non-profit	<ul style="list-style-type: none"> Audit statement is mandatory. Can apply for exemption u/ s88 of IT Act Deduction of tax at source according to IT act 	Executive committee manages, subject to approval of general body	None

Appendix 1: MATRIX SHOWING DIFFERENT TYPES OF COLLECTIVES THAT CAN BE FORMED (Contd.)

No. Type of Organisation	Laws	Definition	Provisions	Profit or Non-profit	Tax Provisions	Members participation: Direct or representative	Benefit accrual/sharing mechanisms
8 PROPRIETORSHIP FIRM	No law is applicable for Sole Proprietorship Firm.	Any person who intends to form a business can have a business on his own proprietorship. Any two or more people can form a partnership firm	No registration is required, but mandatory bank account, pan number should be applied for. Registration under Sales tax Act and Shops and establishment act should be done.	Profits only to the proprietor	All taxes and records applicable u/IT Act	Only the proprietor has the authority to take decisions according to the Deed of Partnership.	None
9 PARTNERSHIP FIRMS	The Indian Companies Act, 1956, The Indian Partnership Act, 1932,	Not more than 20 people can form a partnership firm.	<ul style="list-style-type: none"> Persons who have entered into partnership with one another are called individually "partners" and collectively a "firm", and the name under which their business is carried on is called the "firm name". It can be registered under the Indian Partnership Act 1932. (Optional) A Deed of Partnership is mandatory, which would include rights, duties, liabilities and obligations of the each partner. 	<ul style="list-style-type: none"> Profits will be shared according to the partnership deed. Partnership deed must mention the % of share of profit to go to each member. 	All taxes and records applicable u/IT Act.	<ul style="list-style-type: none"> It will be good for the firm if the Deed enumerate or assign some partners to take the decision on behalf of other for certain matters. No benefits from the state. Can jointly apply for insurance, PF, other benefits for the employees. 	

Form for commercial establishments in Washington, DC to plan recycling. Note how such internal systems create opportunities for small service providers to provide such services.




GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF PUBLIC WORKS
OFFICE OF RECYCLING
 3220 Pennsylvania Avenue, SE
 Washington, DC 20020

COMMERCIAL RECYCLING PLAN

- Company Name: _____ 2. Ward: _____
- Building Name: _____
- Address: _____
- Recycling Coordinator: _____ Telephone: _____
- Building Manager: _____ Telephone: _____
- Type of Commercial Establishment (Please check only one of the following):

<input type="checkbox"/> Office	<input type="checkbox"/> Bar/Restaurant	<input type="checkbox"/> Wholesale
<input type="checkbox"/> Hotel	<input type="checkbox"/> Manufacture/Industrial Services	<input type="checkbox"/> Retail
<input type="checkbox"/> Health Services/Social Services	<input type="checkbox"/> Grocery	<input type="checkbox"/> Residential Apartments
<input type="checkbox"/> Condominium/Co-Ops	<input type="checkbox"/> Education	
- Total Square Footage of Building: _____ Number of Units: _____
- Number of Employees in the Building (Full and Part-time): _____
- Name of Current Solid Waste Hauler: _____
- Materials Recycled (Check and enter frequency for all that apply): _____ time(s) per _____

<input type="checkbox"/> Computer paper, white ledger	<input type="checkbox"/> Glass (clear/brown/ green)	<input type="checkbox"/> Used Fat/Cooking Grease/Oil
<input type="checkbox"/> Corrugated Cardboard	<input type="checkbox"/> Plastics (#1 or #2)	<input type="checkbox"/> Auto Batteries
<input type="checkbox"/> Newspaper/ Magazines	<input type="checkbox"/> Aluminum & Tin (cans/steel)	<input type="checkbox"/> Textiles
<input type="checkbox"/> Mixed Paper (colored ledger, envelopes)	<input type="checkbox"/> Scrap Metals	<input type="checkbox"/> Used Motor Oil
<input type="checkbox"/> Other (specify): _____		<input type="checkbox"/> White Goods (stoves, refrigerators, etc)
- How will employees and each tenant or occupant, be notified of the recycling program in this facility?

<input type="checkbox"/> Letters/memorandum	<input type="checkbox"/> Meetings	<input type="checkbox"/> Flyers	<input type="checkbox"/> Newsletters
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Footnotes

CHAPTER 1

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- ⁱⁱ Starr, Paul. "The Meaning of Privatization." Yale Law and Policy Review. 1988
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- ^{vi} Chintan Environmental Research and Action Group, *Informal-formal: Creating opportunities for the informal recycling sector in Asia*. 2005
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- ^{ix} Discussion with paper merchants in Udaipur and Delhi. May 2006
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- ^{xi} Medina, Martin. *The World's Scavengers: Salvaging for Sustainable Consumption and Production*. Altamira Press. 2007
- ^{xii} Frederika C. Rentoy, Head of the Quezon City Environmental Protection and Waste Management Department: *Presentation at Workshops of Building Sustainable Livelihoods: Results of the GTZ-CWG Study of Economic Aspects of the Informal Sector in Solid Waste*. Gouda. The Netherlands. January 22 to 24, 2007 and Chintan Environmental Research and Action Group, *Informal-formal: Creating opportunities for the informal recycling sector in Asia*. 2005
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- ^{xiv} Adapted from *Space for Waste: Planning for the Informal Recycling Sector*. Chintan Environmental Research and Action Group. 2004

- ^{xv} Discussions by representatives of Chintan Environmental Research and Action Group with various officials of the NDMC across 2002-2006
- ^{xvi} Interviews with various junk dealers. 2005-2006
- ^{xvii} Interview with Nora Padilla and Silvio Ruiz Grisales. Belo Horizonte, Brazil. August 2006
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- ¹ da Silva, M., Fassa, A., & Kriebel, D. *Minor psychiatric disorders among Brazilian ragpickers: A cross-sectional study*. Environmental Health: A Global Access Science Source, 5(17). 2006
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- ² The National Sample Survey Organisation (NSSO) 2004-05 Report.
- ³ The Unorganised Sector: Work Security and Social Protection/edited by Renana Jhabvala and R.K.A. Subrahmanya. New Delhi, Sage Publications, 2000.

Additional Resources

If you wish to explore these issues in more details, we suggest the following resources :

- 1. Concept of the Informal Sector . The World Bank, Washington DC**
<http://lnweb18.worldbank.org/eca/eca.nsf/Sectors/ECSPE/2E4EDE543787A0C085256A940073F4E4?OpenDocument>
- 2. The Infomal Economy. SIDA, 2004**
<http://rru.worldbank.org/Documents/PapersLinks/Sida.pdf>
- 3. Occupational and Environmental Health Issues of Solid Waste Management. Special E mphasis on Middle and Lower Income Countries. Sandra Cointreau, The World Bank, Washington DC.**
http://www.chintan-india.org/others/wastepickers_and_health.pdf
- 4. World at Work : Brazilian Ragpickers. da Silva et al. 2005**
<http://www.chintan-india.org/others/BrazillianRagPickers.pdf>
- 5. Recycling programs in partnership with Scavenger Associations as sustainability factor in metropolitan Sao Paulo, Brazil. Rebiero et al. 2006**
http://www.chintan-india.org/public_html/informal_sector.htm
- 6. Integrating Waste Pickers for Sustainable Recycling. Sonia Maria Dias. 2000**
http://www.chintan-india.org/public_html/informal_sector.htm

We also encourage you to browse the Chintan website, www.chintan-india.org
If you would like to be on our list and receive updates from news, studies and reports around the world and our newsletter, *jahan-e-kabari*-on the informal recycling sector, email your details to us at info@chintan-india.org