



「バンドン市の市民参加型の廃棄物 管理のモデル事業」

川崎国際エコビジネスフォーラム
セッション3: JICA草の根事業を活用したバンドン市における3Rの取組みへ
の中間成果報告及び今後の展望

平成31年2月7日

Brief Introduction of IGES

Established in 1998

- Initiative of the Government of Japan
- 40+ world-wide signatory organizations

An independent policy research institute,
conducting *practical and innovative research*



Agent of Change

- *facilitating global transition towards a sustainable and resilient society*
- *improving the well-being of people*, with primary focuses on AP region

Research results available for actual policy making through
networking and outreach operations

Revenues and gains: \$33 million (FY2013)

Personnel: About 180 (as of September 2014)

IGES as an Agent of Change



Support national government and cities in formulating development strategies that place sustainability at their core.



Offer tools and knowledge needed to translate those strategies into practical actions.



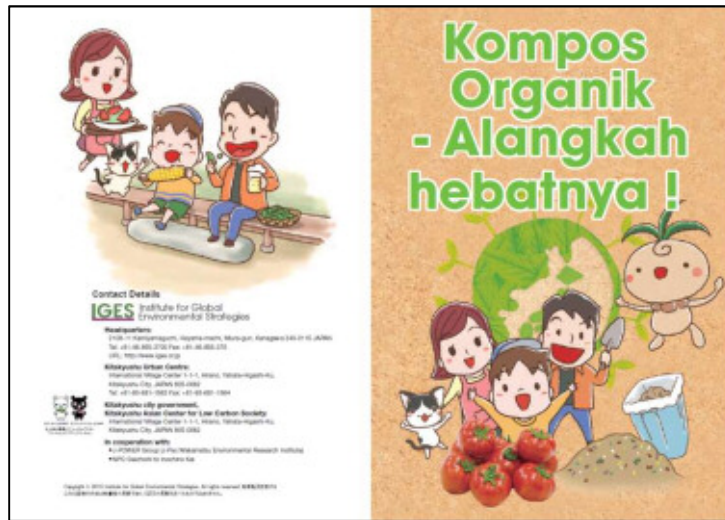
Support capacity building activities and strengthen networks that transmit actionable knowledge.



Help policymakers at all levels translate the “2030 Development Agenda” and “Paris Agreement” into concrete actions.



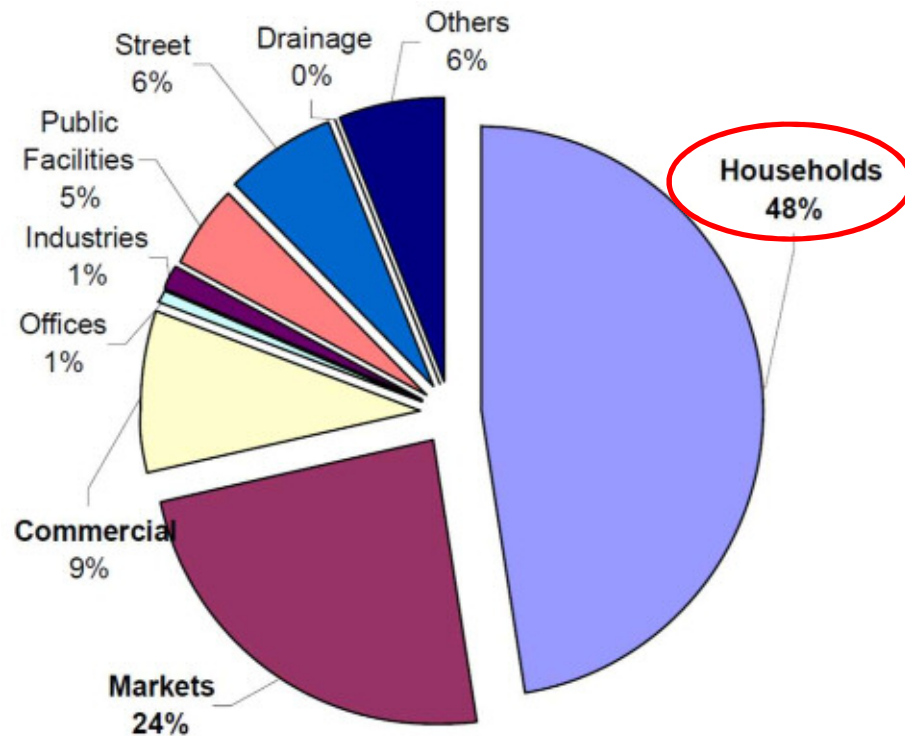
IGES's Experiences in Municipal Solid Waste Management



- Basic surveys, policy support (national and municipal levels), and implementation on MSW management in Southeast Asian countries (e.g., Indonesia, Cambodia, Philippines, Malaysia, Myanmar, Thailand, Vietnam)
- Involved in various community waste management projects in Southeast Asia, in particular:
 - Surabaya City (Indonesia)
 - Cebu City (Philippines)
 - Mandalay (Myanmar)

Why Community Waste Management?

Waste composition in Indonesia

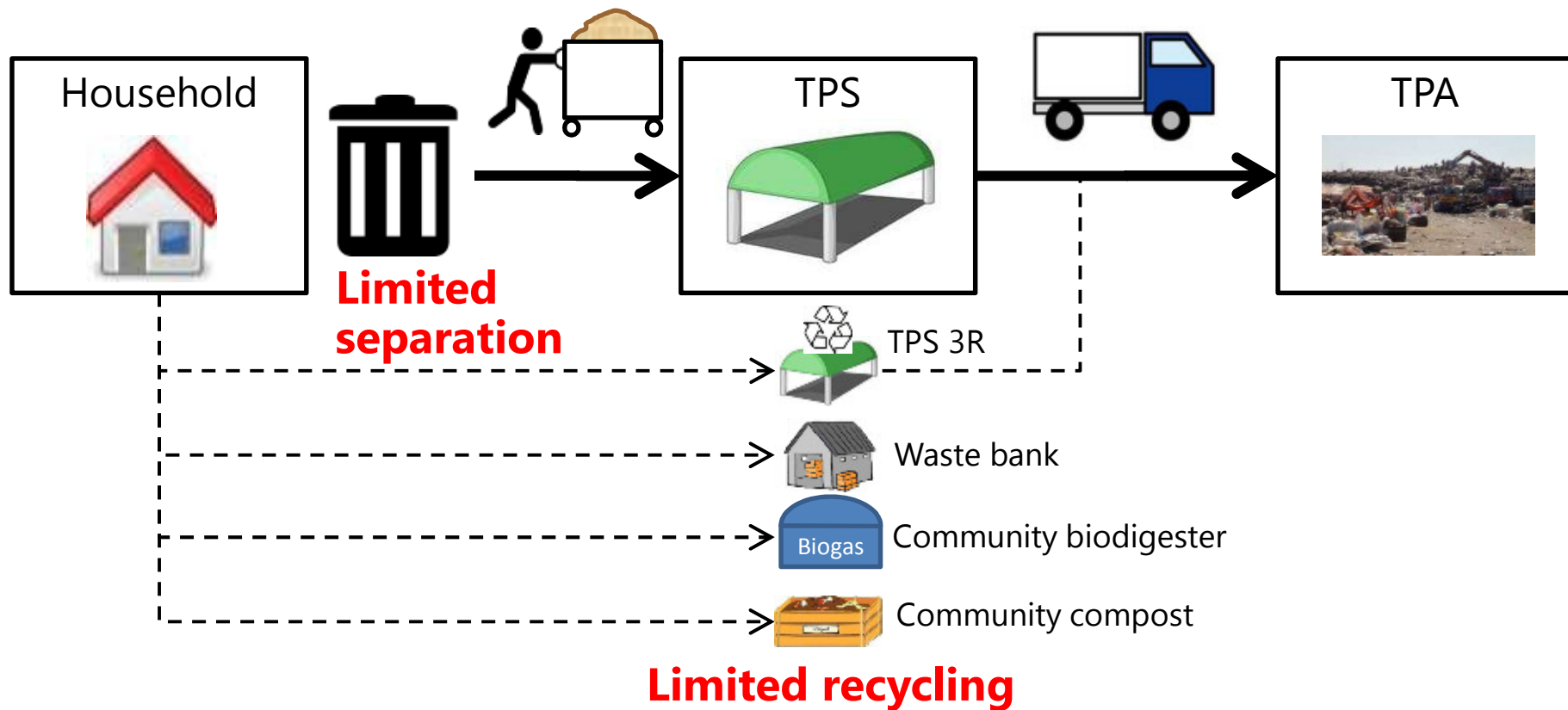


Source: Ministry of Public Work, Indonesia, 1989

- 50% of MSW are generated from household (communities)
- Market and commercial wastes are relatively easy to separate and recycle
- Behavioral changes at the community level have significant impact for scaling at the city level
- Enhancing 3R of household (mixed) waste holds the key of waste reduction at the city level

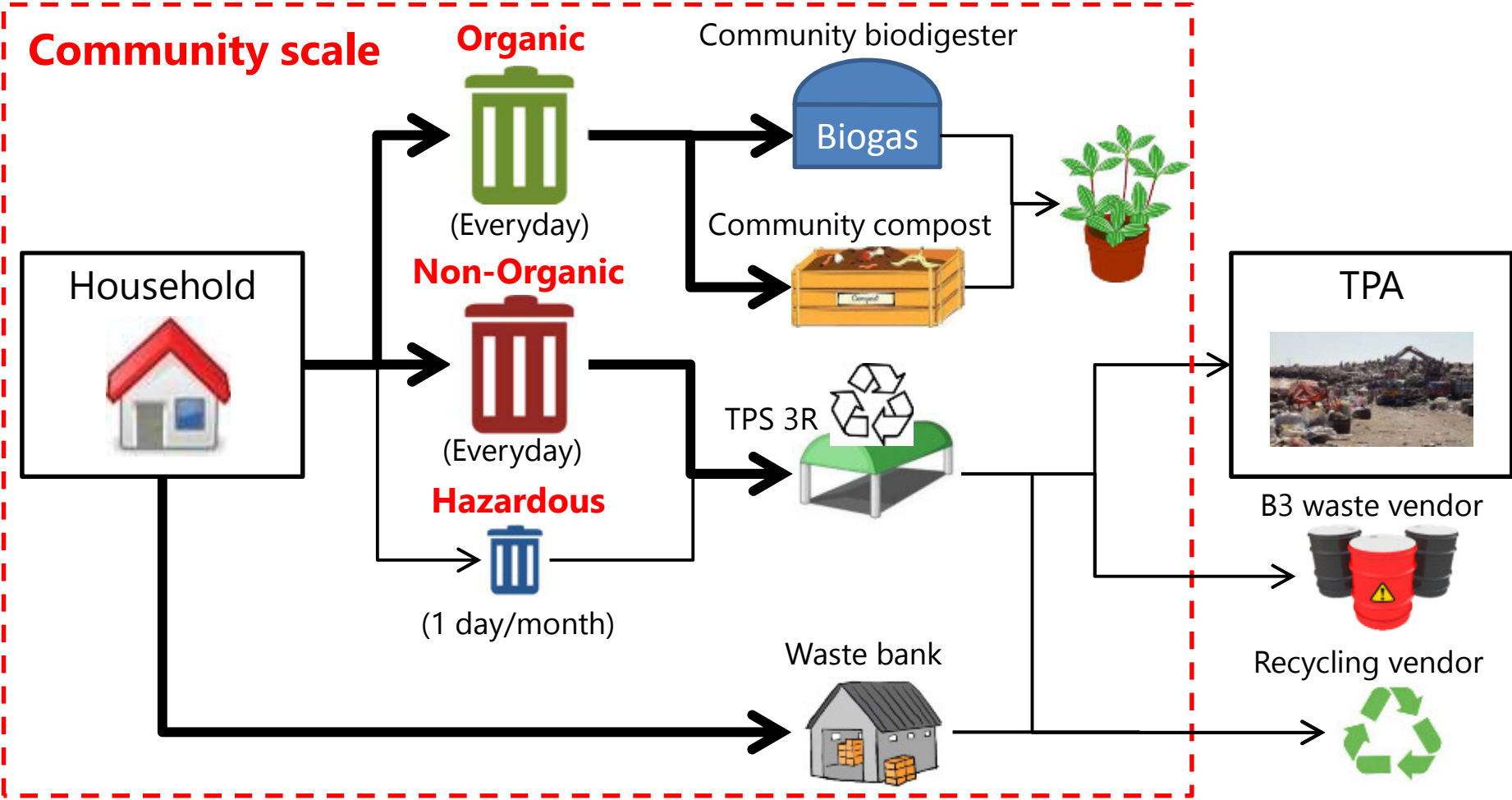
Current Status

Limited separation & recycling; majority of waste goes to landfill

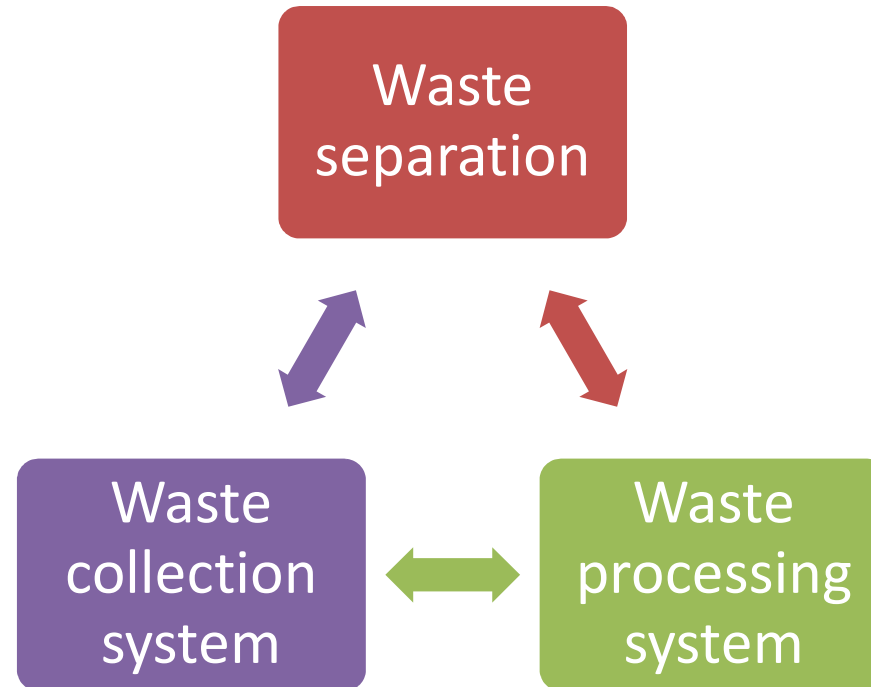


Output Image

Enhanced separation & recycling within and beyond the communities



Factors for successful 3R



- All the three factors need to be in place and mutually functioning for successful 3R in the communities
- The project will seek to raise the capacity of communities in waste separation as well as to improve the existing waste collection and waste processing systems

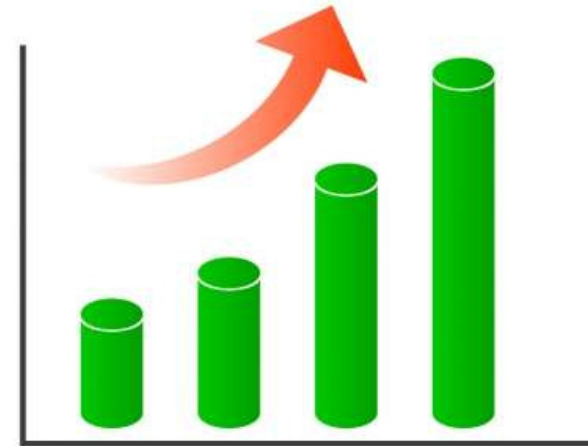
Output & Indicators (PDM)

Output

Communities in Bandung City are to improve their capacity to properly separate and utilize waste

Indicators

- ✓ A **manual** on waste separation and processing for communities in Bandung City will be developed
- ✓ **Training and pilot testing** on waste separation and processing will be conducted targeting at least **six communities** in Bandung City
- ✓ Percentage of households that participate in the waste separation and processing will rise within the communities which experience training and pilot testing (Tentative target: **15% of the target communities**)



Outline of the Project

During Project



After Project



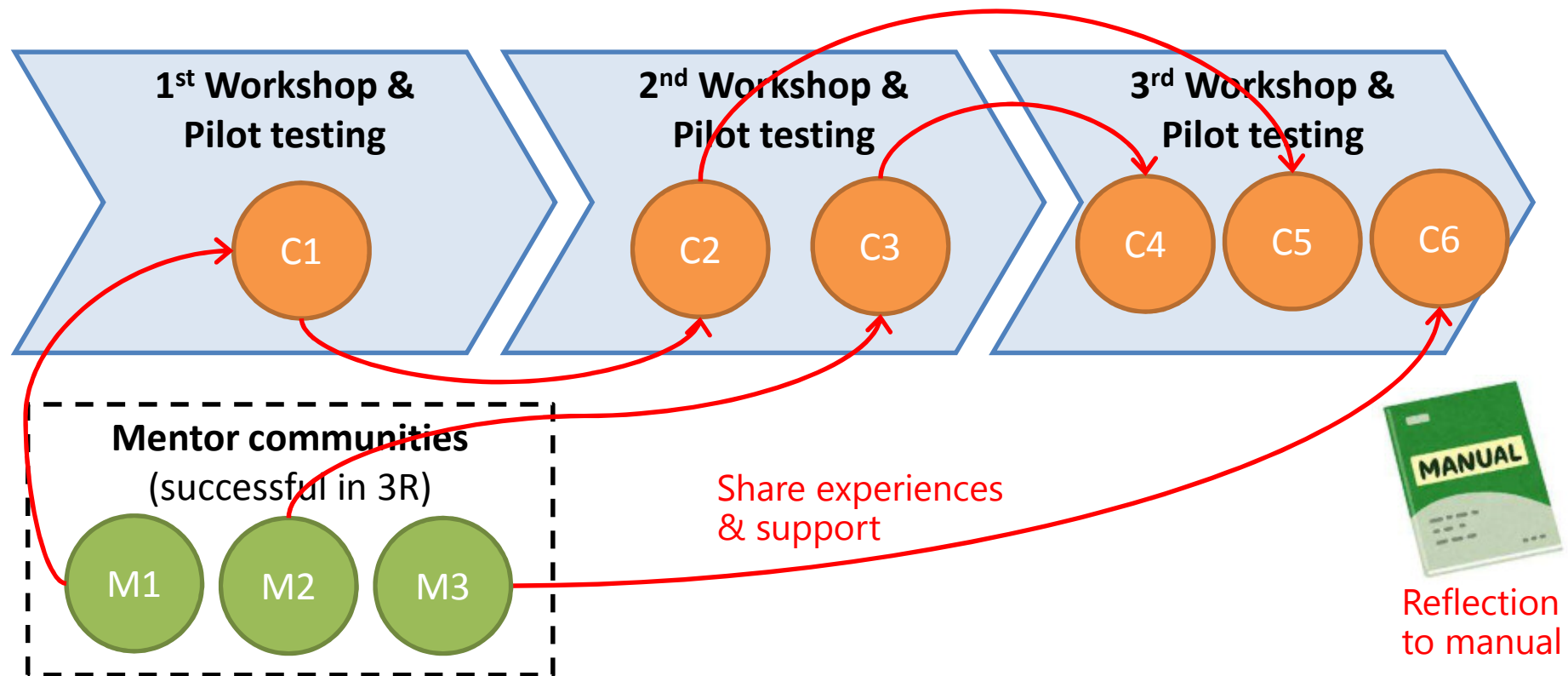
Model communities + Manual

- **Replication to other communities (to be led by the city)**
- **Enhanced recycling and reduction of waste at city-wide**



Training Workshops & Pilot Testings

- Successful 3R communities played a mentor role to share experiences and train the target communities
- Communities that have gone through the pilot testing (with good results) also served as the mentor communities to support the other incoming target communities
- Bandung city officials are involved in the facilitation for future continuation



Waste separation manual

PANDUAN PEMILAHAN SAMPAH DI RUMAH

YUK, PISAHKAN SAMPAH DI RUMAH!

KANG PISMAN
Kampong
Kampung
Membantu
Sampah

Kawasan Bebas Sampah

LATAR BELAKANG

TAMBAH LUKAS TERUSLAH LUKASNYA KITA PERUBAH!

LAJU KEMBARUKAN SAMPAH DI LUAR NEK!

SAATNYA BERUBAH!

Pengurangan di sumber (Reduce at source)

Think Buy.

Deur ulang sumberdaya (Recycle)

MENGAPA KITA HARUS BERUBAH?

Hanya 14% Sampah kota Bandung yang tidak bisa didaur ulang.

Arahan negara

Peraturan tentang pengelolaan sampah akan sangat ketat dalam beberapa tahun ke depan.

Peraturan yang akan diberlakukan meliputi:

- Larangan pengalangan sampah di sumber sampah
- Audit sampah
- Pengurangan sampah
- Pemilahan sampah

PANDUAN UMUM PEMILAHAN

Organik Halus

Organik Keras

Material Daur Ulang

Lainnya

DAUR ULANG SAMPAH

SAMPAH ORGANIK HALUS

Apakah ini termasuk?

Seperti mana cara Pisahnya?

1. Pisahkan sampah organik halus ke dalam wadah terpisah.

2. Perseptualisasi sampah organik halus ke dalam kompos.

Dapatkan informasi lebih lanjut

1. Berdiskusi dengan tetangga yang sudah memiliki kompos.

2. Dapatkan informasi lebih lanjut dari dinas terkait.

Peraturan pemerintah akan mengatur lebih lanjut mengenai pengelolaan sampah organik halus.

→ To importer → Bio po ri → To la la ra → Bio digeste r

MATERIAL DAUR ULANG

Apakah ini termasuk?

Seperti mana cara Pisahnya?

KEPISAS

SEKAM HULIAN

EJAN

Alas, tempat tidur, dan sebagainya.

DAUR ULANG TALI

PEMULAN

TIAT dan alat dengan TALI

Alas, tempat tidur, dan sebagainya.

Dapatkan informasi lebih lanjut

1. Berdiskusi dengan tetangga yang sudah memiliki kompos.

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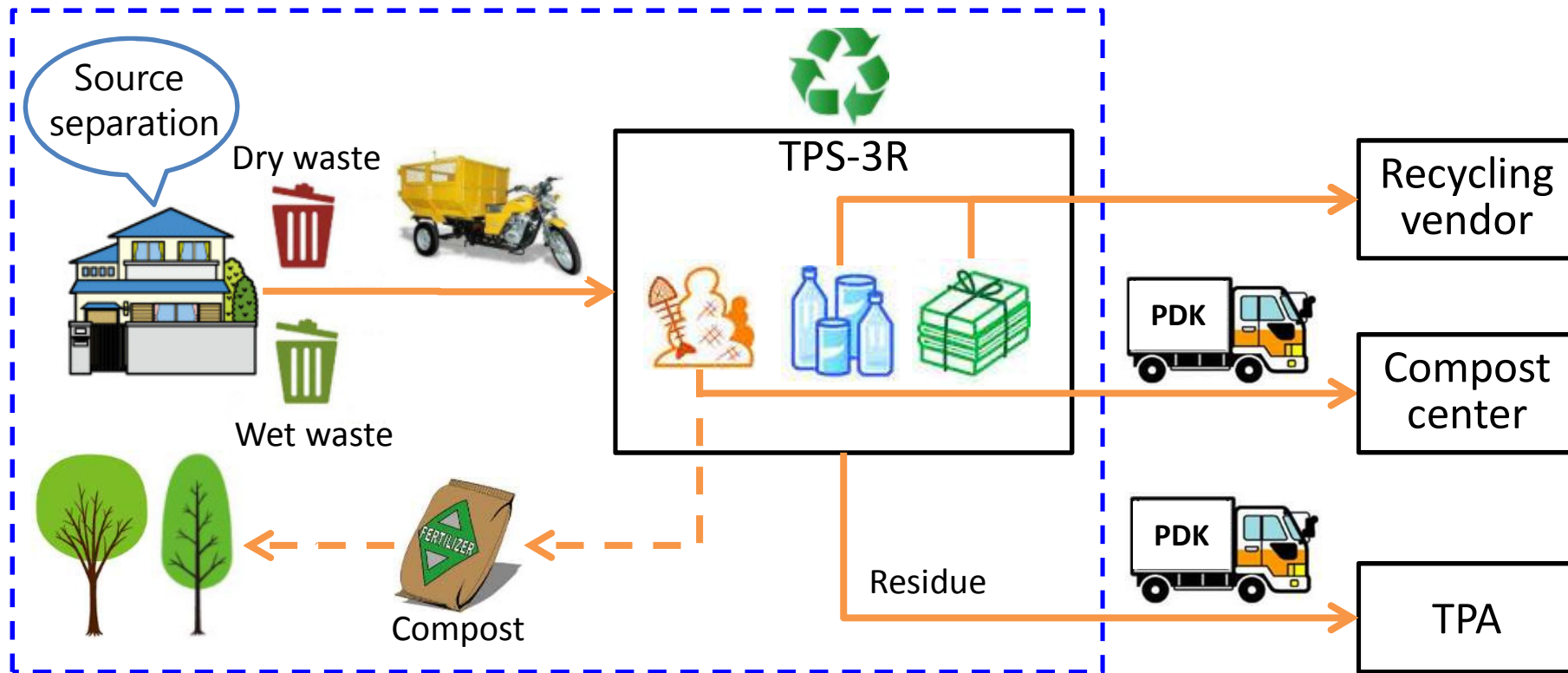
→ Da u i - Sa ng a h → To ra jawa n to ag a

SEDEKAH SAMPAH

Target communities

	Category	Community name	No. household in RT
Component 1	High income communities	Batununggal Cluster Jelita	200
		Batununggal Cluster Permai	250
Component 2	Middle-Low income communities	Gempolsari Indah RT4 – RW4	76
		Mengger RT6 – RW1	76
		Cibangkong RT2 – RW1	56
		Balonggede RT3 - RW 6	25
	Mentor communities	Cibunut RW7 Mandalajati RW4 Maleer RW12 Cigereleng RW9	

Component 1 (High income communities)



1st Workshop (Oct '17)

- Planning for 2 years
- Residential rule
- Development of Flyer

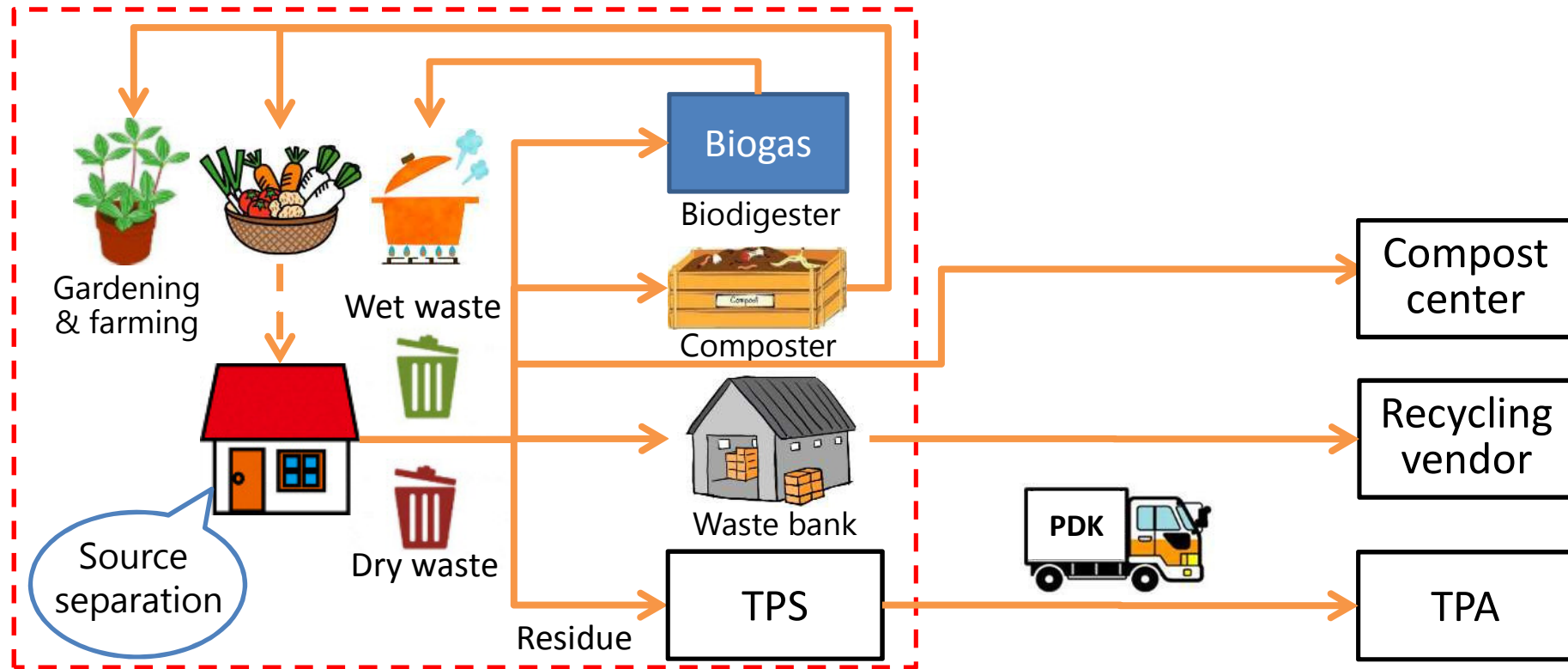
2nd Workshop (Apr '18)

- Sharing of progress
- Appropriate technologies for organic waste

3rd Workshop (Nov '18)

- Sharing of achievements
- Planning for next steps

Component 2 (Mid-low income communities)



1st Workshop (Oct '17)

- Site visits to mentor communities
- Planning for the 2 years

2nd Workshop (Apr '18)

- Sharing of progress
- Technical exchange and learnings

3rd Workshop (Nov '18)

- Sharing of achievements
- Technical workshop

Kawasaki Training Workshop (Feb 2018)



Studying the waste separation system



Two mentors with Mayor Fukuda of Kawasaki



Participating in Kawasaki Eco-Business Forum



Waste education for school children



Community waste management



Composting

Training Workshop I (17, 18 Oct 2017)

Site visits to mentor communities



Cigereleng



Mandalajati



Maleer



Cibunut

Training Workshop I (21 Oct 2017)

Sharing and planning workshop



Developing actions plans for 4 communities in a group discussion



Mengger



Balunggde



Gempolsari



Cibangkong

Training Workshop II (April 6, 2018)



Onsite technical advice from experts: composts, biodigesters

Training Workshop III (November, 2018)



Developing a compost center at a designated TPS followed by daily and timely advice via SNS

Monitoring of progress (April 2018 onwards)

Chibankong



Menggel



Baloggade



Gumporsari



Interim report - monitoring

Category	Community name	No. household in RT	Waste separation participation (%)	Collection of food waste (%)
High income communities	Batunungal Cluster Jelita	200	17.9%	26.4%
	Batunungal Cluster Permai	250	14.6%	6.7%
Middle-Low income communities	Gempolsari Indah RT4 – RW4	76	37.7%	10.5%
	Mengger RT6 – RW1	76	67.1%	11.9%
	Cibangkong RT2 – RW1	56	56.0%	7.8%
	Balonggede RT3 - RW 6	25	51.9%	20.9%

With the exception of one community, all the others have exceeded the target 15% participation rate

Social survey



Date: August 2018

Sample size: 303

Respondents: Citizens of the 6 communities

Findings:

1) 50% are not aware of the national policy for zero waste

⇒ **Could utilize TV broadcasting to reduce this number**

2) Challenges for waste separation at home are

- complicated

- not enough space

⇒ **Start from 2 types of waste separation and gradually increase the number**

3) Challenges for composting and biopoli at home are

- lack of knowledge

- not enough space

⇒ **The development of a central composting center is required**



Schedule (3 YEARS)

1st year: 2017

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Baseline study					★		★					
Training WS										★		
Pilot testing												
Monitoring & review												

2nd year: 2018

▲ Japan visit

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pilot testing												
Monitoring & review								★			★	
Training WS				★							★	
Social survey								★				

3rd year: 2019

▲ Japan visit

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Training WS												
Pilot testing												
Monitoring & review					★							
Finalize manual							★					★

▲ Japan visit



Thank you