



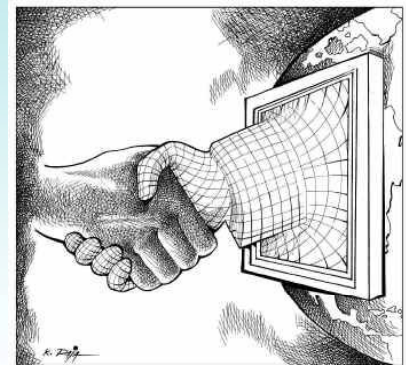
Decent job creation through the 3R Strategies in Asia

3R Initiatives

- Prioritize 3Rs Policies and Improve Resource Productivity;
- Establishment of an International Sound Material-Cycle Society; and
- Collaborate for 3Rs Capacity Development in Developing Countries

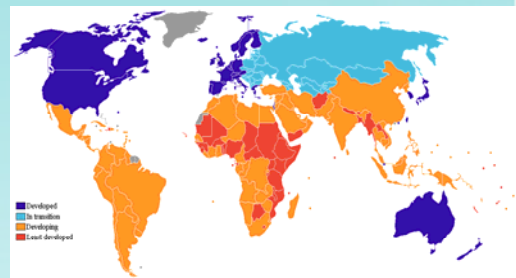
Action Programs

- **AP1: Promote 3R**
 - Encourage involvement
- **AP2: Reduction of trade barriers to the international flow of 3Rs-related goods and materials**
 - Promote and provide sufficient control and monitoring on the exchange of knowledge and resources between countries



Action Programs

- **AP3: Cooperation between developed and developing countries**
 - Unify the world in addressing and finding solutions to various environmental issues that everyone is currently facing
- **AP4: Cooperation among stakeholders**
 - Vital in raising awareness and progression of 3R



Action Programs

- **AP5: Science and technological development for the 3Rs**
 - Science and technology made it possible to develop innovations to promote environmental awareness



Benefits

| ENVIRONMENTAL (ENV) | ECONOMICAL (ECO) | SOCIAL (SOC) |
|--|---|--|
| 1. Reduce need for landfills and incineration | 1. Increase yields for industry (thereby increasing profits) | 1. Creation of Jobs |
| 2. Conserve Natural Resources | 2. Decrease cost for acquiring raw materials, water and energy | 2. Provide decent jobs (providing better working conditions) |
| 3. Decrease emitted pollution | 3. Decrease cost for waste disposal | 3. More land for the less fortunate |
| 4. Requires less energy usage compared to obtaining virgin raw materials | 4. Economies of Scale in agglomerated urban-fields increasing economic activities | 4. More money for the government to fund projects for the poor |
| 5. Reduction of GHG emissions | | 5. Improve and maintain public health |
| 6. Reduces toxicity of waste | | 6. Reduce poverty and improve slum dweller's lives |
| 7. Lower material recovery cost | | 7. Collective capability building |
| | | 8. Spill-over impacts of benefits due to collective benefits to the urban poor |

| Objective | Action Program | Sample Activity | Benefits |
|--|--------------------|--|--|
| Prioritize 3Rs Policies and Improve Resource Productivity | AP1, AP5 | AP1: Establishment of National plan for Waste Prevention in France during the year 2004 AP5: Actively introducing various market instruments under a new financial law in Italy (2007) | ENV1, ENV2, ENV3, SOC4, SOC5, SOC8 |
| Establishment of an International Sound Material-Cycle Society | AP2, AP3 | AP2: In UK, the framework of the Basel Convention is being strengthened by putting more effort on the illegal transboundary movement prevention AP3: Japan conducted various activities in Asia in order to promote 3R | ENV1, ENV2, ENV3, ECO2, ECO3, SOC7, SOC8 |
| Collaborate for 3Rs Capacity Development in Developing Countries | AP2, AP3, AP4, AP5 | AP2: Malaysia is focused on national legislation to support the Basel Convention and Ban Agreement on their principles regarding importation and exportation of hazardous wastes AP3: Germany reduced greenhouse gases from the waste management sector which is 10% of its Kyoto Protocol target AP4: Germany also introduced the extended producer responsibility AP5: Along with other countries, Thailand initiated technology and knowledge transfer regarding Eco-Designs | ECO1, SOC1, SOC2, SOC5, SOC7, SOC8 |

Green Jobs

- Pertain to employment in businesses that reduces environmental impact to levels that are sustainable
- Assesses, analyzes, and promotes the creation of decent jobs as a consequence of the needed environmental policies
- Seen to emerge and create employment opportunities as economic crises and job cuts are experienced and environmental concerns become more urgent

Waste Management in the Philippines

- Republic Act No. 9003 (RA 9003), the Ecological Solid Waste Management Act of 2000 (ESWMA) and Local Government Code of 1991
- signaled the devolution of tasks of the national government to the local government
- Includes waste management sector which was responded by the national government and the LGUs

Waste Management in the Philippines

- The national government seems to be less resourceful domestically in implementing RA 9003
- However, there has been a national effort to obtain external funding providing a stronger catalyst for successful implementation of RA 9003 or any other similar policy or agreement of the government

Waste Management in the Philippines

- Provisions of the ESWMA that were met
 - set-up of the National Solid Waste Management Commission (NSWMC)
 - set-up from the private sector of a number of good and well-intentioned environmental NGOs that promote sustainable development and effective solid waste management
 - Solid Waste Management Association of the Philippines (SWMAP)
 - Practitioners from both private and public sector

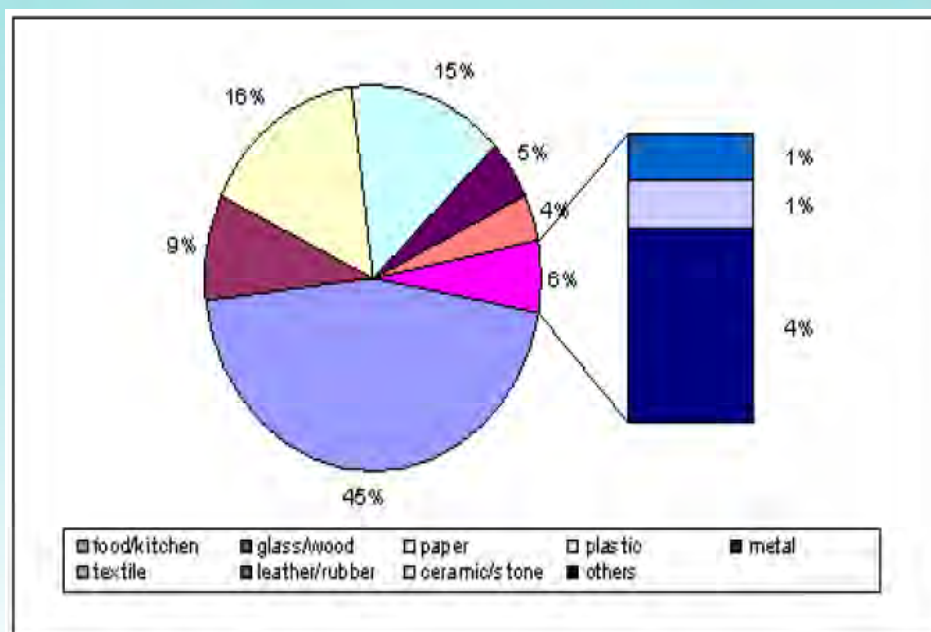
OBJECTIVE OF THE STUDY

- To investigate the extent of potential decent employment that can be generated from undertaking close-loop reduce-reuse-recycling activities or 3R-related activities in the Philippines in general
- Includes four local case studies on solid waste management and 3R implementation which were the basis for suggestions for strengthening policy in support of green business and employment

Waste Generation in the Philippines

- total waste generated nationwide = 30,000 tons/day or about 675 tons of methane gas/day
 - average Filipino citizen generates approximately is 0.3 to 0.7 kg of garbage
- Metro Manila generates 26.6% of the waste
- 6,000 tons of the waste daily are either
 - hauled to the city's dump sites
 - dumped illegally on private land, in rivers, creeks, Manila Bay
 - openly burned

Household Waste Generation in MM



Composition of Waste in Metro Manila

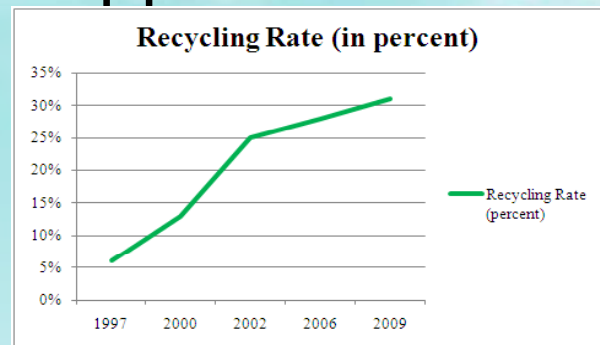
| Garbage Composition in Payatas (Liongson, 2000) | Percentages |
|--|--------------------|
| Garbage (Kitchen and food wastes) | 45 |
| Paper | 17 |
| Plastic | 16 |
| Yard Waste (grass and wood) | 7 |
| Metal | 5 |
| Textil | 4 |
| Glass | 3 |
| Leather and Rubber | 1 |
| Ceramic and Stone | 1 |
| Others | 1 |
| TOTAL | 100 |

Role of Stakeholders For Eco Solid Waste Management:

| STAKEHOLDER | MAJOR ROLES |
|---|---|
| National Solid Waste Management Commission (NSWMC) | Manage implementation of Solid Waste Management Plans |
| National Ecology Center (under NSWMC) | Micromanage implementation and provisions of Act |
| Department of Environment and Natural Resources (DENR) | Draft policies for the implementation of act; track progress of implementation; provide LGU support |
| Department of Trade and Industry (DTI) | Facilitate Recycling and Reuse |
| Local Government Units (LGU) | Implement and enforce provisions of the Act |
| Barangay | Waste Collection and Segregation |
| Municipality/City | Collect non-recyclable materials and Special Wastes |
| Provincial Solid Waste Management Board | Develop and implement provincial solid waste management plan |
| City or Municipal Waste Management Board | Draft and implement plan for the safety and sanitary management of solid wastes |
| Multi-purpose cooperatives and associations | Undertake activities to promote implementation and compliance to the Act |
| Household, instl, industrial, commercial and agricultural waste sources | Conduct waste segregation |

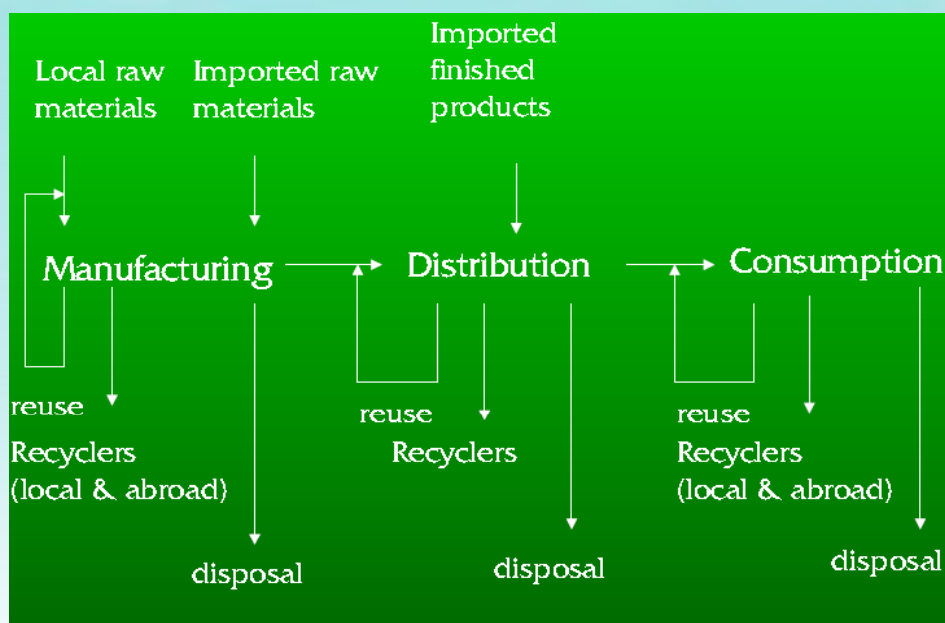
3R in the Philippines

| YEAR | RECYCLING RATE (PERCENT) |
|------|--------------------------|
| 1997 | 6 |
| 2000 | 13 |
| 2002 | 25 |
| 2006 | 28 |
| 2009 | 31 |



- In addition to RA 9003, RA 6969, or the Toxic, Hazardous, and Nuclear Waste Control Act of 1990 encourages proper management of hazardous wastes by promoting:
 - Minimization of hazardous waste generation,
 - Recycling/ Reuse of hazardous waste,
 - Treatment of hazardous waste to render it harmless, and
 - Landfilling of inert residual hazardous waste.

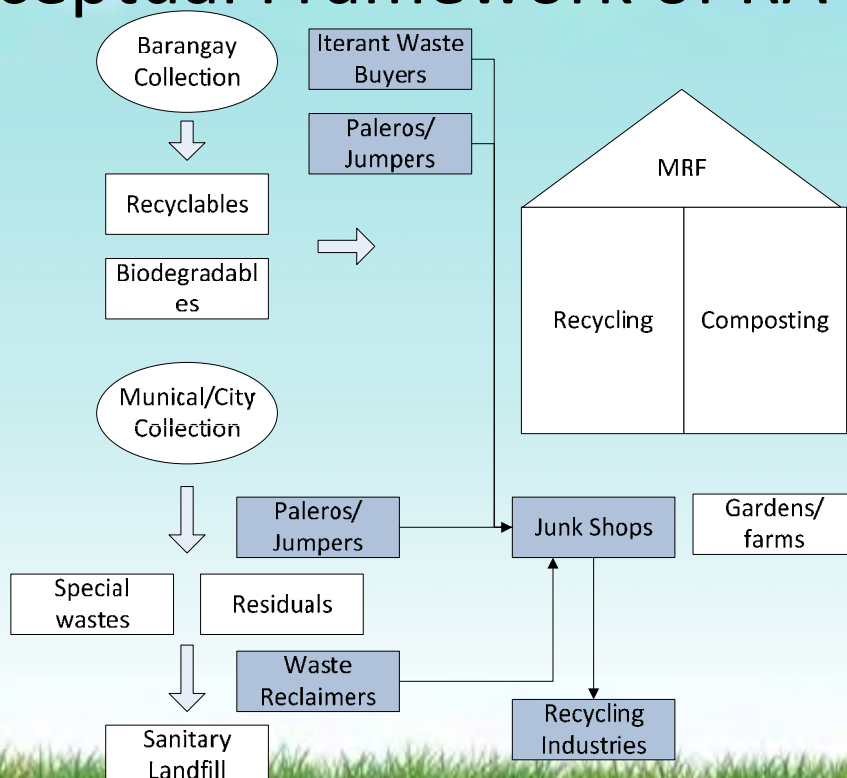
Flow of Materials and Wastes Across Different Business Functions



Informal Waste Sector

- characterized by small-scale, labor-intensive, low-technology manufacturing entity or provision of services unregistered to and unrecognized by any government accreditation, licensing or regulating agency
- normally carried out by poor and marginalized social groups who resort to scavenging or waste picking for everyday survival or added income

Informal Waste Sector in the Conceptual Framework of RA 9003



| | |
|--------------------------|--|
| IWBs | Prior to waste collection by trucks, waste collectors (IWB) moving door to door to accumulate sorted dry recyclable materials from householders or domestic servants. They buy or barter and then transport to a recycling shop of some kind. IWBs are often provided with capital and pushcarts by junkshop owners |
| Pre-Arrival at Junk Shop | before the trucks arrived from the main dump site the truck crews also do their own sorting for their own profit. And before arriving at the dump site they drop these items to the junk shops. |
| At the Junk Shop | the junk shops hire jumper who are mostly young boys. They climb up the truck to look for scrap that can be used and sold. |
| Pre-arrival at Dumpsite | kilometers away from the gates of the dump site numerous waste pickers' waits for the trucks to unload its load. |
| Mangangalahig | After the pointed tool called a 'kalahig' that they use to pick through the garbage. They assemble behind the truck and immediately sift through the garbage as it falls off. They have mastered the art of avoiding being buried by the garbage or run over by the truck, but sometimes accidents happen. |
| Suro | Scavengers who lack the physical abilities of the jumpers and the mangangalahigs are forced to rely on more tedious but less competitive ways to pick through the waste. They go to areas of the dump that are being levelled by bulldozers, in hope that the bulldozers inadvertently will unearth garbage that may still be of value. Also it is the local term for 'dredging' |
| Sala | They go to the areas of the dump that have already been burned or are still burning. Using tongs, some of them sift through the ash looking for metal and other items of value. Others extract whole clumps of ash and use nearby waterways to remove the ash, hoping to find useful items |

3R – Related Action Plans and their Benefits

| Action Plan | Benefits of 3R |
|--|--|
| Eco-aide hiring in Barangays | SOC1, SOC2, SOC4, SOC6, SOC8 |
| No segregation, no collection policy | ENV1, ENV3, ENV4, ECO3, SOC1, SOC3, SOC4, SOC5, SOC6 |
| LGUs have provided dedicated segregation bins at public establishments. | ENV1, ENV2, ENV5, ECO2, ECO3, SOC4, SOC8 |
| Some LGUs have put up MRF; composed of either manual (e.g. junkshops, compost pits) or automated (using conveyors) mechanisms. | ENV1, ENV2, ENV4, ENV5, ENV5, ECO3, SOC1, SOC2, SOC4, SOC6 |
| Filipinos have also been encouraged to make use of their biodegradable wastes through various methods such as composting. | ENV1, ENV2, ENV6, ECO2, ECO3, SOC3, SOC4, SOC7, SOC8 |
| Exchange of industrial wastes among companies | ENV1, ENV4, ENV5, ENV6, ECO1, SOC3, SOC4, SOC8 |
| Eco-labelling programs | ENV2, ENV3, ECO2, ECO3, SOC3, SOC4 |
| Battery Recovery Program | ENV3, ECO2, ECO3, SOC4 |

ACTION PLANS by GOVERNMENT AGENCIES

- **National Economic Development Authority**

President Arroyo's 10-Point Agenda and the Medium-Term Philippine Development Plan (MTPDP) for years 2004-2010

Thrust 1. Sustainable and more productive utilization of natural resources to promote investments and entrepreneurship

Thrust 2. Promote sustainable mining that adheres to the principles of sustainable development: economic growth, environmental protection and social equity

ACTION PLANS by GOVERNMENT AGENCIES

Thrust 3. Focus and strengthen the protection of vulnerable and ecologically fragile areas, especially watersheds and areas where biodiversity is threatened

Thrust 4. Create a healthier environment for the population

Thrust 5. Mitigate the occurrence of natural disasters to prevent the loss of lives and properties

ESWM Mainstreaming for Schools

Objectives:

- To strengthen compliance with RA 9003 which mandates the incorporation of ESWM lessons and practices in the schools' academic curricula;
- To develop a pool of students trainors on ESWM;
- To make ESWM a value formation opportunity among the youth at the school and household level;
- To propagate ESWM concepts and practices without adding workload to the teachers.

UNDP Pilot Schools

City of Manila

- Gen. Emilio Aguinaldo Integrated School in Punta, Sta. Ana;
- Eulogio Rodriguez Vocational High School in Nagtahan City of Mandaluyong
- Isaac Lopez Integrated School in Vergara;
- Bonifacio Javier National High School in Barangka Drive Pasig City
- Rizal Experimental Pilot School for Cottage Industries (RESPSCI)

Zero Basura Olympics

Philippine Garbology Marathon 2008

- A follow through activity to the recently concluded 2nd Nationwide Search for Model Barangay on ESWM.
- A scheme to fast-track the implementation of RA 9003.
- Strengthen the program and activities on segregation at source, segregated collection, processing and recovery and residual management.
- Project launched on June 20, 2008.

Search for Model Barangay 2007-08

- *Group A* - Brgy Old Centro Proper, San Mateo, Isabela
- *Group B* - Brgy San Marcos, San Mateo, Isabela
Brgy Butubot Norte, Balaoan, La Union
- *Group C* - Brgy Bagong Silang, Maramag, Bukidnon
Brgy Oring-Oring, Brookes Point, Palawan
- *Group D* - Brgy San Antonio, Cauayan City, Isabela
- *Group E* - Brgy Lingsat Cluster, San Fernando, La Union

3 – STRIKE POLICY

1st Strike

DENR/NSWMCS Issued a Notification Letters to all non-complying LGUs

- Section 37, RA 9003
- NSWMC Resolution No. 2005-05
- DENR Administrative Order No. 2006-09
 - Open dumpsites (ODs) and controlled disposal facilities (CDFs) are continuously being operated, maintained and used;
 - The Rehabilitation and Closure Plan for the ODs and CDFs previously operated, maintained and used but are now abandoned has not been submitted; and
 - Failure in the proper implementation of the Authority-To-Close (ATC) that was issued by the EMB Regional Office for the proper rehabilitation and closure of the ODs and CDFs.

3 – STRIKE POLICY (contd)

2nd Strike

- Showed no course of action taken by the concerned LGU

3rd Strike

- Administrative case before the DILG or criminal action under Section 49, RA 9003 for failure to address the non-compliance

Case Studies of Waste Management

Barangay – also known by its former name barrio

- is the smallest local government unit in the Philippines and is the native Filipino term for a village, district, or ward
- There are a total of 41,995 barangays all over the Philippines

SWMP in Barangay Level

Barangay level - the law states that all barangays shall be responsible for setting up a Material Recovery Facility (MRF).

MRF is simply a site where collected materials can be sorted until they are sold or processed for composting.

- It is not a dumpsite and should not hold residual wastes.
- Segregation of wastes is not also done in the MRF for environmental and hygienic reasons.
- the facility should provide a covered area where various recyclable materials can be separately stored to facilitate sale to buyers
- area where composting can be performed, and adequate drainage and security.

| | Pasig City Barangays (total of 30 barangays) | Barangay Pinagkaisahan, Quezon City |
|---------------------|---|---|
| Population | 500,000 (City) | 7,215 (Barangay) |
| Land Area | 31 km ² | - |
| Population Density | 16,300 / km ² | - |
| SWMP Start | 2006 | 2004 |
| Champion | City government | Barangay government |
| Action program | MRF, creative recycling, job creation on monitor and collection, ICD | Eco-center/MRF, creative recycling, feeds to piggery, ICD, job creation |
| Economic Benefits | Php 8,000 monthly | Php18,000 monthly |
| Social Benefits | 46 Ecoboys, 500 Ecobag maker, 24 Green Police, 68 Bantayllog, 100 TanodSapa | Eco-aids |
| Ecological Benefits | Waste reduction by 35% | Waste reduction by 75% |

| | Barangay Tagapo, Sta. Rosa, Laguna | Payatas Dumpsite, Quezon City (Project) |
|---------------------|--|--|
| Population | 24,058 (Barangay) | 20,000 (dumpsite) |
| Land Area | 3.32 km ² | 0.22 km ² |
| Population Density | 7,247 / km ² | 87,181 / km ² |
| SWMP Start | 2007 | July 2001 |
| Champion | Barangay government | City government |
| Action program | vacant lot to eco-farm conversion, bidding system for recycled products | Stabilization and greening, gas venting, material recovery, biogas recovery (CDM), |
| Economic Benefits | Agri- /agro-product sale from eco-farm, recycle sale revenue (Php6,000) | Methane recovery to power, carbon credits, |
| Social Benefits | improved health condition, improved neighborhood watch and cooperation, barter vs income system as payment to volunteers | Safety, livelihood, health of community, capacity building and know-how transfer, entrepreneurship through LUPAI and formalization by city government; |
| Ecological Benefits | Removal of illegal dumping practice | GHG reduction, |

Barangays in Pasig City

Implemented Programs:

- Creative Recycling
- 30 Urban Gardens
- Green Hearts Saver's Movement Waste
- Segregation and Door-to-Door Collection
- Monitoring Team
- Information Dissemination and Advocacy Campaign
- Anti-littering Campaign



Benefits

- The Barangay received additional income of about PHP 8,000 monthly.
- Wastes are reduced by 35%.
- Created jobs. The different activities were able to employ:
 - o 46 Ecoboys
 - o 500 Ecobag maker
 - o 24 Green Police
 - o 68 Bantayllog
 - o 100 TanodSapa

Source: (Angeles, 2010)

Barangay Pinagkaisahan District IV, Quezon City

- “No Segregation, No Collection” Policy was enforced.
- Various campaigns were accomplished to inform and encourage the inhabitants to positively participate in the project.
- Eco Center was developed.

Source: (Conexor, 2008)

Benefits

As of 2008, just about 4 years after the SWMP started in Barangay Pinagkaisahan there had been:

- A 75% reduction on the amount of waste going to landfill. Aside from waste reduction,
- The collection of recyclables had provided additional monthly earnings of PHP 18,000 on 2006.

The amount collected is used to support the eco aids employed, and used to sustain the Solid Waste Management System in the barangay.

Source: (Conexor, 2008)

CASE STUDY: BRGY. TAGAPO, STA. ROSA, LAGUNA

3R – Related Projects:

- “Adopt a Lot, Sagip-Kalikasan, SagipKabuhayan”
- Construction of a “Model Farm”
- Material Recovery Facility
- Collection and segregation of wastes through “eco bikes”
- Information dissemination with the help of college students



CASE STUDY: BRGY. TAGAPO, STA. ROSA, LAGUNA

Challenges Encountered in Implementing these Projects:

- Budget constraints
- Logistics issues and concerns

SUMMARY OF BENEFITS IN BARANGAY CASES

In general, all the barangay implementing solid waste management programs mentioned have numerous benefits, including:

- Conservation of natural resources
- Waste reduction
- Barangays receive additional income monthly
- Avoided disposal cost
- Generation of employment

BACKGROUND OF PAYATAS

- In Metro Manila, 11,553,427 people and has a population density of 18,650 persons per square kilometer in 2007.
- In Payatas, 20000 people in 0.2 km² leading to 87,181 population density in this dumpsite.
- About 20 percent of Metro Manila's populations are living either below or almost in the poverty line; 35 percent reside in informal slum settlements.

Source: World Bank, December 2001
NSCB, 2007 & NSO Quick Stat, 2010

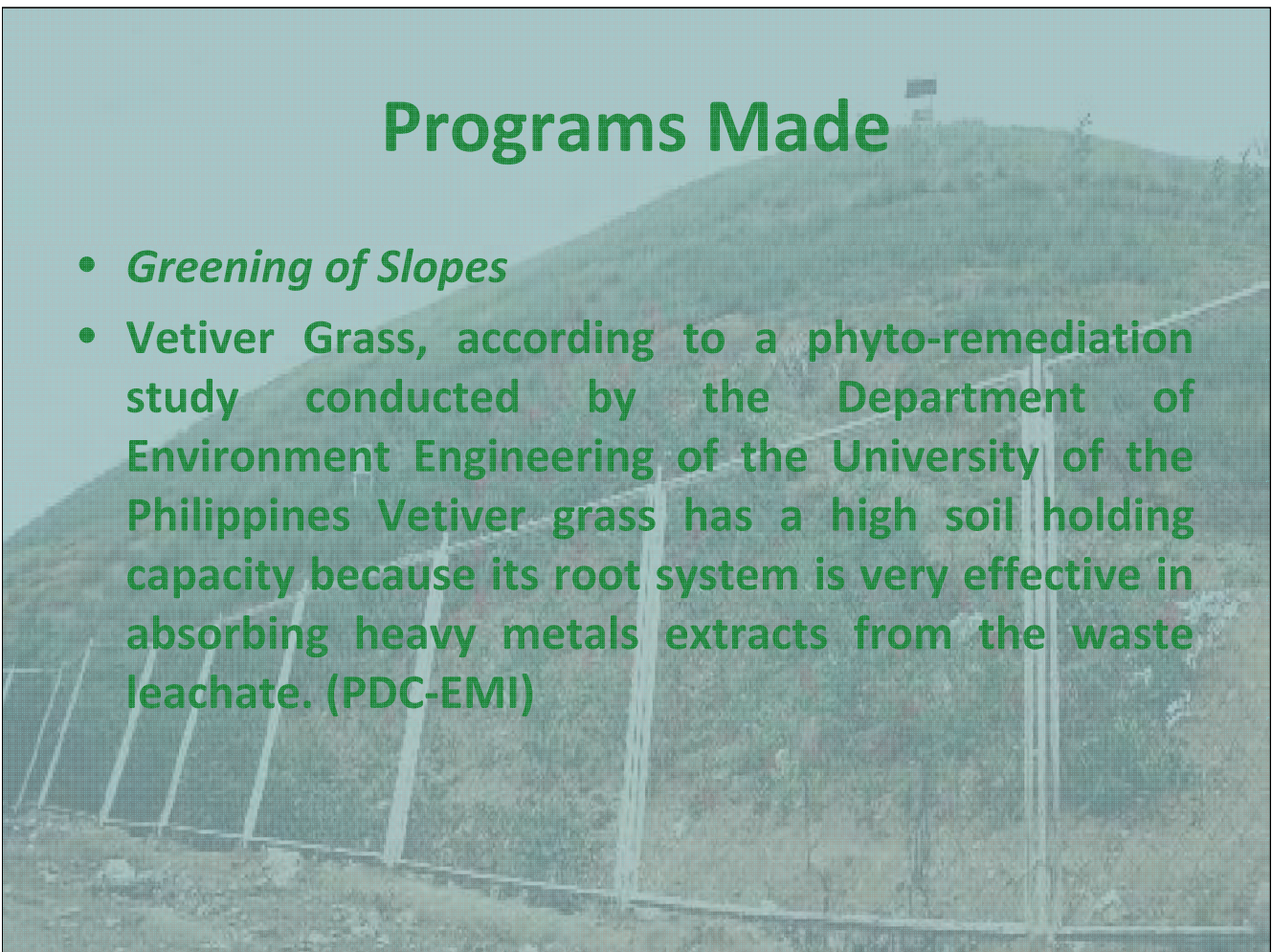
Payatas Dumpsite

- Quezon City
 - 22 hectares
 - 2,000 ton daily
 - Slope instability; leachate threat
- Source: PDC-EMI



Programs Made

- *Greening of Slopes*
- Vetiver Grass, according to a phyto-remediation study conducted by the Department of Environment Engineering of the University of the Philippines Vetiver grass has a high soil holding capacity because its root system is very effective in absorbing heavy metals extracts from the waste leachate. (PDC-EMI)



Programs Made

- *Gas Venting and Recovery*
- Implemented under the Clean Development Mechanism (CDM) of the Kyoto Protocol with the support of Pangea Green Energy Srl, an Italian firm a 100-kW WTE project has been established in Payatas. This Italian firm that established a project in Payatas has a local counterpart, the Pangea Green Energy Philippines, Inc. which works with the local government of Quezon City. (Serrona & Yu, 2009)



Summary of projects and Social Benefits

| Project | Action Programs | Benefits |
|--|--|--|
| Conversion of the <u>Payatas</u> open dumpsite into a controlled waste disposal facility | Rehabilitation works, including: <ul style="list-style-type: none"> • slope <u>reprofiling</u>, stabilization and greening, • systematic way of collection and recirculation, • drainage system improvement, • fortified roadways and access to the site, • gas venting and material recovery • Composting and materials recovery facilities • Dumpsite security and safety | <ul style="list-style-type: none"> • It would promote environmental health and safety. • Stability of the dumpsite • Safety and livelihood needs of the people in <u>Payatas</u>. |
| Conversion program of methane gas into electricity. | In 2002, the City government collaborated with Philippine National Oil Corporation (PNOC)-EC and set up a 100-kW Pilot Methane Power Plant at the dumpsite in 2004 | <ul style="list-style-type: none"> • Free electricity for the people in <u>Payatas</u> (Ironing). • Streetlights in nearby roads are powered by the dumpsite. |

Summary of projects and Social Benefits

| Project | Action Programs | Benefits |
|---|--|---|
| Biogas Emissions Reduction Project | <ul style="list-style-type: none"> • In 2007, QC signed an agreement with Italy-based environmental firm PANGEA Green Energy and its local counterpart, PANGEA Phils • Registered under the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC) on February 1, 2008 | <ul style="list-style-type: none"> • Reducing greenhouse gas emissions by an annual average of 116,000 tones CO₂e (carbon dioxide equivalent) • Improve local air, water and soil quality, eliminate fires and explosion hazards and <u>trashslides</u> • Generates electricity, employment • Reduce exposure to toxic and hazardous gases |
| The Used Tire Retrieval project with <u>Holcim Cement</u> | More than 600,000 used tires dumped at the disposal facility have been retrieved and cleaned, and transported to <u>Holcim's</u> plant, where the tires are used as alternative fuel in the production of cement. | <ul style="list-style-type: none"> • Reduction of tires dumped at the facility • Additional income for the waste pickers. |

Summary of projects and Social Benefits

| Project | Action Programs | Benefits |
|---|--|--|
| Raising the livelihood of waste pickers project | <ul style="list-style-type: none"> • Waste pickers are organized into formal groups which are accredited, and regularly consulted. • Junkshop operators are given assistance in legitimizing their business or operation. • Scavengers, recyclers and junkshop operators can avail of financing, education and skills training. • Some groups are amortizing trucks to become collectors of garbage in nearby communities. | <ul style="list-style-type: none"> • To prevent infighting among the scavengers and enhance their recovery efficiency. • Would enable the scavengers to earn additional income and/ or embark on alternative livelihood. |
| <u>Plantsahan ng Bayan</u> | People can simply plug their electric irons and do their laundry with free electricity. | Free electricity for ironing for the people in <u>payatas</u> |

Summary of projects and Benefits

| Project | Action Programs | Benefits |
|--|---|--|
| The JFPR Project (Japan Fund for Poverty Reduction) | Bridge Financing Revolving Fund | Will provide bridge financing to purchase the 3.2 ha site in <u>Payatas</u> . |
| | Site Development and Housing Construction Improvement Fund. | <ul style="list-style-type: none"> Will support civil works, including sewerage and road systems, and a program of individual loans up to P12,000 per household for housing construction and/or housing improvements, with labor contributed by the beneficiaries. Will also provide special grant assistance to a portion of the victims of the garbage slide tragedy (for 100 families). |
| | Livelihood and Microfinance Program | Will provide supplemental funding for an existing microfinance program being implemented by VMSEFI (Vincentian Missionaries Social Development Foundation, Inc.) in <u>Payatas</u> , and enable the program to be expanded. |
| | Community-Based Health Insurance Program | Will provide a seed fund for the community-based health insurance program for GSHAI (Golden Shower Homeowners' Association, Inc.) beneficiaries. |
| | Education, Training, and Exchanges | Will support and expand upon the existing VMSEFI program for <u>nonformal</u> education and training. |

Scavengers to Entrepreneurs: Jaime Salada



Jaime is one of those people who started as a waste-picker and is now a successful recycler-entrepreneur. Using different waste materials, he created new products and introduced it to the market. With this, he created job opportunities to his neighbors. His product, "laundry brush", was easy to make, which made his neighbors copy the product. In order to have a higher market, he improved his product and found ways of lowering its cost.

Original cost: Php 12 (US\$0.24) per piece

New Cost: Php 3 (US\$0.06) per piece

With this new cost, it is now sold in some of the largest supermarket chains in the country. He is still open to the idea of creating new products from the waste materials found in the dumpsite.



(Gonzales, 2003)

Edita de la Cuesta

Edita de la Cuesta have received a loan worth Php 4,000 (US\$ 80) from the Vincentian Savings and Credit program in 1994. With this amount, she went into recycling business. Originally, she specialized in polypropylene sacks. These sacks were washed by hand and sold as a cheap packaging material. Eventually, she just bought used sacks from the other waste-pickers and sold it (in bulk) to different interested buyers. At present, she owns a junkshop and two pick-up trucks which would gather recyclable materials from the waste-pickers of Payatas. These gathered materials are being cleaned in her shop. Despite her success in life, she remains humble.



(Gonzales, 2003)

Comparing the two Entrepreneurs

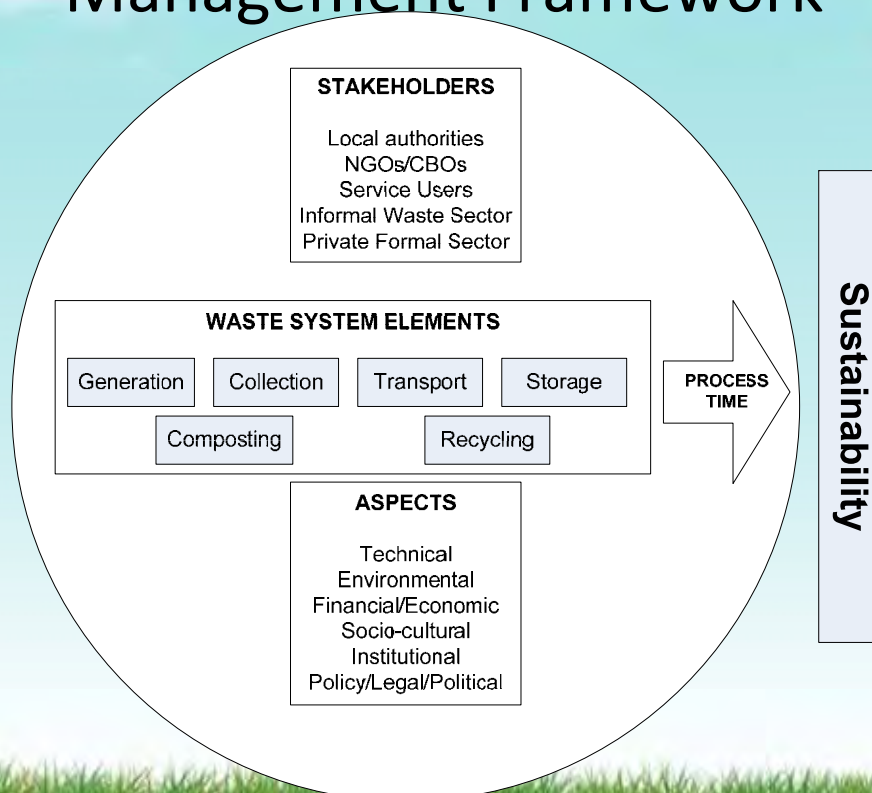
| Name | Business Made or Creations | Social Benefits (for others) | Initial Investment | Income generated |
|-------------------|---|--|---|---|
| Jaime Salada | -“Laundry Brush” -Creating new products from waste materials | -Contracting and direct employment (for the creation of new products and the “laundry brush” | Waste materials found in the dumpsites | Original price of Php12 piece, which eventually sells at Php3 per piece which is sold to some of the largest supermarket chain in the Philippines |
| Edita Dela Cuesta | Junk shop with two pick-up trucks | -Different jobs such as collector of waste, and cleaning of the recyclable materials | Php8000 from the Vincentian Saving and Credit Program | <Php16,000 since more junkshop closer to the beginning of the waste stream sprouted all over Quezon City |

Towards a Sustainable Resource Circulation System

Benefits gained from Barangay SWMP implementation”

- Conservation of natural resources
- Waste reduction
- Avoidance of illegal dumping practice
- Team and skill capacity building and social network
- Additional revenues from recycled materials and eco-project outputs (e.g. agri- / agro-)
- Avoided disposal cost
- **Generation of decent employment with better health and hygiene working condition**
- Coordinated (facilitated) job division and income allocation through fair pricing

Integrated Sustainable Waste Management Framework



Key Issues and Challenges of Informal Sector

- Increased public consciousness on the economic value of recyclable waste materials resulted to the decrease livelihood and income for the waste reclaimers, jumpers and paleros as waste generators divert materials directly to itinerant waste buyers and/or junkshops.
- Illegality of waste picking under R.A. 9003 thus closing of disposal facilities would also make waste reclaimers jobless
- Lack of secured access to sources of waste materials for the itinerant waste buyers
- Lack of capital for the small and medium junkshops
- Price fluctuations and the lack of intervention from government regulatory bodies
- High competition between stakeholders

Key Issues and Challenges of Informal Sector

- At the macro level, the ups and downs of market demand for post consumer materials by recycling industries in the country and abroad directly impacts on the informal sector
- At the national level, the concentration of recycling industries in a few cities across Luzon, Visayas and Mindanao affect the buying and selling prices of post consumer materials
- Occupational safety and environmental issues
- Lack of recognition by the formal sector which makes informal sector vulnerable to harassment, loss of secure access to post consumer materials and occupational hazards and risks.
- Weak enforcement of relevant provisions of RA 9003
- Lack of policy to regulate informal sector activities

Proposed Interventions, Strategies, Critical Actors and Partners

| Proposed Interventions | Proposed Strategies | Critical Actors and Partners |
|---|--|--|
| Supporting waste reclaimers to enter new service roles and niches in separate collection, recycling and composting | <ul style="list-style-type: none"> •Skills training on value adding strategies/low cost technologies •Linkages in IS and recycling cooperatives to professionals with expertise in product design •Job fairs •Scholarship programs or access to alternative learning system programs •Health and occupational safety seminars | <ul style="list-style-type: none"> •Informal waste sector •LGUs (including the Leagues) •NGAs (TESDA, DTI, CDA, •DOST-ITDI, DOLE) •NGOs |
| Assuring structural access to sorting space at transfer stations, materials recovery facilities, composting facilities and sanitary landfills | <ul style="list-style-type: none"> •Dissemination on the importance of protective equipment and apparel •Integrate the IWS in the transfer stations and materials recovery facilities of the LGUs •Tapping of IWS in commercial scale composting projects | <ul style="list-style-type: none"> •Informal waste sector •LGUs (including the Leagues) •Private companies |

| Proposed Interventions | Proposed Strategies | Critical Actors and Partners |
|---|--|--|
| Opening channels of communication with formal stakeholders and decision-makers and into the planning process. | <ul style="list-style-type: none"> •Include an IS waste management plan in the Ten Year Strategic SWM Plan and Yearly Action Plans of LGUs •Activities for LGUS on integrating the IWS in their SWM Planning Process •Inclusion in the planning and monitoring of SWM systems through its associations or Cooperatives | <ul style="list-style-type: none"> •LGUs (including the Leagues); SWM boards •NGAs (DSWD, TESDA, DepED, DILG, UDHA, NHA, PIA) •Media |
| Supporting better market leverage and/or diversification of activities through cooperatives and associations | <ul style="list-style-type: none"> •Organize IWS into associations or cooperatives •Formulate National Guidelines on transfer and transport of recyclable materials to avoid harassment of transporters of recyclable materials and facilitate efficient movement of materials •Provide business incentives for junkshops/consolidators •Link the informal waste sector to microfinance institutions •Provide market support such as price information and monitoring | <ul style="list-style-type: none"> •Informal waste sector •LGUs (including the Leagues) •NGAs (DENR-NSWMC, DTI, DILG, PIA, Cooperative Dev. Authority) •National Legislators (Senate and Congress) •Media |

| Proposed Interventions | Proposed Strategies | Critical Actors and Partners |
|---|--|------------------------------|
| Improving the work conditions through the implementation of environmental and occupational safety practices and systems | <ul style="list-style-type: none"> • Formulate Code of Practice for materials recovery facilities and Junkshops that ensures environmental and occupational safety • Conduct occupational safety seminars for the informal waste sector • Adhere strictly to the enforcement of Child Labor Law | NSWMC DOLE LGUs |

Threats

- Drastic reduction of waste pickers' income because of reduction in the quantity and quality of recyclable content of waste brought to the dumpsite due to RA 9003 implementation
- Waste-pickers could lose their jobs because they can be removed and relocated to a different area by the city government
- Waste recycling of scavengers' poses health risk since many of them could be exposed to different toxic and hazardous wastes.

Conclusion and Outlining of Policy Options

A 3rd World Country needs:

- a solution which requires less expenditure and generates a profit at the same time
- solution which would encourage the people to participate in the movement to resolve the problem of waste

Conclusion and Outlining of Policy Options

KEY POINTS THAT DESERVE ATTENTION:

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| Lack of explicit vision and mission statements | No explicit vision and missions statements particularly with regards to social benefits and its quantification. Too much priority is given to ecological benefits. |
| Clear sustainability targets on decent jobs | Lack of monitoring multi-target values and indicators corresponding to these targets |
| Lack of sustainable financial mechanism | There is a need to strengthen the financial mechanism that provides sustainability to most of the local government efforts, especially in operating the Material Recovery Facility (MRF) and the infrastructure supporting the logistics; Barangays could have investigated on a more efficient logistics and higher value conversion of the waste to pave way for a sustainable 3R action program. |

Conclusion and Outlining of Policy Options

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| Missing accreditation in the upstream efforts | Efforts have been placed heavily on the post-consumption recycling. There is a need to upscale both the eco-label activity and the operationalization of the green public procurement law. Jobs created from these programs can be credited to the 3R strategy. |
| Facilitate behavioral change of consumption patterns | There is a need to promote sustainable consumption patterns for both individuals and corporations. Job creation at the local government units and through current school 3R promotion could be effective and need further enhancement. |
| Policy on poverty elimination to supplement post-recycling era | There is a need for national and local government to look beyond the post-recycling era. Poverty elimination should be an ultimate goal, and new job creation and skill enhancement could accommodate the vast population of the informal waste picking sector. |