Country Presentation

REPUBLIC OF THE PHILIPPINES

Second Meeting of the Regional 3R Forum in Asia
Kuala Lumpur, Malaysia

By:

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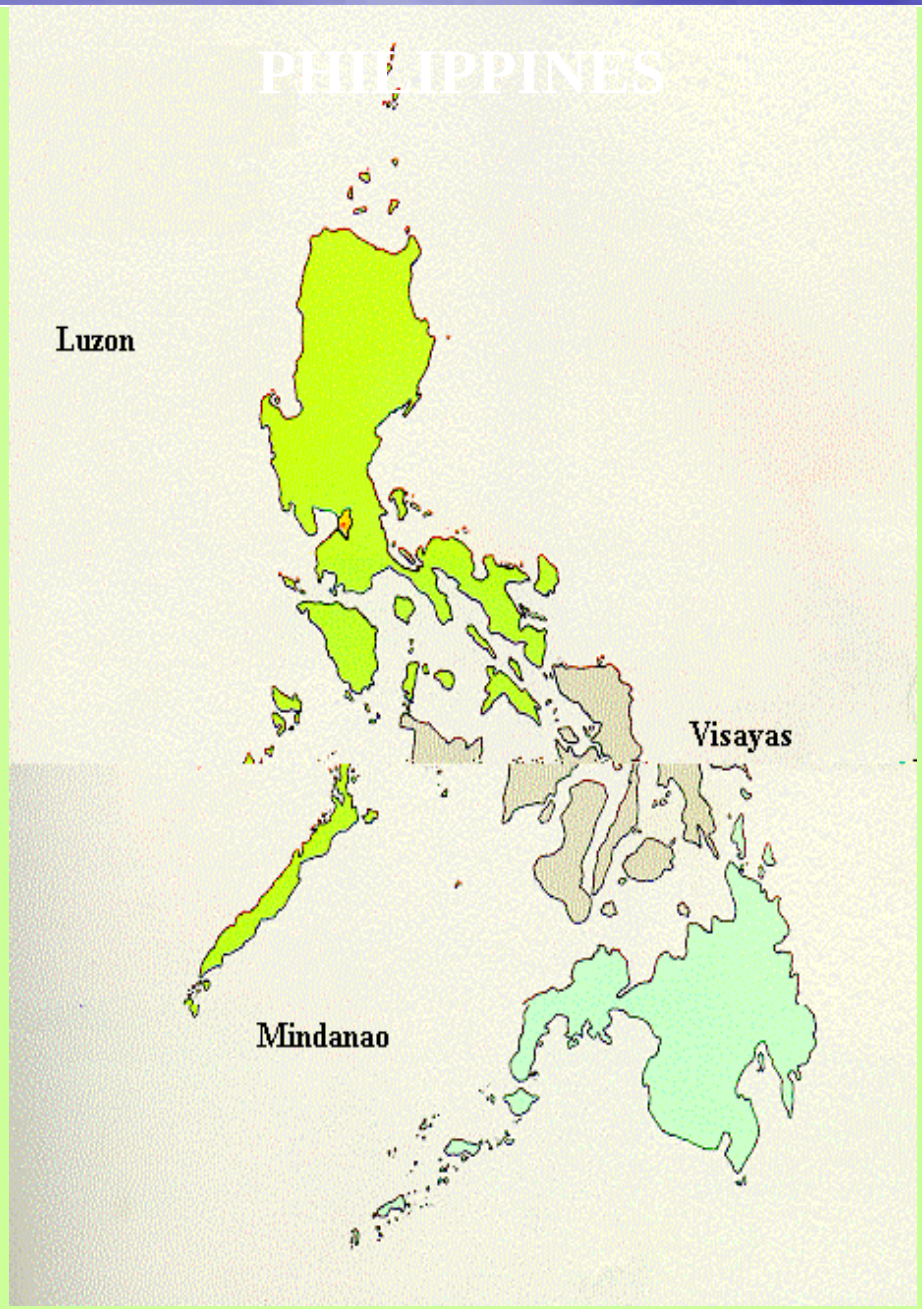
OUTLINE OF THE PRESENTATION

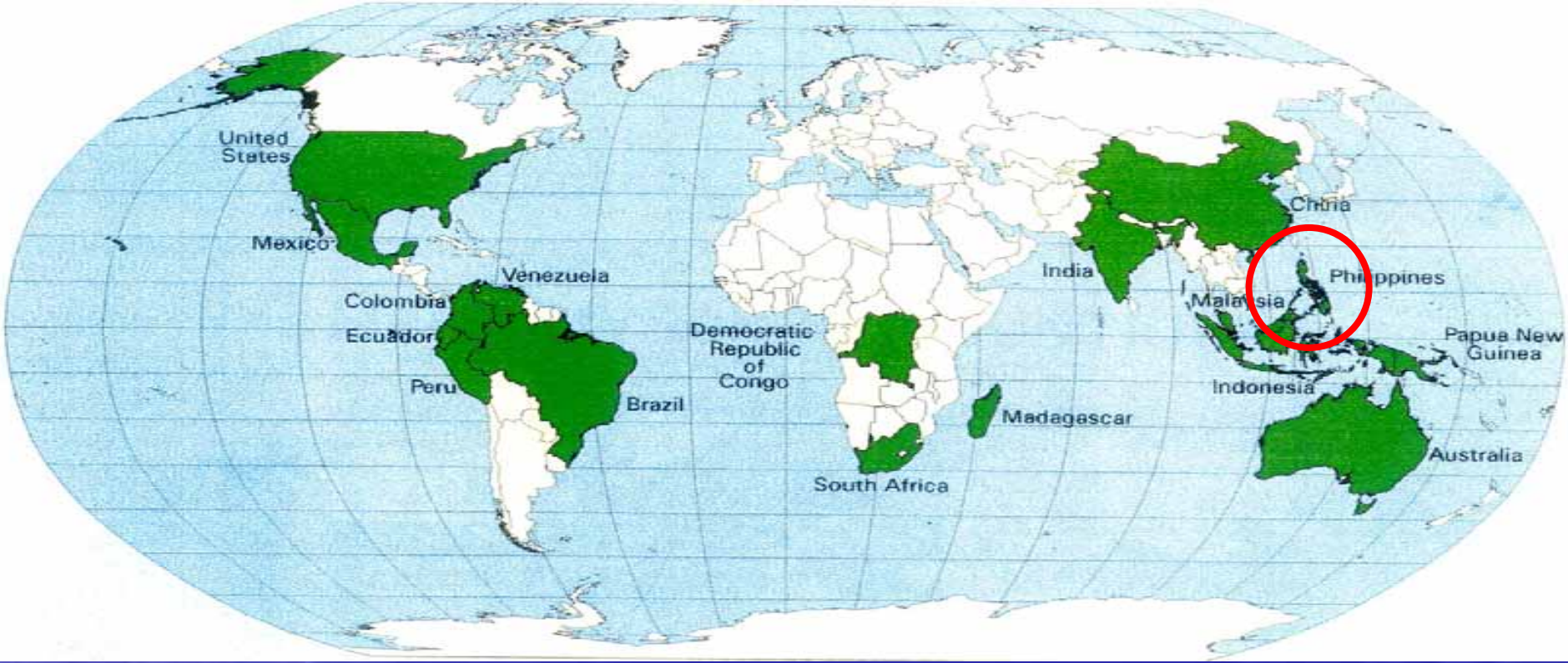
- ABOUT THE PHILIPPINES
- Current Status and Emerging Trends on Waste Management and 3Rs
- Current Capacity and Constraints
- Significant Achievements and Future Vision
- Conclusion and Recommendation



- Philippines: largely urban with over 50% of people living in urban areas;expected to reach 60 - 65% in 15 years (1,610 cities and municipalities)
- Urbanization growing at fast rate with some local government unit unprepared to properly manage --- leading to congestion, illegal settlements, traffic, environmental degradation (land, air & water pollution)

The PHILIPPINES

One of 17 mega-diverse countries in the world



- Containing two-thirds of the earth's biodiversity
- 70-80 % of the world's endangered species






estimated 15,000 species, 50% are endemics






70 – 80% Flowering plants



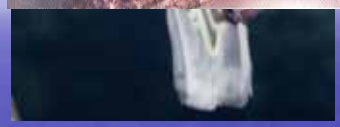



193 Threatened species

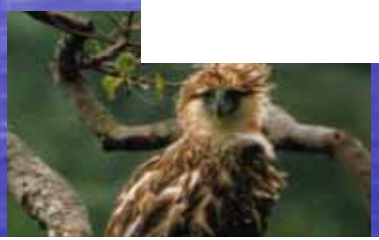












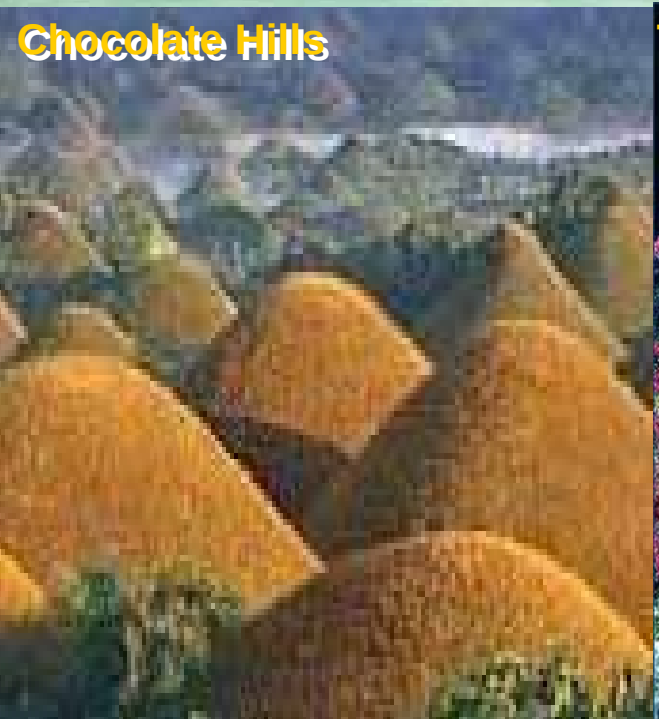

576+ species of Birds
195 species are Endemic


Verde Island Passage Marine Corridor

(Sulu-Sulawesi Marine Ecoregion)



Center of the center of marine shorefish diversity in the world



Candidates for the

NEW 7 WONDERS OF THE WORLD

- CURRENT STATUS AND EMERGING TRENDS

Solid Waste

Most visible environment problem





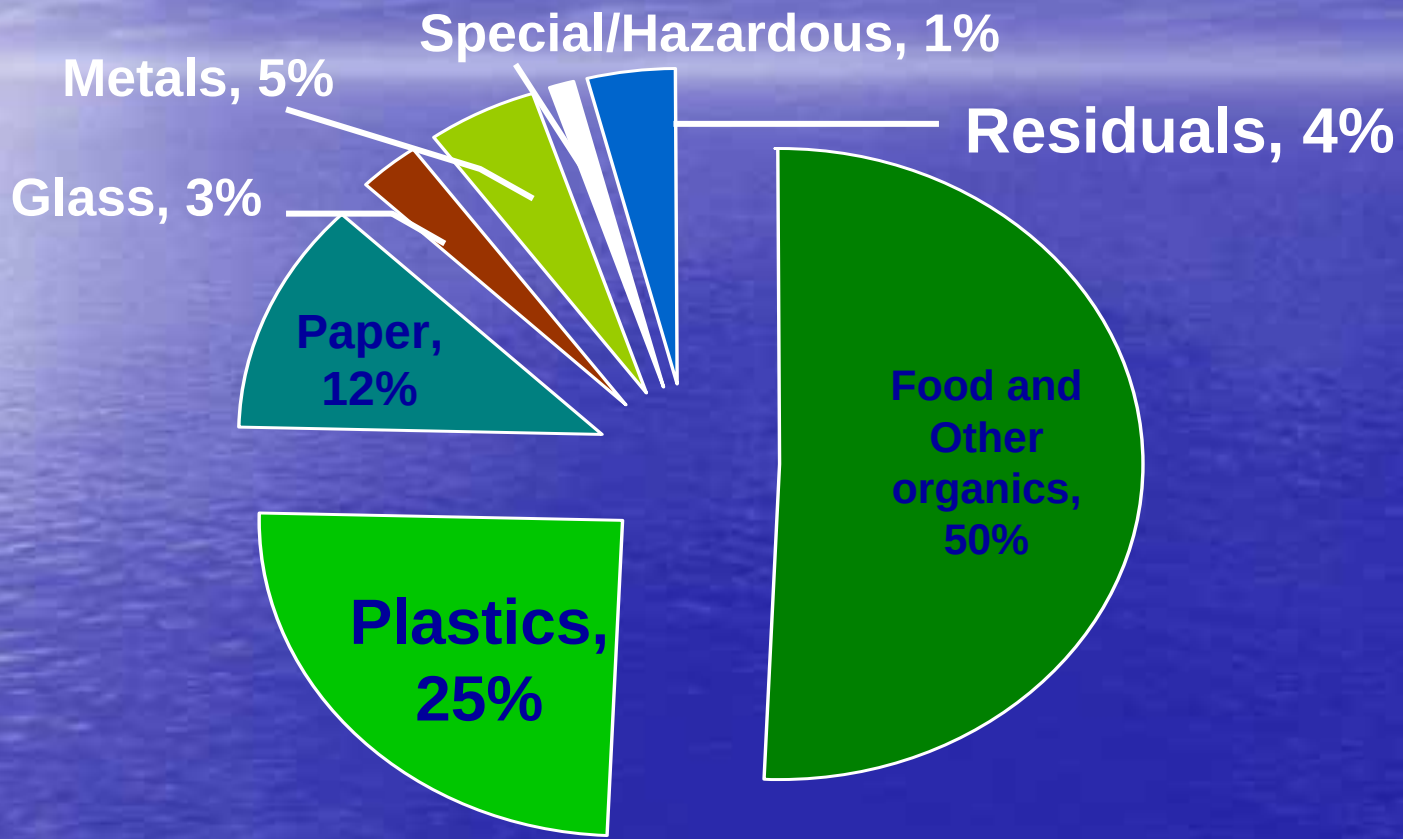

- Total annual generation
  - Nationwide : 30,000 tons/day
  - Metro Manila : 8,000 tons/day (26.6%)
- Projected to increase by 40% in next decade
- Mostly from households and Commercial establishments

Generation:

Urban areas - 0.50-0.70 kg/capita/day

Rural areas - 0.30 kg/capita/day

Solid Waste Composition



Waste Analysis and Characterization Survey (WACS)-Metro Manila Solid Waste Management Project, ADB 2003

Recycling

- Largely informal sector activity
- Recycling rate

1997 – 6%

2007 – 25%

2008 - 28%

Metro Manila 2009 - 31%

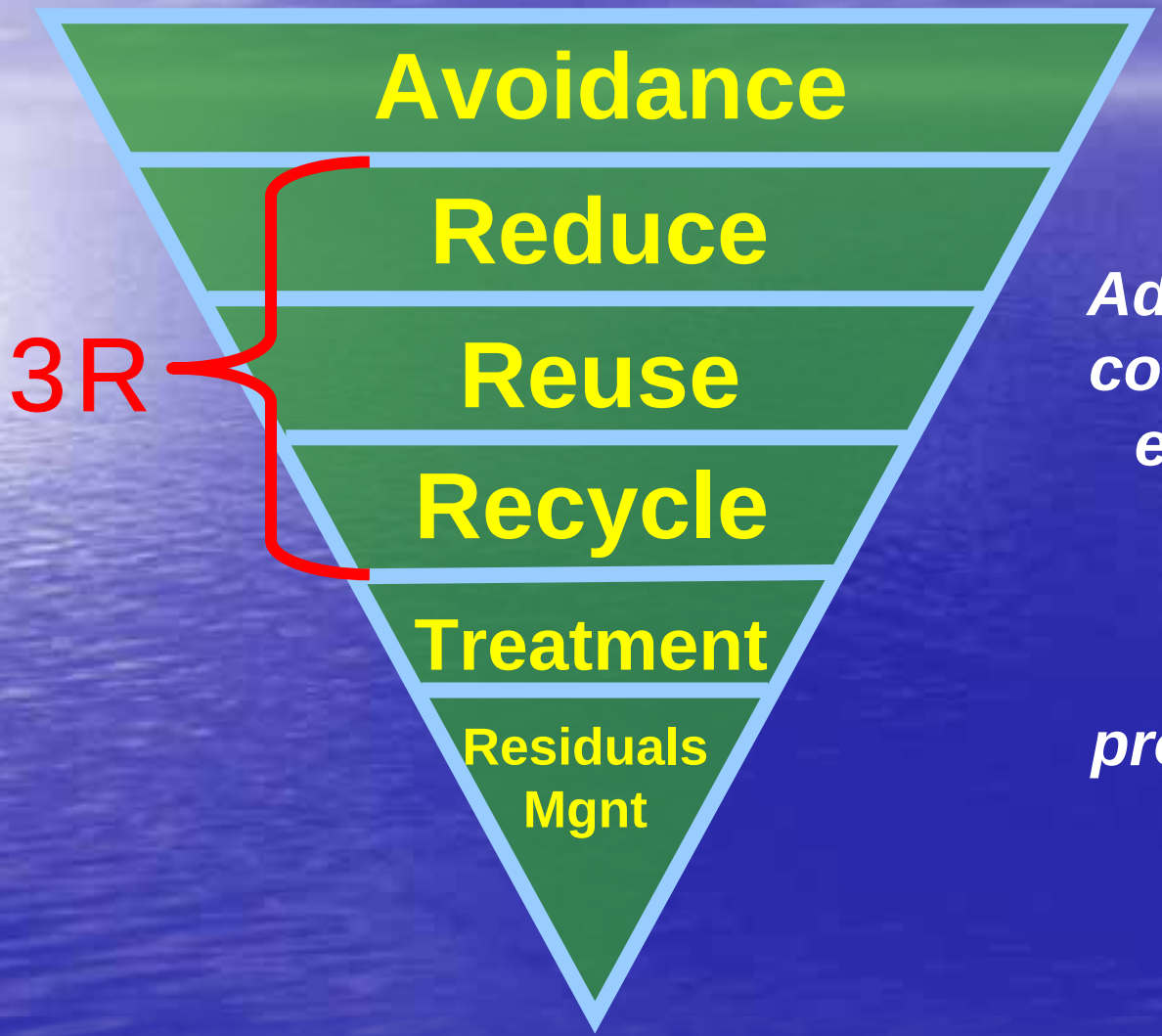
2010 - 33%

Republic Act 9003: The Ecological Solid Waste Management Act of 2000

- institutes measures to promote a more acceptable system which corresponds to the vision of sustainable development.
- aims to merge environmental protection with economic pursuits, recognizing the re-orientation of the community's view on solid waste, thereby providing schemes for waste minimization, volume reduction, resource recovery




NATIONAL WASTE MANAGEMENT FRAMEWORK

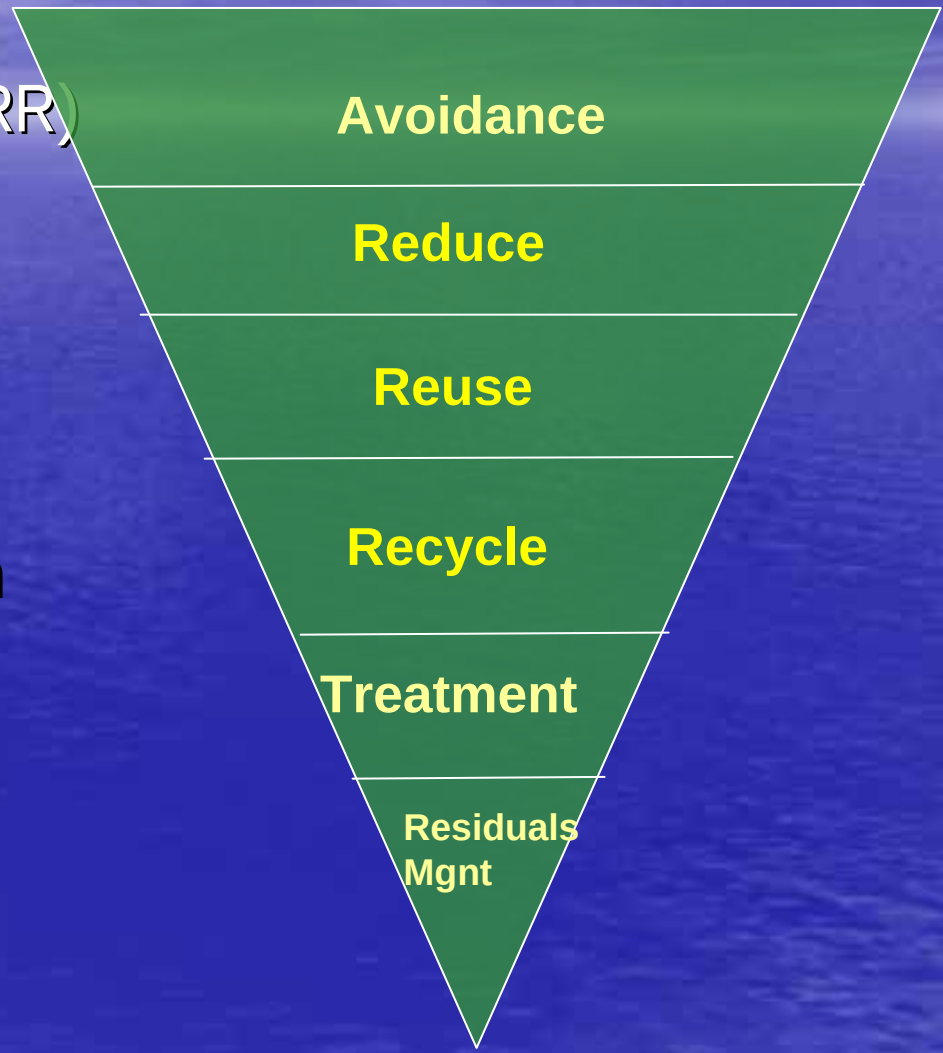


Mission:

Adopt a systematic, comprehensive and ecological waste management program that ensures the protection of public health and environment

ECOLOGICAL SOLID WASTE MANAGEMENT ACT OF 2000

- Mandatory segregation at source (section 21 RA 9003)
- Mandatory segregated collection; section 1 rule x, IRR)
- Establishment of materials recovery facilities; (section 32 RA 9003)
- Closure/conversion of open dumps to Controlled Disposal Facility (Sec.37) final disposal systems



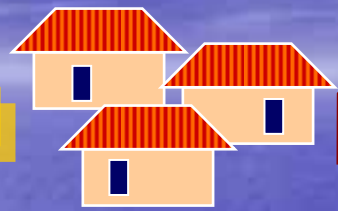
STATUS

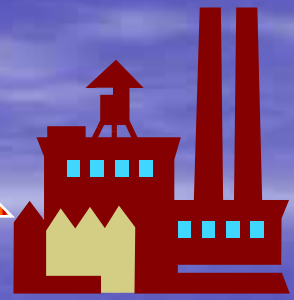
Mandatory Requirement of RA 9003: 25% waste reduction through recycling and composting by 2004 (through Materials Recovery Facilities or MRFs).

	MRFs Established	Barangays Served	**Rate of Compliance**
Nationwide (42,000 barangays)	6,750	7,680	**18%**
Metro Manila (1, 695 barangays)	684	698	**41.2%**

Status of waste reduced: Metro Manila – 33%

Current Practice of Recycling Activities





Generation Sources

Landfill Scavengers

Primary Collection/
Waste Pickers

Middleman/Agents/
Junkshops

Exporters

(To foreign Markets)

Domestic
Recycling
Industries

Importers
(From Foreign Countries)

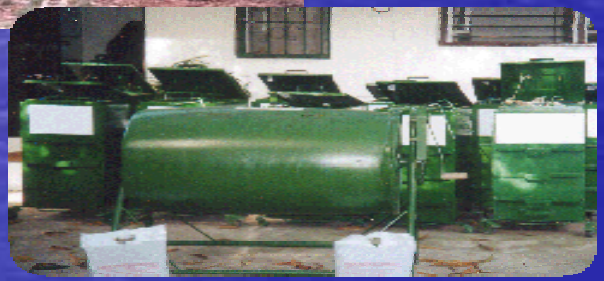
Materials Recovery Facility

- solid waste transfer station or sorting station,
- drop-off center,
- a composting facility
- and/or a recycling facility.

Barangays shall be responsible for the collection, segregation, recycling of biodegradable, recyclable, compostable and reusable wastes. MRFs will be established in every barangay or cluster of barangays.

The MRF shall receive biodegradable wastes for composting and mixed non-biodegradable wastes for final segregation, re-use and recycling.

2 Main Physical Components of an MRF



Composting area

Eco-shed or warehouse

Segregation of Recyclable Materials at Households (JICA Study. 2008)

(Unit: %)

Survey Area	Recyclable Material	A	B	C	D	Separation Ration (B+C)
Metro Manila	Paper	47.25	29.52	4.12	19.11	**33.64**
	Aluminum	64.71	25.13	6.42	3.74	**31.55**
	Other metals	74.85	16.36	4.24	4.55	**20.61**
	Plastics	56.48	19.83	3.71	19.99	**23.54**
	Glass	58.86	24.13	4.58	12.42	**28.71**
Metro Cebu	Paper	25.28	27.88	1.13	45.71	**29.01**
	Aluminum	24.32	64.86	6.76	4.05	**71.62**
	Other metals	46.70	42.86	5.49	4.95	**48.35**
	Plastic	33.24	34.37	4.65	27.74	**39.02**
	Glass	31.56	46.91	5.06	16.48	**51.97**
Southern Mindanao	Paper	21.31	9.51	11.24	57.94	**20.75**
	Aluminum	50.00	31.03	5.17	13.79	**36.21**
	Other metals	31.79	49.23	9.23	9.74	**58.46**
	Plastic	31.08	30.83	11.29	26.80	**42.12**
	Glass	20.86	51.69	8.54	18.91	**60.23**

(A) Discarding into waste bin for municipal waste collection
(B) Sell or give to door-to-door collectors

Segregation of Recyclable Materials at Business Entities

(Unit: %)

Survey Area	Recyclable Material	A	B	C	D	Separation Ration (B+C)
Metro Manila	Paper	37.79	32.34	5.84	24.02	38.19
	Aluminum	51.58	31.58	14.74	2.11	46.32
	Other metals	40.24	29.27	19.51	10.98	48.78
	Plastics	52.40	24.89	8.02	14.69	32.92
	Glass	46.85	21.45	7.19	24.51	28.64
Metro Cebu	Paper	22.72	31.65	1.26	44.36	32.91
	Aluminum	41.18	47.06	0	11.76	47.06
	Other metals	47.83	47.83	0	4.35	47.83
	Plastic	32.09	30.64	7.97	29.30	38.61
	Glass	36.92	42.88	6.35	13.85	49.23
Southern Mindanao	Paper	41.68	21.06	0	37.26	21.06
	Aluminum	44.44	44.44	11.11	0	55.56
	Other metals	46.43	39.29	3.57	10.71	42.86
	Plastic	46.34	29.70	3.21	20.76	32.91
	Glass	38.33	23.81	6.67	31.19	30.48

- CURRENT CAPACITY AND CONSTRAINTS

National Solid Waste Management Program (Republic Act 9003)

1. Reduction of Wastes Being Generated

2. Reduction of Wastes to be Disposed, via:
   a. Recycling
   b. Composting

   Undertaken through Materials Recovery Facilities (MRF)

3. Safe Disposal of Residual Wastes (e.g. Sanitary Landfill/Eco Park)

Objective: "Zero Waste"

SUSTAINABLE PROGRAMS IN RECYCLING:

Materials Recovery facilities

National Solid Waste Management Commission

Issues and Concerns:

- Lack of proper segregation of recyclable/recoverable waste material at source resulting to low recycling ratio and low quality of recyclable materials
- Limited technological and financial capacity of the domestic recycling industry
- Outflow of recyclables to international big market such as China
- Strong dependence of collection and trading of recyclable/recoverable materials upon price fluctuation based on market mechanism and unstable domestic supply of recyclables
- Fragmented information and network for optimizing the flow of recyclable/recoverable materials from generators to the final users.

Issues on Used Electric/ Electronic Appliances

Identification of the use, disposal and treatment of used electric/electronic appliances

- **Due to complex distribution of second-hand appliances by informal dealers, it is very difficult to trace the process used, disposal and treatment of used electric/electronic appliances in the Philippines**

(JICA Recycling Ind. Dev. Study, 2008)

Current used electric/electronic recycling system without consideration on appropriate safety and environmental protection

- **Currently most E-items are traded as valuable commodities; however, most second-hand dealers and repair factories pay minimum attention on safety and environmental protection**

- SIGNIFICANT ACHIEVEMENTS AND FUTURE VISION

BEST PRACTICES

National Solid Waste Management Commission

Municipality of Sibutad, Zamboanga del Norte

Model LGU for Most Number of MRFs

- ✓ **100% (16) Barangays have MRFs**
- ✓ **80% of the residents practicing waste segregation**

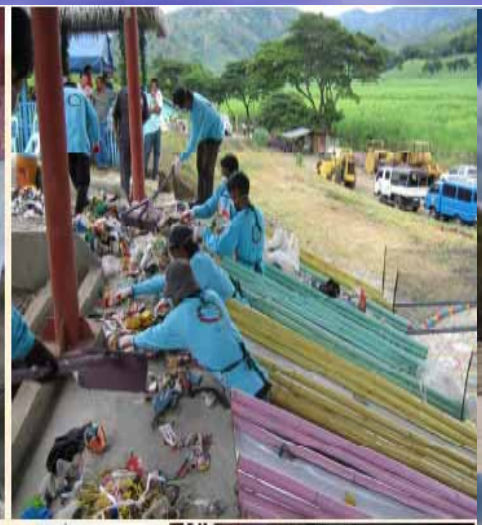
Sto. Tomas, Davao del Norte

- No Segregation, No Collection
- No Orientation & Implementation of ESWM, No Issuance of Municipal Permits
- Municipal-wide Composting & Livelihood Projects

Takakura Market Waste Composting in Bago

1. Native Microorganism are bred to multiply
2. NMs are mixed with biodegradable waste during shredding

San Carlos City, Negros Occidental



MRF Operation

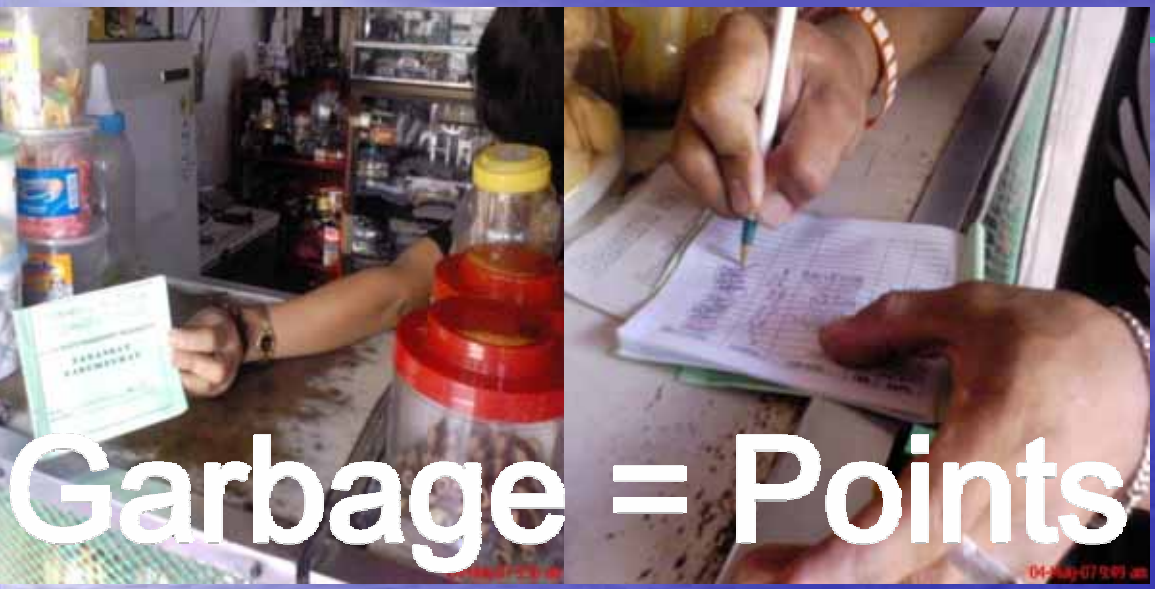
Sanitary Landfill Construction

Calaoan, Candon, Ilocos Sur

Model Barangay for Household Composting System

Compost pits are located in every household

Barangay Bagumbuhay



Points =

May Pera Sa Basura

There's money in garbage

The plastic densifier oven - this is where they melt styrofoam and clear plastic bags, and turn into...

- Finished product

Paving blocks/tiles

The Bioreactor- this is where kitchen and food leftovers are processed.

The leftovers will turn into soil conditioner.

Typical Materials Recovery Facility

Pilar Village, Las Pinas City

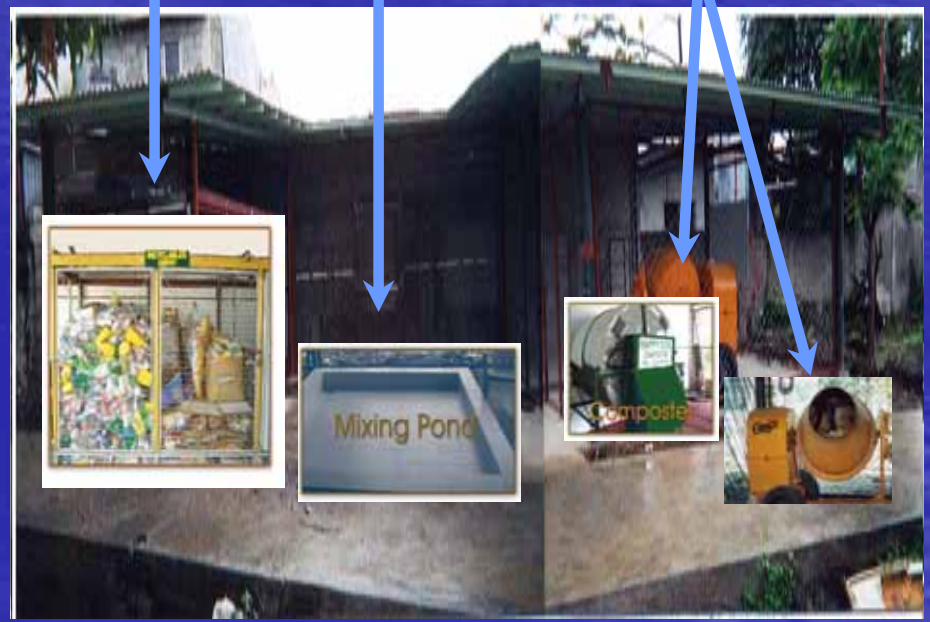
Tanza, Navotas

Annex 1618, Better Living Subd., Brgy. Don Bosco, Paranaque City

Kitchen Waste

Recyclables

Compost maker, small shredder



Mobile Materials Recovery Facility

Low Cost MRFs

RECYCLED PRODUCTS

Paper







Plastic

Doy Packs

Mixed Plastics

RESIDUAL WASTE MANAGEMENT

BEST PRACTICES IN THE MUNICIPALITY OF TERESA

PROVINCE OF RIZAL

Pilot Implementation of the National Framework Plan for the Informal sector in Solid Waste Management

- Through the AIT/UNEP Regional Resource Centre for Asia and the Pacific (RRC.AP) 2 cities were selected for the “pilot implementation”

  1. Antipolo City
  2. Baguio City

- Through the assistance of the local government of Antipolo City and Baguio City, coordination with the members of the following groups were conducted:
  - Tanza I Dumpsite Recyclers Association (Antipolo City)
  - Irisan Paradise Cooperative (Baguio City)

- Consultation with the Cooperative Development Authority was also conducted wherein a Pre-membership Cooperative Training was provided to the members.

- Members coming from the pilot site participated in a Consultation –Meeting with the Alliance of Workers in the Informal Economy/Sector

- Currently, both associations are preparing documentations to formalize their group to be able to start receiving capability programs to be provided by both the national and the local government.

Mainstreaming the Informal Waste Sector in Solid Waste Management through Capacity Development

- Japan Social Development Fund

Objective

1. Integrate and mainstream the informal sector in SWM
2 . Institutionalize capacity development through training

Key component of the proposal: Registration of IWS workers to identify who are the workers that belong to the informal waste sector, locate where they are and where they operate or work.

10- Year Solid Waste Management Plans

3.7 Final Disposal (applicable if there's any)	• Description of facilities used for the final disposal of solid waste or residues from processing.
	• List of facilities including location, ownership, capacity, types of materials accepted, source of materials, brief description of operations, and number of waste pickers/reclaimers .
	• Evaluation of the situation of waste pickers/reclaimers working at existing dumpsite.

24.09.2010

. . . Organizational






. . . Livelihood trainings

Trainings & Seminars – Echo-Seminar on Paper Jewelry-making - 2009

- Occupational Health and Safety - To develop occupational safety systems and procedures for all workers in the dumpsite/SLF.

Uswag Calahunan Livelihood

U.C.L.A. ACTION PLAN FOR 2010

- Sewing recyclable - (20)
  - increase production
  - increase market
- AFR/M.R.F. - (90)
  - ensure timely payment of HOLCIM
  - ensure timely delivery of AFR
  - increase production
- Waste collection at Source- (20)

U.C.L.A. ACTION PLAN FOR 2010

- ***Livelihood Program*:**

- To provide alternative livelihood that will provide regular sources of income for at least 200 wastepickers/

- Composting (10) - establish composting business
  - promote composting

- Gardening and seedlings production (3-5) - establish gardening and seedlings business

➢ Paper Briquette (10) - promotion of paper briquette as alternative fuel for households

- establish briquetting business

U.C.L.A. ACTION PLAN FOR 2010

- *Marketing and Networking* :

  -establish and strengthen markets for the livelihood program products

  - establishing and maintaining networks for support

  - product promotion

  - establish and maintain buyers

- *UCLA CENTER PHYSICAL DEVELOPMENT*

  - maintain and secure UCLA center

  - maximized use of UCLA Center

"May the favor of the Lord, our God rest upon us; establish the works of our hands...." Psalms 90:17

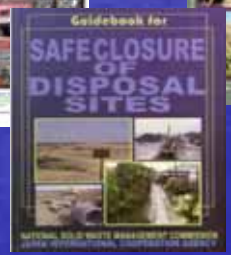
Strategies for Local Action

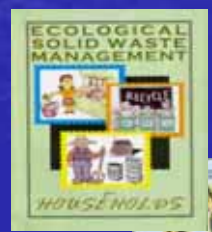
- ✓ Enforcement of the law to non-complying local government units;
- ✓ Enforcement of the extended producers responsibility ;
- ✓ Promotion of use of alternative technologies (e.g. co-processing) for residual waste management;
- ✓ Strengthening of the Public Advocacy and Social Marketing;

1. Reduction of Wastes Being Generated

a. Advocacy

b. Information, Education and Communication Campaign





ALTERNATIVE TECHNOLOGY

National Solid Waste Management Commission

CONCLUSION

Factors for successful implementation:

- Strong Political Will
- Massive and Continuous Information, Education and Communication Campaign
- Provision of proper policy guidelines and enforcement mechanism
- Allocation of Resources
- Provision of incentives

THANK YOU
and
MABUHAY!!!