

Panel Report 3

"Achieving the 3Rs and Sustainable Consumption and Production in Developing Countries through the Informal Sector"

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**ACHIEVING THE 3R, AND
SUSTAINABLE CONSUMPTION AND
PRODUCTION IN DEVELOPING
COUNTRIES THROUGH THE
INFORMAL SECTOR**

途上国における3Rと持続可能な消費と生産
～インフォーマルセクターを通じた取組み～

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First of all, I would like to thank the IGES Kansai Research Centre for the invitation to share with you some of the work that I've been doing. I'm basically going to talk about recycling in developing countries; how it is done, recent experiences and how it can contribute to the 3R Initiative to make more sustainable consumption and production.

Professor Gunjima has already talked about the 3R Initiative, so I won't tell you about it. It's basically how the 3Rs are done in developing countries, which is very different. In developed countries, like in Japan, Europe or the U.S., there are usually municipal programmes in which residents and businesses separate materials such as paper, plastics, or metals, and they put them in different bins or plastic bags. Then, they are collected separately by the municipality. From there, they are sorted, processed and then sent

to industry for recycling. In developing countries, it's very different, and I will explain how this is done.

**Solid waste management is a serious
urban environmental problem:**

- ▶ Cities often spend 30 – 50% of municipal budget on SWM, but many collect less than 50%, and rarely more than 80% of wastes generated
- ▶ Disposal of wastes is usually by open dumping
- ▶ Insufficient collection and improper disposal affect the poor disproportionately

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First, I would like to mention that solid waste management is a serious problem in most developing countries. Many cities spend up to 50% of their municipal budgets on managing their wastes. In many cases, they collect less than half of all the waste that is generated. In many cases, less than 80% of the waste is collected. Waste collection is a serious problem, but even when waste is collected, the disposal of waste usually is done by open dumps. Open dumps can be done in any open land without any pollution control measures. The insufficient collection and improper disposal of all of this waste affects the poor disproportionately and presents serious pollution problems and risks to human health and to the environment.

The Informal Recycling Sector

- ▶ Survival strategy for recent migrants, widows, unemployed, and the elderly
- ▶ About 1% of the urban population: up to 15 million people worldwide
- ▶ Worldwide, up to 15 million waste pickers, with an economic impact of hundreds of millions of dollars a year
- ▶ Yet, waste pickers are usually ignored in waste management plans or in SCP strategies

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When we talk about the informal recycling sector, this is the way that recycling is done in developing countries. It's basically done by waste pickers or scavengers. They are also called that. For these people, collecting materials from waste is a survival strategy. That is common for recent migrants, people who move from the rural areas to the cities, that can't find any other employment, for widows who lose their husbands and have perhaps no skills or ways to make a living. It's also common for the unemployed. When people lose their jobs, they can starve or collect materials from waste for recycling. It's also common for the elderly. In many developing countries, there is no pension system, so there's no safety net for the poor. In many cases, the elderly have to do something to survive. This is one of the ways that they can make a little money to survive.

The World Bank has estimated that about 1% of the urban population in developing countries survives by recovering materials from waste. That means there are about 15 million people worldwide that are scavengers or waste pickers. These 15 million people have a significant economic impact. The World Bank estimates there are about 15 million people, but I have estimated that the economic impact is hundreds of billions

of dollars a year in terms of providing these raw materials to industry. Despite this significant economic impact, the waste pickers are essentially ignored in waste management plans and sustainable consumption and production strategies.

The Informal Recycling Sector Some Numbers

- ▶ In India, about 1 million waste pickers with an economic impact of about US \$ 300 million / year
- ▶ In Brazil, waste pickers recover 90% of the materials that are recycled by Brazilian industry
 - * They reduce up to 20% the amount of wastes to be collected, and disposed of
 - * World's third highest recovery rate of Al: 85%
 - * Recover 16% paper, 21% PET, and 40% glass

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Just to give you an idea of the magnitude of this activity, it's estimated that in India about 1 million waste pickers do recover materials from waste and have an economic impact of about 300 million dollars a year. In Brazil, the biggest country in Latin America, the waste pickers recover 90 % of the materials that are recycled by Brazilian industry. They reduce up to 20% of the amount of waste that needs to be collected and disposed of. It obviously saves money for the cities that don't have to collect that amount of waste. The Brazilian waste pickers also recover 85 % of the aluminium cans that are consumed in the country. That's the third highest recovery rate in the world. They also recover 16% of paper, 21% of PET, and 40% of glass.

Just to talk about one specific city, Jakarta in Indonesia, about 37,000 waste pickers recover one quarter of the city's waste. That means they recycle 378,000 tons per year, save the city about 300,000 dollars per month and recover 90% of the paper that is recycled from waste. All of this has an economic impact of more than 50 billion dol-

lars a year.

**The Informal Recycling Sector
Some Numbers**

- ▶ **Jakarta waste pickers:**
- ▶ **37,000 waste pickers recover 25% of the city's wastes: 378,000 tons/year**
- ▶ **They save the city US \$300,000/month**
- ▶ **Recover 90% of paper recycled**
- ▶ **Economic impact: > US \$50 million/year**

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Waste pickers

- ▶ **Face many problems: serious risks to their health, exploited, repressed by the authorities and rejected by society**
- ▶ **Yet, when waste pickers are supported, it can be a perfect example of sustainable development:**
 - * Create Jobs
 - * Reduce Poverty
 - * Save in Collection and Disposal Costs
 - * Extend Life of Disposal Sites
 - * Supply Cheap Raw Materials to Industry
 - * Conserve Natural Resources
 - * Protect the Environment

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Despite their contribution to society and the environment, they face many problems. They face serious risks to their health because of daily contact with garbage. They are often exploited and repressed by the authorities that don't understand this kind of work. They are also rejected by society. Yet, when waste pickers are supported, I would argue that it can be a perfect example of sustainable development. It can create jobs. It can reduce poverty, save cities' collection and disposal costs, extend the life of landfills and disposal sites, supply inexpensive raw materials to industry, conserve national resources, and also protect the environment.

Over the last few years, the waste pickers

Waste pickers get organized

- ▶ **Models**
 - 1) **Cooperatives**
 - 2) **Micro-enterprises**
 - 3) **Public – Private Partnerships**

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have been very active in terms of organizing themselves. They know that individually there is not much they can do to improve their working and living conditions but if they get together they can, as I will show. Basically, they follow three different models. One is cooperatives. They have also formed micro enterprises. In cooperation with the authorities, they have also formed public/private partnerships.

Waste picker Cooperatives

- ▶ **In Colombia, national association of 100 cooperatives**
- ▶ **In Brazil, they formed a national movement with 500 cooperatives and 60,000 members**
- ▶ **Latin American network of waste pickers**

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In terms of cooperatives, the two most active countries in the world are Columbia and Brazil. The Columbian waste pickers began organizing themselves about 20 years ago. Now they have a very complex national association of more than 100 cooperatives. They have achieved important goals. For example, now the national government finally made it a legal activity and the

waste pickers can even receive recognition. A cooperative can receive awards from the national government for some kind of innovation, new products, or services. They can receive awards from the national government. In Brazil, they also formed a national movement with 500 cooperatives and 60,000 members. About a year ago, they even formed a Latin American network of waste pickers to bring representatives together from Argentina, Uruguay, Central America and Mexico.

Waste picker Cooperatives

- ▶ **ASMARE Waste Picker Cooperative**
(Associação dos Catadores de Papel, Papelão e Material Reaproveitável)
- **Founded in Belo Horizonte, Brazil, in 1988**
- **380 members, all former street waste pickers**
- **55% women**
- **Recycles 500 tons of materials / month, mostly paper, cardboard, plastics, and metals**

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I would briefly like to talk about two examples of successful cooperatives. This one is the ASMARE in Brazil. It was created in 1988 by former street scavengers. It currently has 380 members, and more than half of them are women. They recycle 500 tons of materials per month, mostly paper, cardboard, plastics and metals.

The difference is that they used to go through dumpsters and get their hands into the plastic bags to collect the recyclable materials. Now they work in source separation programmes. They work with schools, businesses, residences and office buildings. In this way, they are more productive. They don't waste so much time sorting the materials. By doing this, they can earn up to six times the minimum wage in Brazil. Comparing their earnings before and after they formed this

Waste picker Cooperatives

- ▶ **ASMARE Waste Picker Cooperative**
- **Collect source-separated materials at schools, businesses, residences, office buildings**
- **Members earn up to 6 times the minimum wage 4 times their income before ASMARE existed**
- **Members receive training and various benefits**
- **ASMARE is now a model for other cooperatives**

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cooperative, their income went up four times. The gains can be impressive in terms of income. The members also receive different benefits such as training, loans, scholarships and other benefits. Now this ASMARE is a model for other cooperatives in Brazil and also in other countries in Latin America. This is just an example of how an organized and desirable scavenging can be.



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This is in Manila, the Philippines. It just shows the kind of risks to the health of the people who are involved in this kind of activity. However, by getting organized, they can go from this to this.

This picture isn't very clear but the person in the yellow shirt on the left is a woman who is a member of the ASMARE. This cooperative that goes around the neighbourhood collecting materi-



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als separated at the source. These people don't have contact anymore with mixed waste, which reduces the risk to their health and improving their income. You can see they are weighing the amount of materials that the person collected.



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They also have a machine, so they can process the materials. In this case, it's cardboard. In some cases, they go beyond this. They add value to the materials. They even make recycled paper. They make houses, for example, from plastic. They recycle. They do their own small-scale manufacturing activities.

Another successful cooperative closer to Japan is this one in the Philippines. The Linis Ganda Programme employs more than 1,500 former scavengers, who recover 4,000 tons of recyclable

materials a month. By doing this, they can earn up to 20 dollars a day, which is significant considering the income in the Philippines.

Waste picker Cooperatives

- ▶ Linis Ganda, Manila employs 1,500 former scavengers who recover 4,000 tons of recyclables / month, earning U.S. \$ 5-20 / day

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These are the people of Linis Ganda. As you can see, they wear a green shirt. The programme has tried to dignify this occupation. They are clean and they have these uniforms.

They use these carts that have fixed routes. Residents know when these people are coming. Each usually has fixed routes and goes to each neighbourhood every week. They purchase the materials separated at the source. They know how much, for example, they're going to receive for glass bottles, paper, or for other materials. As they know the price, there is no room for any misunderstandings. It basically is a market.



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Manila has the Pasig River and a lot of canals. A lot of people, as I mentioned at the beginning, don't have municipal waste collection. People who live near the canals simply throw their garbage into the water. The materials are floating. These people recover them in these small boats, and then sort the materials and sell them for recycling.

The second model is the micro enterprises. Just to mention one example, in Mexico City there are hundreds of people who provide waste collection in areas that don't have municipal waste collection. They charge a collection fee to the residents. After they collect the waste, they extract the recyclables and sell them. By doing

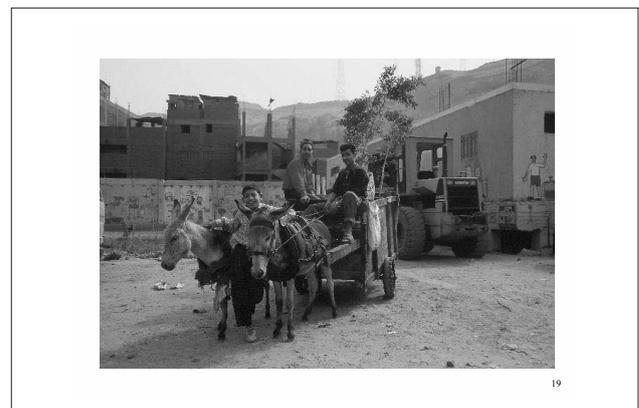
this, they can earn up to seven times the minimum wage.

Micro-enterprises:

- ▶ In Mexico City hundreds of informal waste collectors provide the service in areas that lack municipal collection
- ▶ Charge a collection fee to residents and recover recyclables
- ▶ Earn up to 7 times the minimum wage

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This is just a photo of one of them. In this case, they use a donkey cart, but they also use horses. Sometimes push carts or pickup trucks are also used.

Public Private Partnership:

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The third model is public/private partnerships in which organized waste pickers get a form of partnership with the municipal government. In this case, this is a recycling plant that was built by the city of Puerto Alegre in Brazil. The city built the plant but it's operated by a scavenger cooperative. All the people working there are a part of it. They administer the plant and run it. They recover the material, process it, and then sell it to industry. By doing this, they recycle about 5% of the waste of the city.



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This is another example of public/private partnerships. This is in Columbia. This is a vehicle owned by the city. These three people that you see here in blue uniforms are members of one cooperative. They signed a contract with the city. This is near Cali in Columbia. They just provide this service in one area of the city. Comparing the cost of what it costs this group to collect the waste in this particular area with other private companies, they provide the service at a lower cost than big companies.

This is another area. This is also in Columbia, where they provide collection of recyclables. In the previous case, that was just mixed waste, that is, all kinds of waste. In this case, they are collecting recyclables. They also sign a contract with the municipality.



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This is a photo of some of the benefits of getting together. They have a congress of cooperatives every two years. This shows one of the congresses happened a few years ago. By having this kind of organization and pressure to the authorities, they were able to change the law. As I mentioned, now it's a legal activity. They can receive credit and awards from the government.

Another benefit of getting organized is that they can create programmes like this. This is a programme in Bogota, the capital of Columbia. It's basically a day care centre for children. All of the children you see here are children of waste pickers. This is to reduce child labour in this activity and to provide them with games, recreation, some education, and dental and medical

care, so that they can have a better future than their parents.



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due to exploitation by middlemen and repressive policies.

Conclusions:

- ▶ When organized, they can bypass middlemen and change repressive government policies
- ▶ Scavenging can create jobs, reduce poverty, help clean up the urban environment, extend the life of landfills, and improve industrial competitiveness: a more sustainable consumption and production
- ▶ Therefore, public policy should support scavengers to improve their working and living conditions

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Conclusions:

- ▶ Recycling activities in the developing countries rely on waste pickers
- ▶ Based on economics: poverty, lack of a safety net, industrial demand for inexpensive raw materials
- ▶ Low income often due to exploitation by middlemen and repressive policies

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I would like to conclude by saying that recycling activities in developing countries rely on waste pickers. It's a different system from in developed countries. The recycling system in developing countries is also based on economics. In developed countries, they have high costs and it doesn't always make economic sense. However, in developing countries, the entire system works on economics, because everyone involved makes money. This is because of the poverty and the unemployment of the people who are involved in this, because of a lack of a safety net for the poor, and especially because there is industrial demand for inexpensive raw materials. The low income that many of these people have is often

However, when these people get organized they can bypass middlemen and change repressive government policies, as I mentioned in the case of Columbia. Waste picking or scavenging can create jobs, reduce poverty, help clean up the urban environment, extend the life of landfills, and improve industrial competitiveness. That means more sustainable consumption and production. I would argue that public policy should support the scavengers to improve their working and living conditions instead of working against them, which is still very common. Thank you.

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