

**A Follow –up Seminar of KitaQ
System Composting in Asia
17th – 20th July 2012
Solid Waste Management at Sibu City**

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**Sibu – Gateway and Regional Centre of Central
Sarawak, Malaysian Borneo**



SMC Background

Founded on 1 November 1981
after it was upgraded to the
status of a Municipal Council of a
District Council.

A Local Authority which have
approximately 600 employees

Administration Area - 129.5
square kilometers

Total Population -240,402



Vision

Towards a
Progressive &
Community-
focused Local
Authority



Mission

To deliver quality
services through
community engagement
To achieve development
and sustainable urban
environment



Main Functions

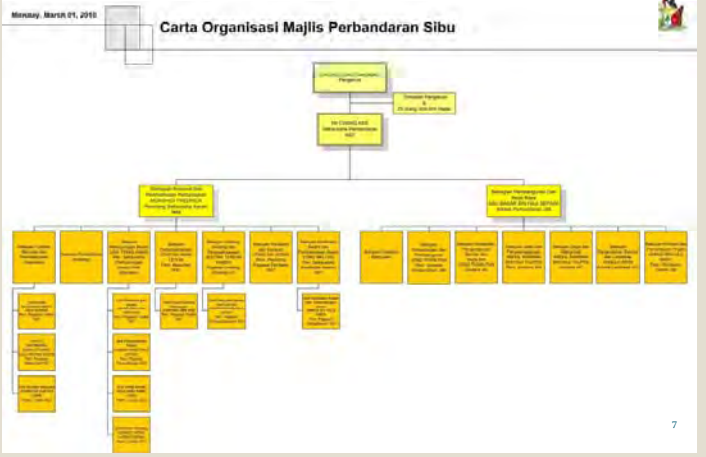
● INFRASTRUCTURE
DEVELOPMENT

● MUNICIPAL SERVICES

● MUNICIPAL FACILITIES
MANAGEMENT

● COMMUNITY DEVELOPMENT

Organization structure of the SMC



SOLID WASTE MANAGEMENT IN SIBU CITY, MALAYSIA.

Outline of Presentation

- 1 Waste Management Practices
- 2 (Short-term action) Engaging the Communities
 - Recycling
 - Composting/Takakura Composting
 - Enzyme Making
 - Say No To Plastic Bags
 - Say No to Plastic Mineral Water Bottles

Waste Management Practices

- Area: 129.5sq km with Population: 240,402
- Waste Generation: 130 tone per day
- Waste generation per capita: 0.65kg
- SWM Cost: 5.2 million per year
- Sanitary Landfill of 13 acres costing RM10.5 million operating since 2001
- Extension of 2 more cells in 2012
- New sewage treatment plant completed in 2010 and began operations in 2011.

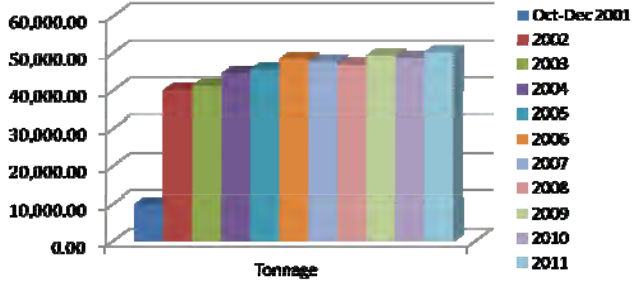
Modus Operandi of Collection

- Privatized collection
- Coverage: 100% of the municipality
- 4 collection zones
- Frequency:
 - Residential: 3 times weekly
 - Commercial: once daily
 - CBD and markets: twice daily
 - Annual spring cleaning before Chinese New Year

Overview of Kemuyang Sanitary Landfill



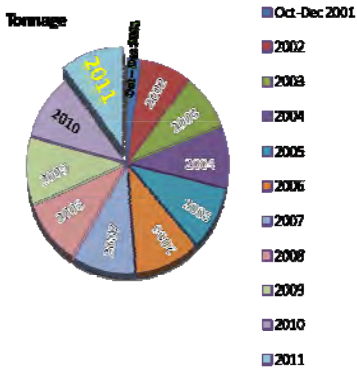
Monthly waste disposed at Kemuyang Sanitary Landfill, Sibul from 2001 up to date



Years	Oct-Dec 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Tonnage	9,759.49	39,876.52	41,055.83	44,372.14	45,503.81	48,225.73	47,532.01	46,714.64	49,165.51	48,344.93	50,032.22

Total tonnage up to date = 470,582.83

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Year	Tonnage
Oct-Dec 2001	9,757.49
2002	39,876.52
2003	41,055.83
2004	44,372.14
2005	45,503.81
2006	48,225.73
2007	47,532.01
2008	46,714.64
2009	49,165.51
2010	48,344.93
2011	50,032.22

Total tonnage up to date = 470,582.83

Increase in solid waste disposal is expected as a result of **septic sludge activities** carried out from 2011 until now.

Waste Composition by Weight (2011)

Item	Material	Percent (%)
1	Organic matters	49.5
2	Plastic	14.50
3	Paper	10.51
4	Paper Carton	8.80
5	Textile Waste	5.20
6	Glass	3.80
7	Ferrous Material	3.40
8	Rubber	2.80
9	PVC	1.20
10	Polystyrene	0.10
11	Aluminum	0.10

Waste Reduction Initiatives by SMC

- Fostering cohesive relationships and engage the local communities through
 - Local Agenda 21 (Recycling, composting, enzyme, cleaning campaigns)
 - Segregation of C & D waste into another site
 - 'Say No to Plastic Campaign' (Every Monday)
 - Say No to Plastic Mineral Water Bottles
 - Waste separation at source

Waste Management Activities To Reduce Waste

1. Composting Centre



2. Promoting:

a. Community composting



2. Promoting:

b. Waste segregation at Source (pilot)

Month	Total Collection at Pulau Li Hua (in Kilos)	Total Collection at Taman Seduan (in Kilos)	Total collection at Police HQ	Total Collection at Bukit Lima Area	Total
June 2011	587	77	-	-	664
July 2011	1,301	353	-	-	1,654
August 2011	735	360	-	-	1,095
September 2011	880	2,084	-	-	2,964
October 2011	380	136	224	-	740
November 2011	700	405	39	432	1,576
December 2011	604	1,783	5	992	3,384
January 2012	1,161	188	45	1,482	2,876
February 2012	589	496	139	442	1,666



2. Promoting: (recycling, composting & garbage enzyme)

c. Community Awareness



3. Recycling Centres (9)



4. Collection of recyclables at sanitary landfill

- Council is having a memorandum of understanding with a contractor to retrieve and collect recyclable materials from Kemunyang Sanitary Landfill effective January 2012



Collection of used cooking oil

Collaboration with Sekitar Bumi Hijau Sdn. Bhd.

Grand total for 2012 : 17611.63 litres

Long - term goals

Laws and enactments of waste segregation

Community Recycling

- Started in 1990's
- Working closely with Sibu Kidney Foundation – all proceeds from sales of recyclable items goes to charity
- Activities
 - Talks to schools and NGOs
 - Giving free recycling bins and receptacles
 - Free collection from bins placed with NGOs premises
 - Management of Communal recycling centres

Community Composting

- Started in 2008
- Pilot projects in 3 residential neighborhoods and 3 secondary schools
- Activities
 - Briefing, demonstration, free compost bins, follow up inspection, competition
 - Communal composting centre (Market hawkers and schools)
 - JICA is helping to organize a regional workshop on Takakura Method of composting in Dec 2009

Community Garbage Enzyme Making

- household garbage enzymes has suddenly became very popular among the community
- SMC and the NGOs have been going round schools, religious bodies and the communities to give talks and giving demos
- Objective: reducing garbage while producing environmental friendly enzymes for household use and cleansing drains, septic tanks, lakes,



'Say No to Plastic Bags'

- Getting all major supermarkets, fastfood chain, bookshops to participate.
- No plastic bags are to be given on every Mon
- RM0.20 shall be charged should the customers insisted having plastic bags
- Participating outlets given an 'Environmental Partner' status
- Encourage NGOs to give away eco-friendly bags

Say No to Plastic Mineral Water Bottle

- Launched in Jan 2010
- Started with Sibu Municipal Council
- To be extended to Government Departments
- Installed water dispenser
- Stop distributing plastic mineral water bottles during meetings
- Use glasses or paper cups



Waste Separation at source (Pilot)

- Started in June 2011
- Once a month (every 15th of the month), the resident have to segregate the recyclable item outside the entrance of their house.
- Pilot projects in 3 residential neighborhoods and 1 government quarters .
- Activities
 - Briefing, demonstration, collection services

Achievements of proposed program

Waste separation at source

- This program has helped reduce the waste in a sanitary landfill of **12,077 kg**.
- A total of **RM3500.97** sale of recyclable items collected in 2011 for the 4 neighborhoods involved and donated to charity.



Impacts of the project

Environmental Impacts

- Increase the level of cleanliness
- Beautify the city
- Reduce the pollution
- Extend landfill life-span

Impacts of the project

Social Impacts

As financial resources (proceed of the sale of recyclable items)

Increase awareness and involvement of local communities.

Help reduce the risk of disease due to unhygienic environment.

Charitable purposes.

Challenges in solid waste management of Sibu City, Malaysia

1. Public attitude
(Indiscriminate dumping)
2. Malpractice of disposal
3. Littering at public places
4. Discharge into drain
5. Disposal of used tyres
6. Laws in segregation

Recommendations

- to enact waste segregation law
- To increase locality for the waste separation for recycling
- to strengthen management of existing programs

