

Proper separation and collection of business-related food waste in Bandung City

Japan Environmental Sanitation Center
(JESC)



Output 2

Capacity Building for business entities (restaurants, hotels and Traditional markets)

Proper separation and collection of business-related food waste

Separation & collection

Transfer Depot

business-related
food waste

Separation & collection

business-related
food waste

Biodigester

Recycle of food wastes



Key activities

Properly separate and collect business-related food waste

Business entities

- Restaurants
- Hotels
- Traditional markets



Organic food waste

Bio-digester

Schedule and Work allocation in 2017

2017

- Evaluation of foregone studies and acquiring current flow of business-related food wastes
- Selection of model business entities and investigation on the amount and the composition in each model business entity
- Investigation on actual situations of food waste disposal/recycle in each selected model business

Schedule and Work allocation in 2018

- Preparation of a waste separation and collection manual on business-related food wastes based on the results
- Implementation of the training for proper separation and collection of commercial organic wastes

2018

Past study survey on business-related food wastes

Fig.1 Waste amount in Bandung City in 1994

No	source	Ton	%
1	Residential	983,40	65,56
2	Traditional Market	281,55	18,77
3	Road	82,80	5,52
4	Commercial Area	89,85	5,99
5	Institution	42,15	2,81
6	Industry	20,25	1,35
	SUM	1.500,00	100

*) PD. Kebersihan Research at 1994

Fig.2 Waste amount in Bandung City in 2005

source	Organik	An organik
Residential	56 %	44 %
Non Residential	48 %	52 %
average	52 %	48 %

*) Evaluation of waste recycling potential in Bandung Municipal Solid Waste Oleh Prof Enry D. dkk, 2005

Interview survey on actual situations of food waste discharge in each selected business entity



Traditional market



Restaurant
(Shopping mall)



Hotel

Sampling survey on the amount and the composition of food waste in business entities in Bandung City

1. Type of business entities and number of sample

(1) 2 traditional markets, 6 samples

(2) 3 hotels, 3 samples

(3) 3 middle class restaurants, 3 samples

2. Sampling method and dates of sampling

SNI 19-3964-1994

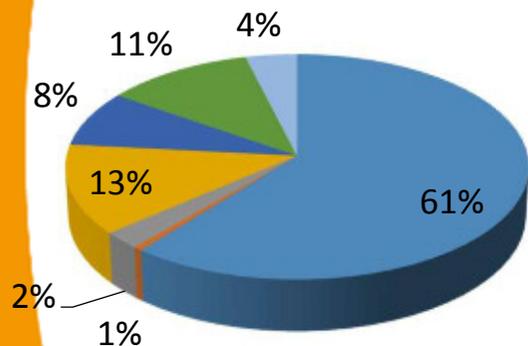
September to November in 2018

3. Results

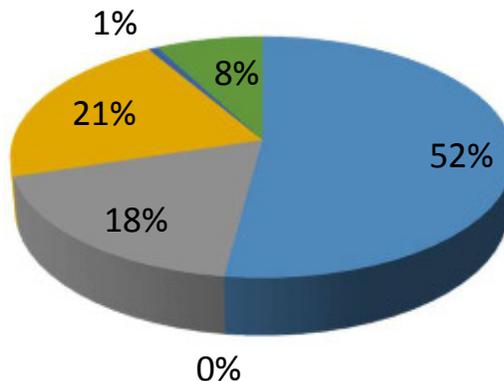


1. Traditional markets

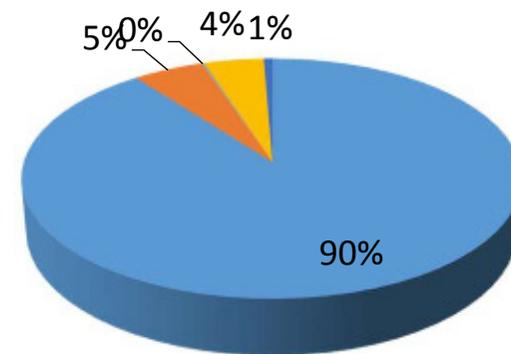
Cihaurgeulis Market



small restaurant 1



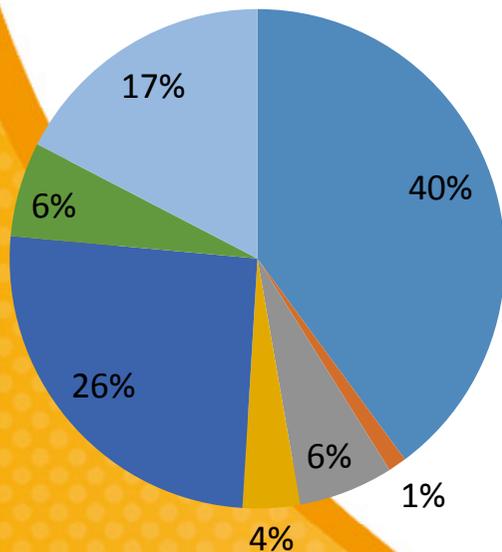
small restaurant 2



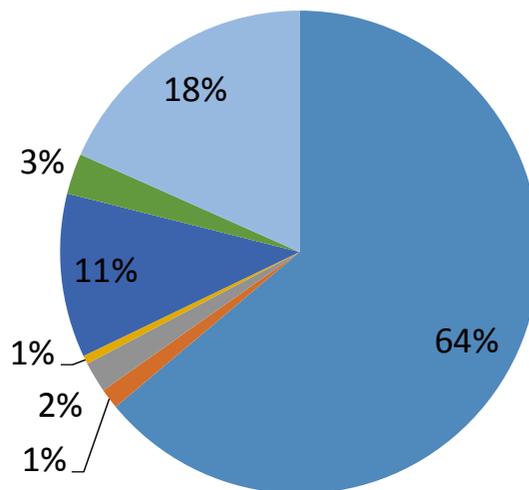
vegetable booth 3

- Vegetation
- Rice, Noodle
- Egg skin
- Bone
- Plastic
- Paper
- Banana leaf

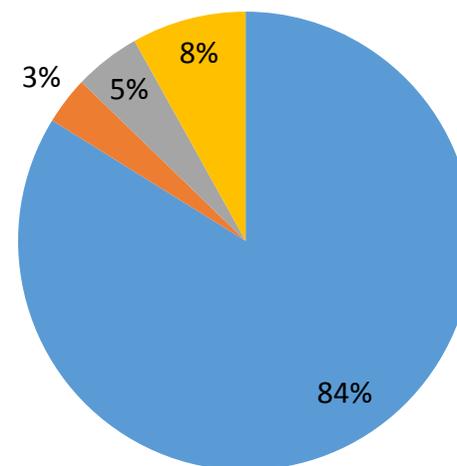
Sederhana Market.



small restaurant 1

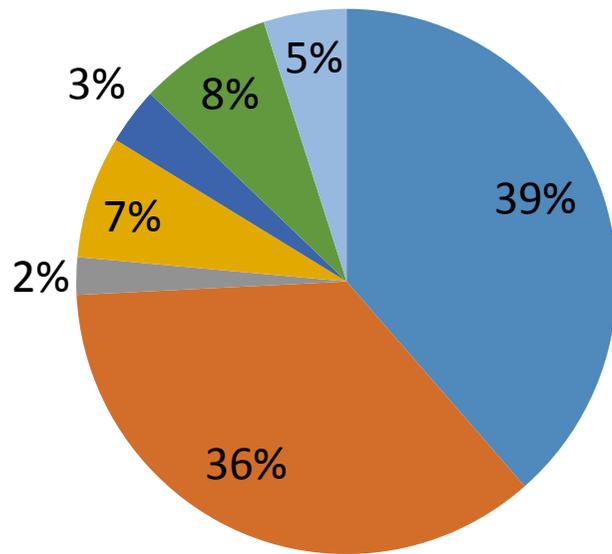


small restaurant 2

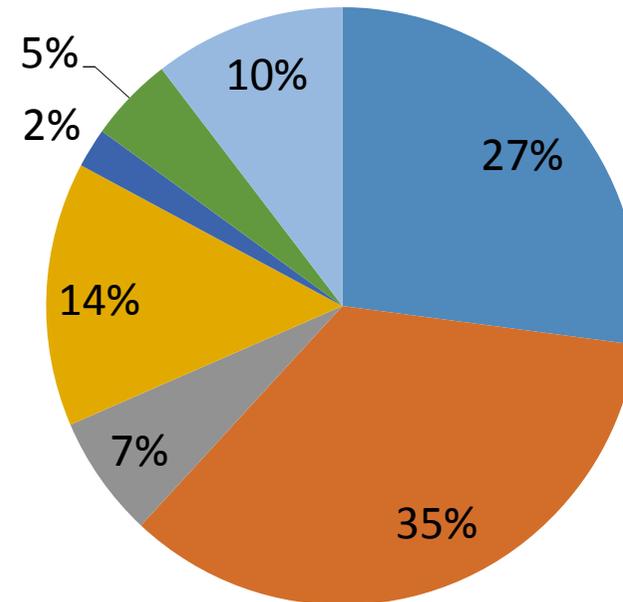


vegetable booth 3

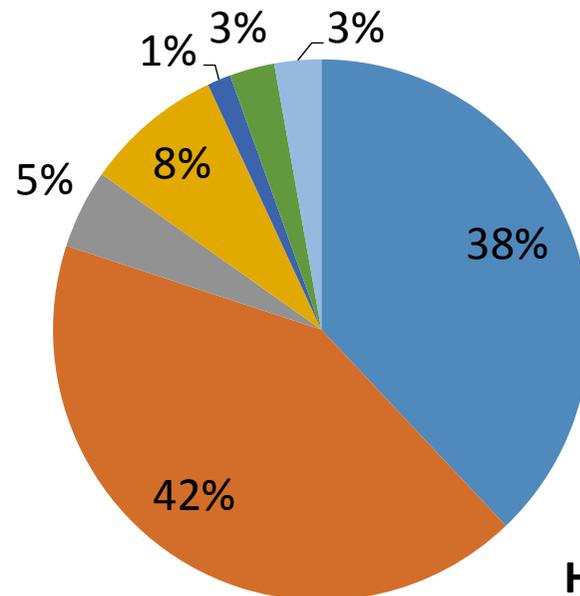
2. Hotels



Hotel 1



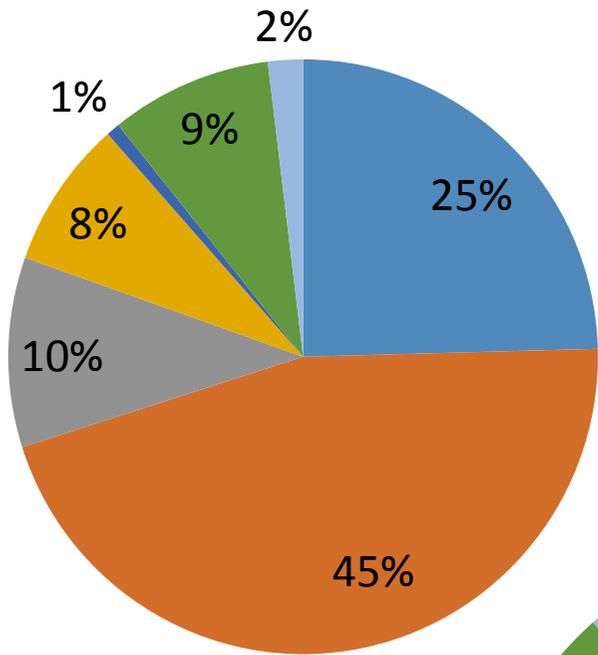
Hotel 2



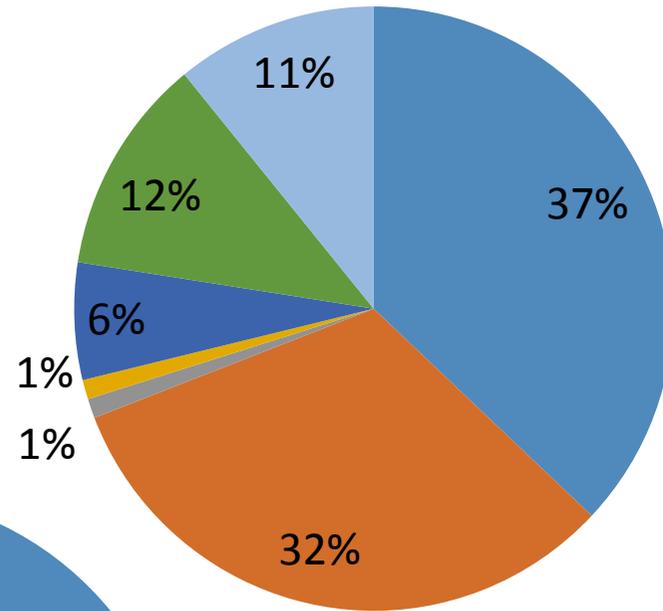
Hotel 3

- Vegetable
- Rice
- Banana leaf
- Bone
- Egg skin
- Paper
- Plastic

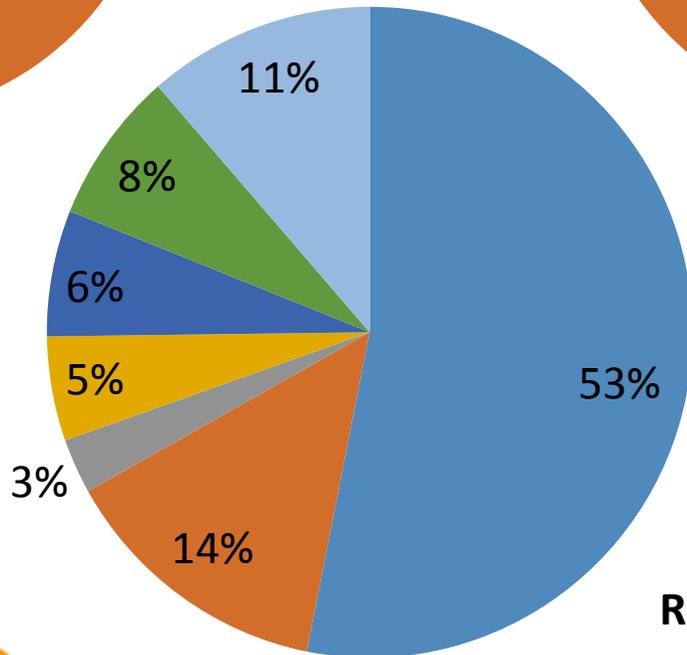
3. Restaurants



resto 1



resto 2



Resto 3

- Veg/fruit
- Rice
- Banana leaf
- Bone
- Eggs Skin
- Paper, Tissue
- Plastic

Result of amount and density

		Amount kg/day	Density kg/l
Cihargeulis Market	small restaurant 1	3.59	0.24
	small restaurant 2	1.04	0.22
	vegetable booth	3.82	0.25
Sederhana Market	small restaurant 1	2.1	0.2
	small restaurant 2	3.47	0.27
	vegetable booth	3.24	0.23
Hotel	hotel 1	6.66	0.46
	hotel 2	5.08	0.36
	hotel 3	7.45	0.52
Middle class restaurant	resto 1	7.36	0.49
	resto 2	6.99	0.47
	resto 3	5.34	0.35

Conclusion of sampling survey

- Measurements were carried out for 8 days, in accordance with Indonesian National Standard (SNI) 19-3964-1994
- Food waste must be separated into vegetable, rice, Banana leaf, bone, eggshell, paper, plastic.
- The density of food waste from traditional market is 0.20-0.27 kg/l.
- The density of food waste from hotel and middle class restaurant is 0.36-0.52 kg/l.

Training in Japan (Site visit)



Bio-digester in Ogawa town



BIOENERGY



Kawasaki Nambu School lunch Center

Training program in November

1. Date: 27, November 2018
2. Venue: Gino Feruci kebon Jati Hotel
3. Participants: Managers of restaurants and hotels and PDK
4. Agenda: Policy of SWM in Bandung city/
Commercial organic waste management in
Japan /Guidelines for solid waste
management in commercial sectors
5. Evaluation



Manual (Draft)

Item	Contents	Use
Guideline for separation and collection of commercial organic waste	Essence for action plan in Bandung City	To be incorporated into master plan
Manual for separation of organic waste in hotels	How to separate organic waste	Text for training program
Manual for separation of organic waste in restaurants and commercial sectors		
Manual for separation of organic waste in traditional markets		
Manual for collection and transportation of commercial organic waste	How to collect and transport commercial organic waste	



Thank you for your attention!

Terima kasih