



# Cagayan de Oro City

Solid Waste Management: A Work in Progress



# Cagayan de Oro City

- Regional Center of Northern Mindanao (Region X)
- Annual Average Growth Rate: 5.8%

**MANILA**

**CEBU**

**CAGAYAN  
DE ORO**



# Cagayan de Oro City

- 2013: Most Competitive City in the Philippines
- 2014: 2<sup>nd</sup> Most Competitive City
  - Next to Makati, the country's premier financial district





# ADB-CDIA Pre-Feasibility Study on Solid Waste Management

- Conclusions
  - Present system noncompliant with solid waste management law
    - Absence of proper segregation and waste reduction strategies at source
    - Inefficient collection
      - Compounded by poor coordination between waste generators and collectors
    - No specific treatment of solid wastes including medical and hazardous waste.





# ADB-CDIA Pre-Feasibility Study on Solid Waste Management

- Conclusions
  - Existing open dumpsite is close to maximum capacity
    - Timely rehabilitation will make it available for waste disposal for the next 3-4 years.





# Current Disposal Site

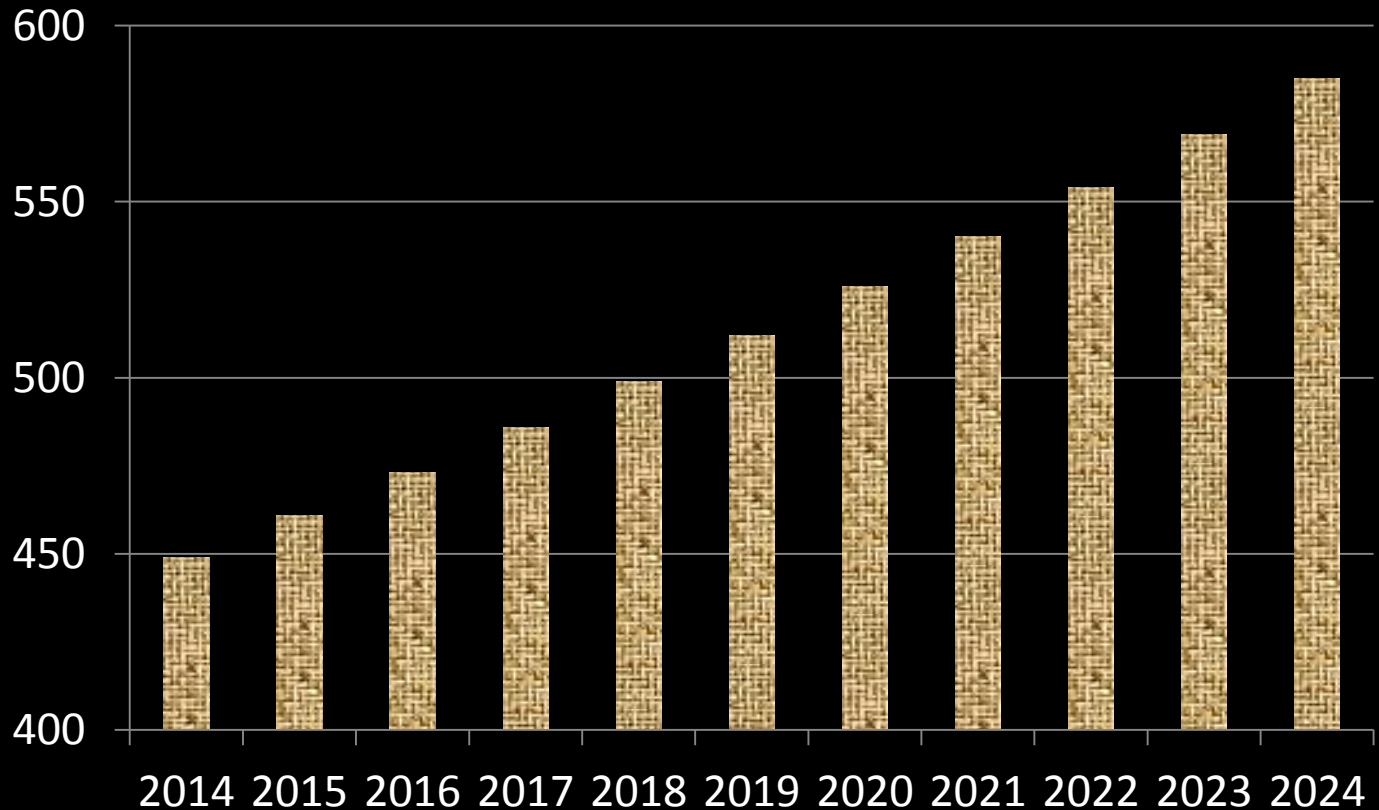
- 17 hectares total land area
- 1.9 M cubic meters estimated capacity
- At present, 4.0 M cubic meters estimated waste deposited



Source: ADB Study, 2012 (Source: Google Earth year 2011)



# Projected Solid Waste Generation Without Intervention (in Thousand Kilograms)

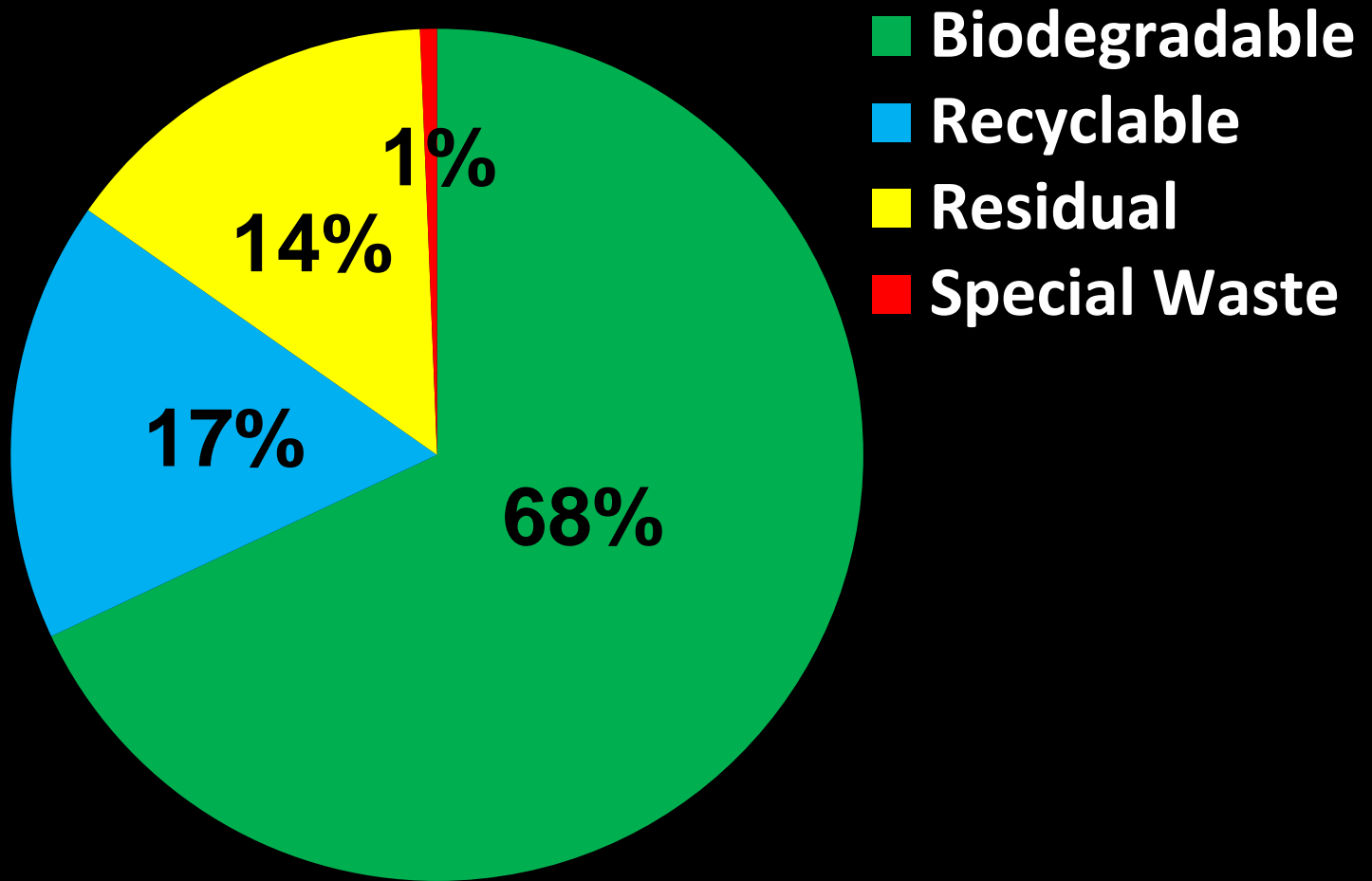


**Solid Waste Generation at 0.67 kg/day per capita**

*Source: Waste Analysis and Characterization Study, CDO, 2014*



# Waste Composition 2014



Source: Waste Analysis and Characterization Study, CDO, 2014





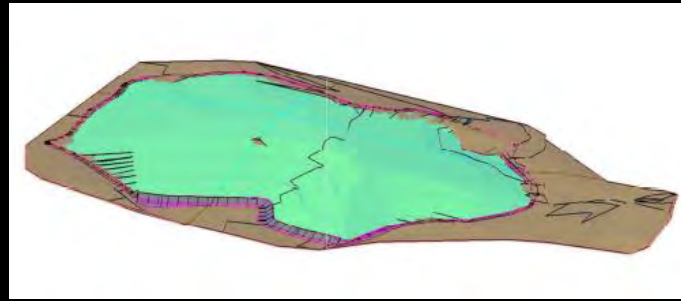
# ADB-CDIA Pre-Feasibility Study on Solid Waste Management

- Recommendations
  - Improvement and Closure of Current Open Dumpsite
  - New Sanitary Landfill
  - Solid Waste Transfer Station Construction and Operation



# Strategic Projects

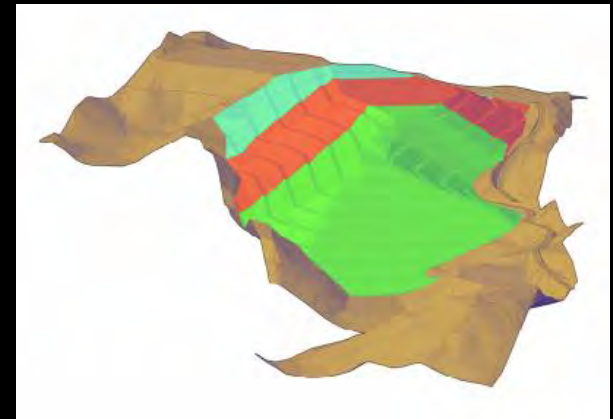
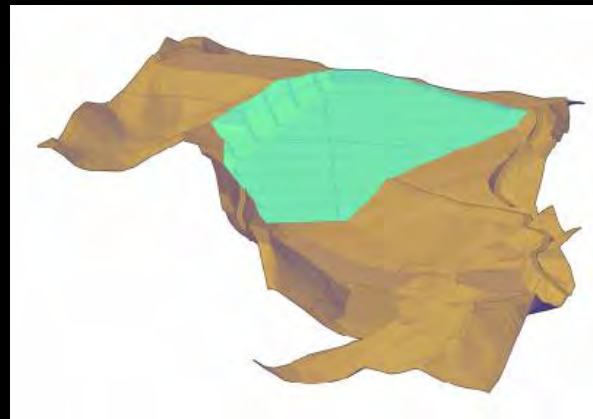
- Carmen Dumpsite (Existing Open Dumpsite)
  - Operation improvements
    - Leachate collection
    - Reshaping
    - Landfill gas control
  - Final capping and closure
  - Post-closure maintenance





# Strategic Projects

- New Sanitary Landfill
  - Construction:
    - New modern sanitary landfill with 3 cells and 4.55 million-cubic meter capacity
  - Operation
    - 21-year lifespan





# Strategic Projects

- Solid Waste Transfer Station
  - Construction, civil work, supplies and equipment
    - Compaction unit
    - High volume closed containment
  - Operation

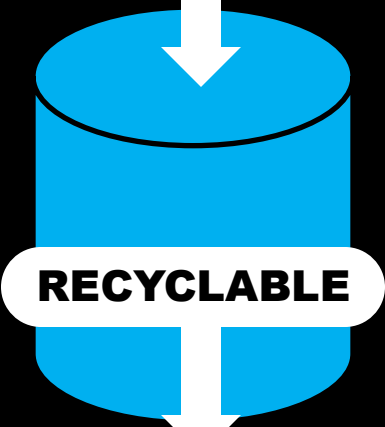
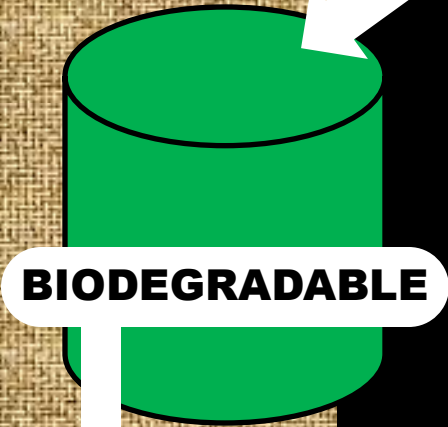




# Proposed Flow for Highly Urbanized Areas

**SOLID WASTE**

**Segregation at Source**



**ECO-WASTE CENTER**

**COMPOSTING FACILITY**

**RECYLCING**

**RESOURCE RECOVERY**

**TREATMENT PLANT**

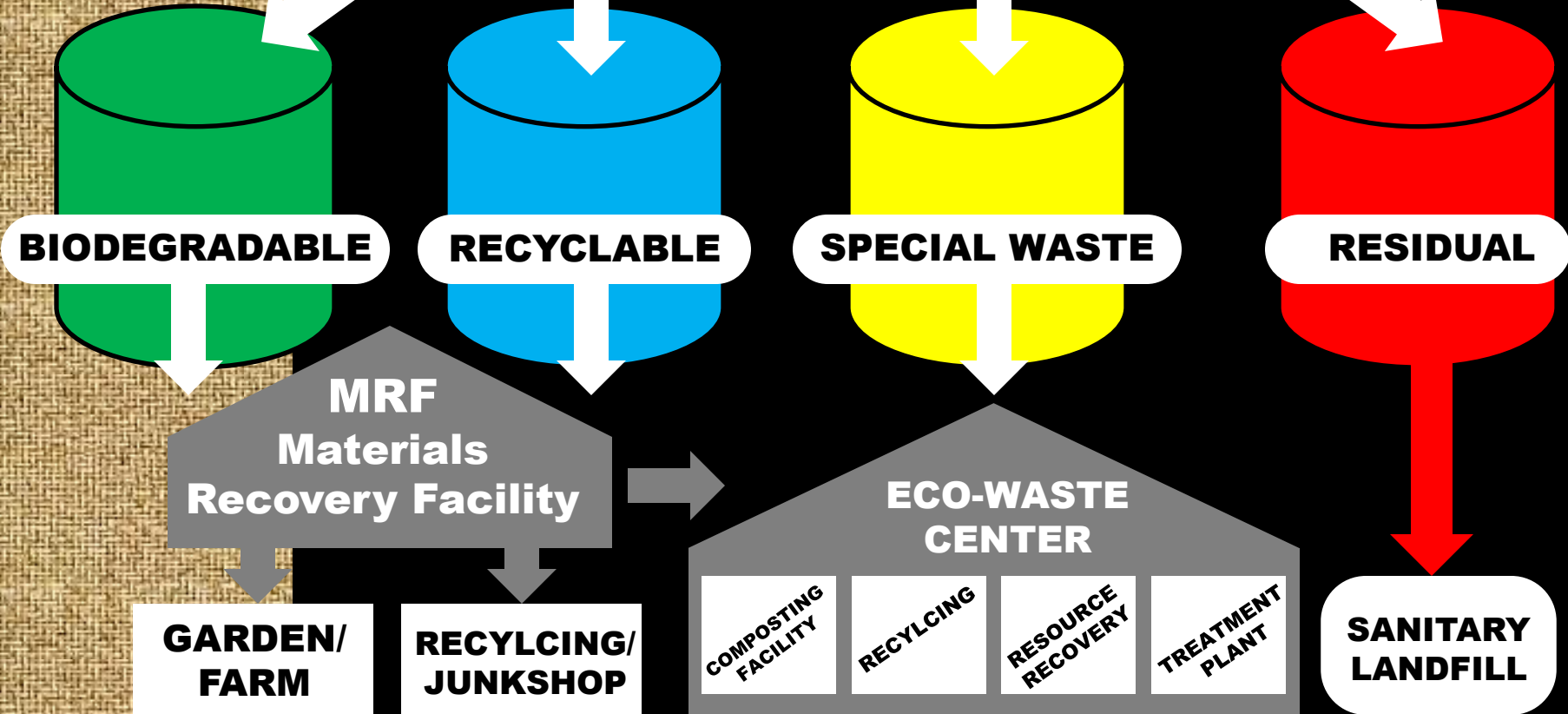
**SANITARY LANDFILL**



# Proposed Flow for Less Urbanized Areas

**SOLID WASTE**

**Segregation at Source**





ご清聴ありがとうございました