



3R's Implementation as a mainstreaming to minimizing of waste in Bandung Municipality



DR. Ir. Mohamad Satori, MT, IPU

Universitas Islam Bandung (UNISBA)

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General Environmental Issues of Bandung City - Indonesia

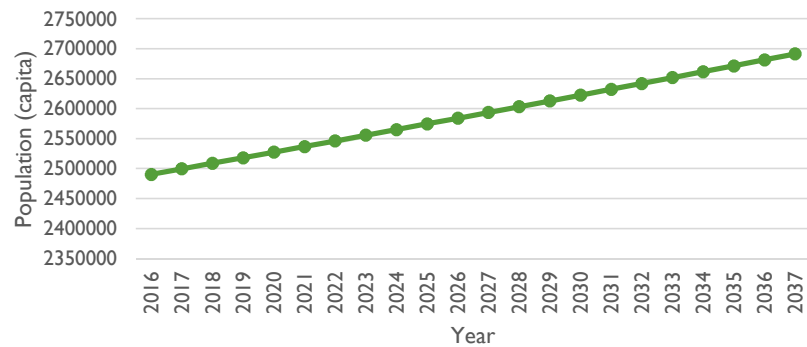


Waste Management Issues of Bandung City - Indonesia

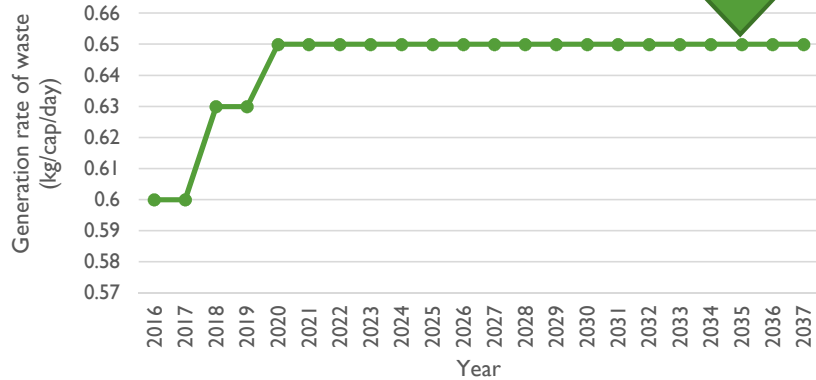
Amount of waste generation increased year by year, caused by:

- Population growth
- Waste generation rate per capita

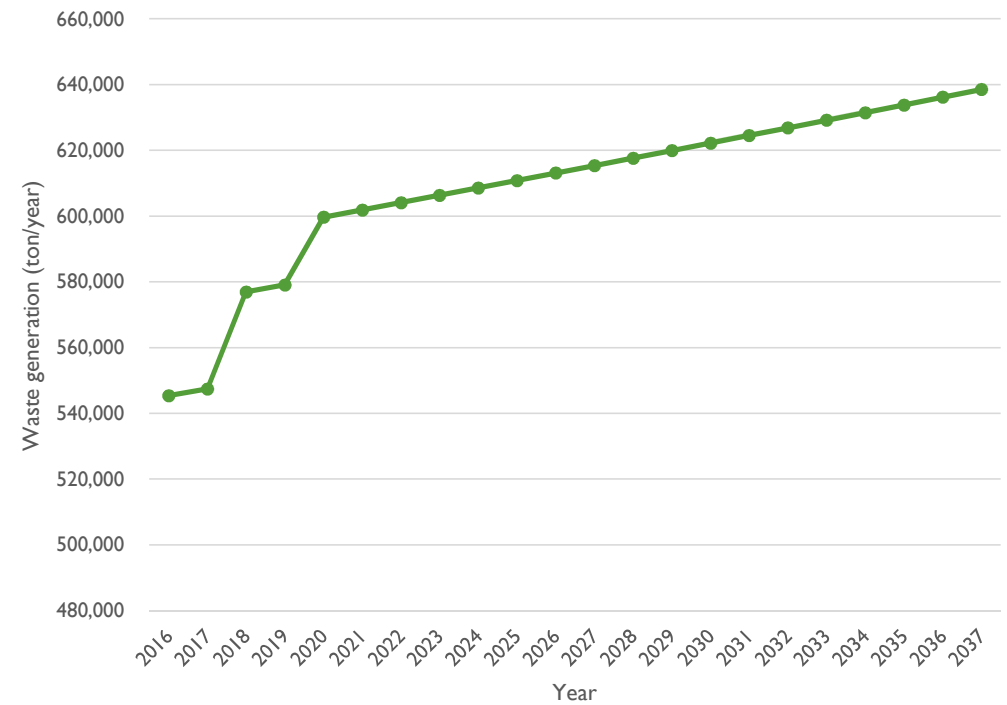
Population Growth



Waste Generation Rate



Waste Generation (Business as Usual)

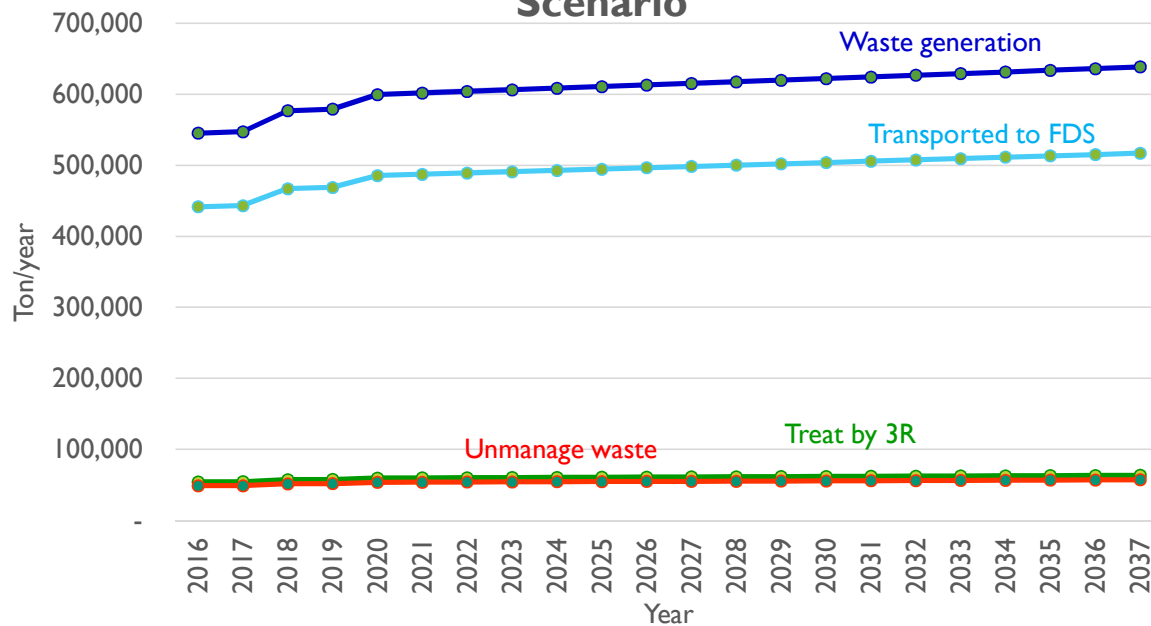


Waste Management Issues of Bandung City - Indonesia

SWM performance:

- Majority of waste transported to regional landfill as final disposal site (FDS): 81% → **Bandung's dependence on FDS is very high**
- Reduce of waste by 3R program (both community and informal sector): 14% → The budget for this is **still very minimal even though the reduction target base on new regulation is 30%**
- **Unmanaged waste : 5% → It's potentially to polluting of the environment**

Bandung SWM Performance Trend of BAU Scenario



BAU = Business As Usual

If BAU scenario not change for the future :

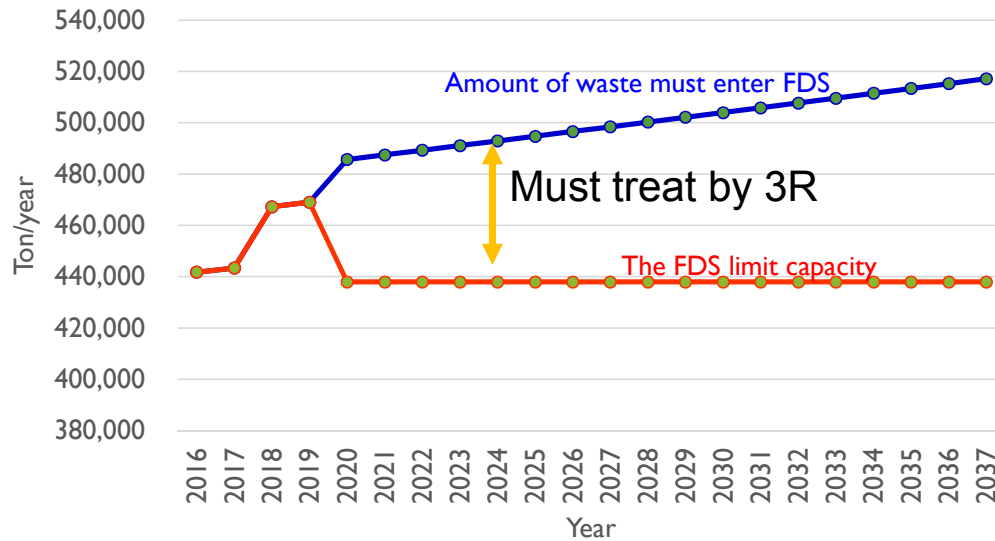
- **Cost of SWM very high because tipping fee (cost for FDS) will be increase from IDR 50.000/ton to IDR 386.000/ton (increase 7 times);**
- **The potential for pollution and environmental risk increases especially surrounding of FDS area**

Waste Management Issues of Bandung City - Indonesia

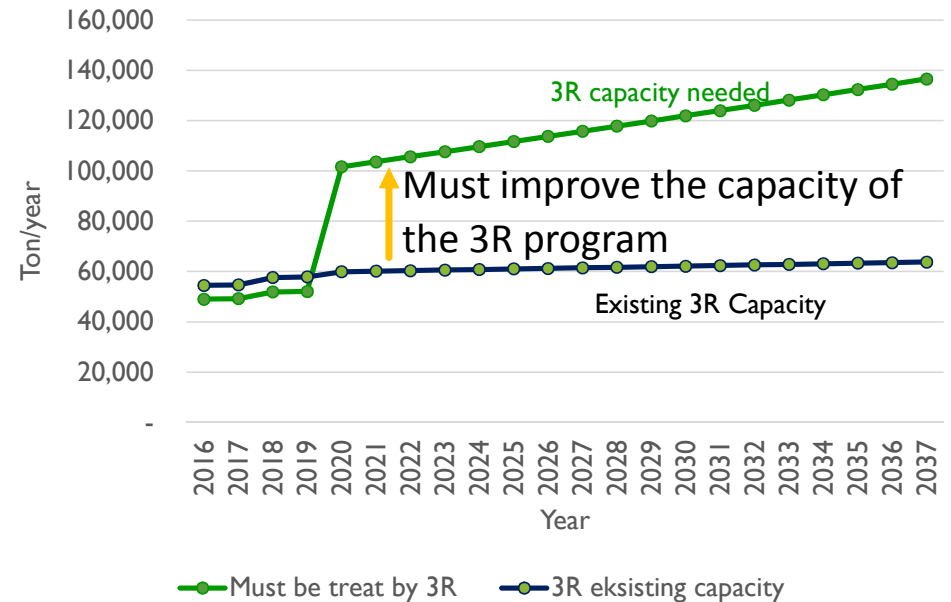
Limitation on FDS by regional management authority :

- **BPSR** as the regional authority of FDS management has been limited the amount of waste which enter to FDS, i.e. 1200 ton/day or 438.000 ton/year → **in year 2020 there are 101.720 ton/year (114 ton/day) must be reduce at source**
- **The curent capacity of 3R (community & informal sector) is 59.969 ton per year → so it still lacks in capacity which is around 41.775 ton/year**

Comparison between waste that must enter the FPS and the limit on the amount of waste that can be managed at the FPS



Comparison between waste must treat by 3R and trend capacity of 3R (BAU scenario)



Waste Management Issues of Bandung City - Indonesia

Public awareness

The main problem is how to change the community mindset:

- There are still many people who think that garbage is only thrown away
- There are still many people who think that the river is a garbage dump



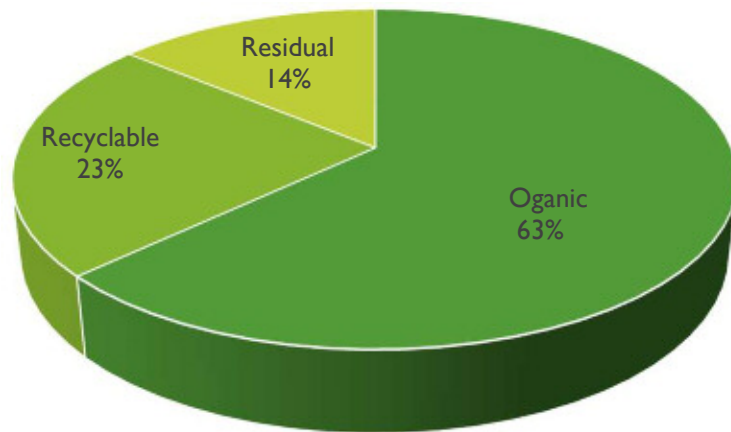
- **A more effective community empowerment program is needed**
- **Government commitment to ensure all garbage is collected from sources**



Existing of Bandung City SWM

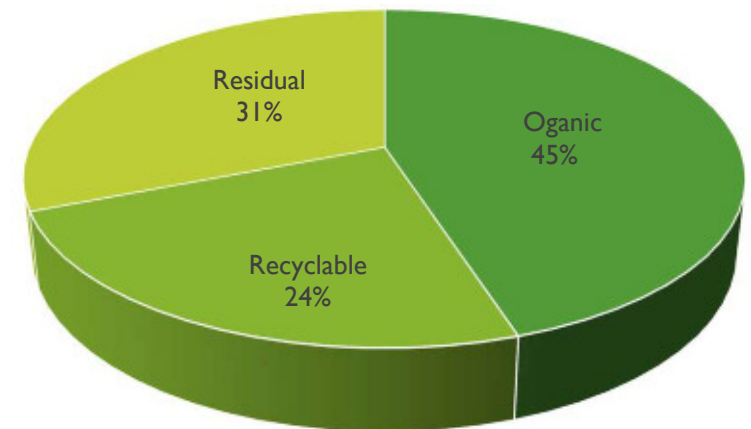
Waste Compositition

BASE ON RESEARCH 2004



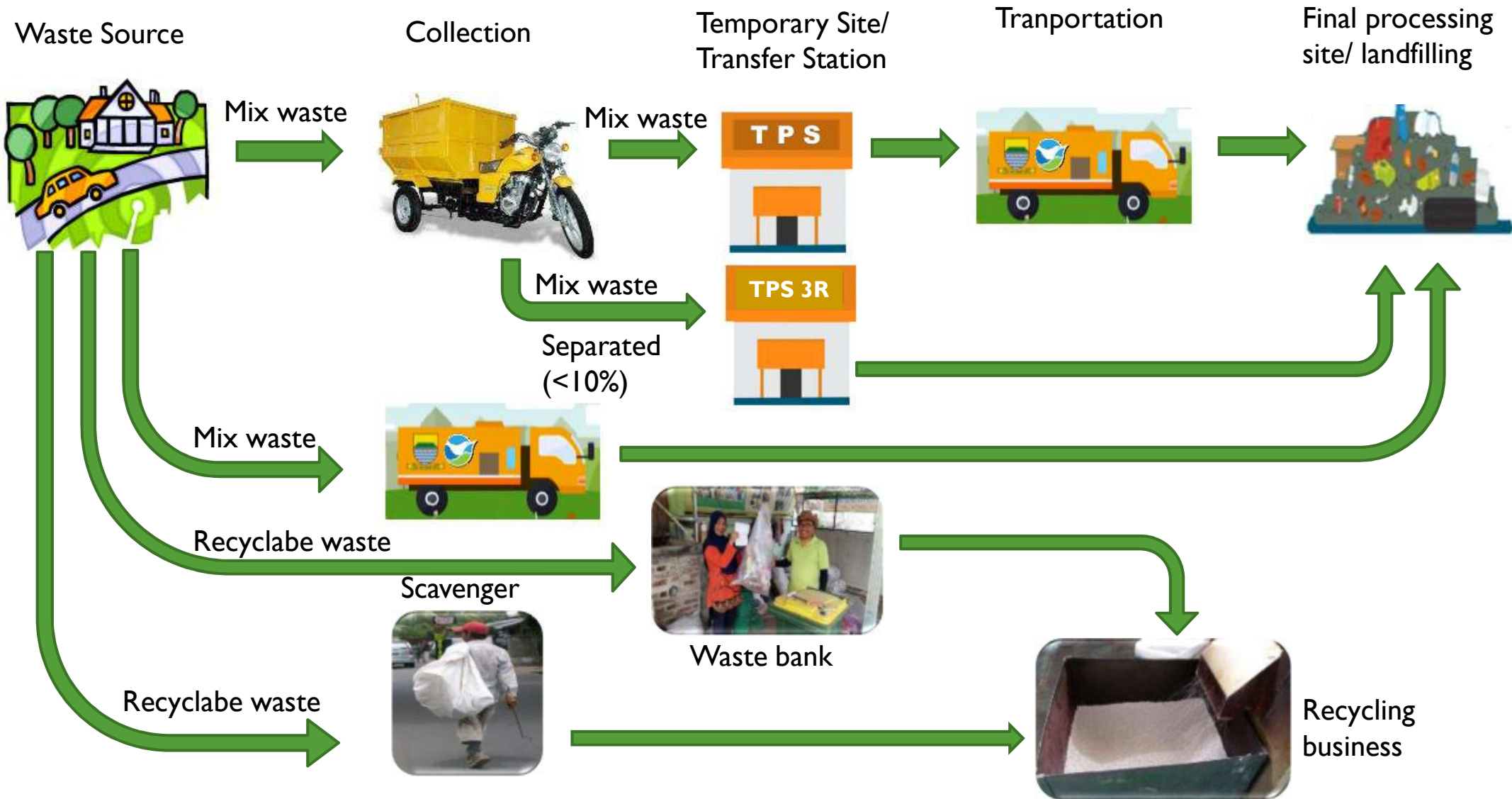
- Composition of waste has change:**
- **Composition of organic waste drops from 63% to 43%;**
 - **Composition of residual and hazardous waste rises from 14% to 31%.**

BASE ON RESEARCH 2016



- This phenomena indicated that:**
- **More and more people are using disposable materials**

Existing of Bandung City SWM: **Operational mechanism**



Bandung City Waste Management Policy for The Future

CHANGE PARADIGM FROM END OF PIPE TO 3R

END OF PIPE TREATMENT/ CENTRALIZATION SYSTEM



REDUCE-REUSE-RECYCLE (3R)/ DECENTRALIZATION SYSTEM

TPS

TPS 3R / MRF



WASTE BANK



COMMUNAL BIODIGESTER



Bandung City Waste Management Policy for The Future



DRAFT REGULATION ON WASTE MANAGEMENT IN BANDUNG CITY, REPLACEMENT OF PERDA NO.09 OF 2011

CHAPTER III

WASTE MANAGEMENT POLICY AND STRATEGY

Article 8

The waste management policy as referred to in Article 7 paragraph (1) letter a, contains at least:

1. waste management based on the principle of sustainable development carried out through:
 - a. efficient use of materials in the production and consumption system in the area of the City;
 - b. decentralized waste management;
 - c. disaggregated waste handling;
 - d. prioritizing waste management for material recycling; and
 - e. minimize the use of toxic materials in the process of material production and consumption.
2. institutional strengthening for the implementation of overall waste management from upstream to downstream in accordance with the principles of sustainable development; and
3. integrated community involvement in every aspect of waste management.

Bandung City Waste Management Policy for The Future



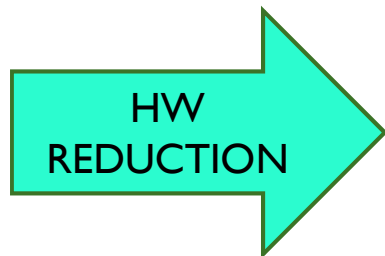
BANDUNG WASTE MANAGEMENT TARGET IN 10 – 20 YEARS

- SDG Target, 100% Service Coverage by 2019
- Efficiency on transporting budget with reducing volume
- Source waste separation to get organic waste for treatment
- Build organic waste treatment facilities
- Developing market of valuable material
- Building a recycling center for low value material (waste)
- Stipulate local regulation to reduce hazardous waste

Bandung City Waste Management Policy for The Future

JAKSTRANAS: PERPRES NO. 97/2017

POLICY:



TARGET:



PROGRAM:

1. LIMITATION OF WASTE GENERATION
2. PROMOTION OF RECYCLING
3. PROMOTION OF REUSE

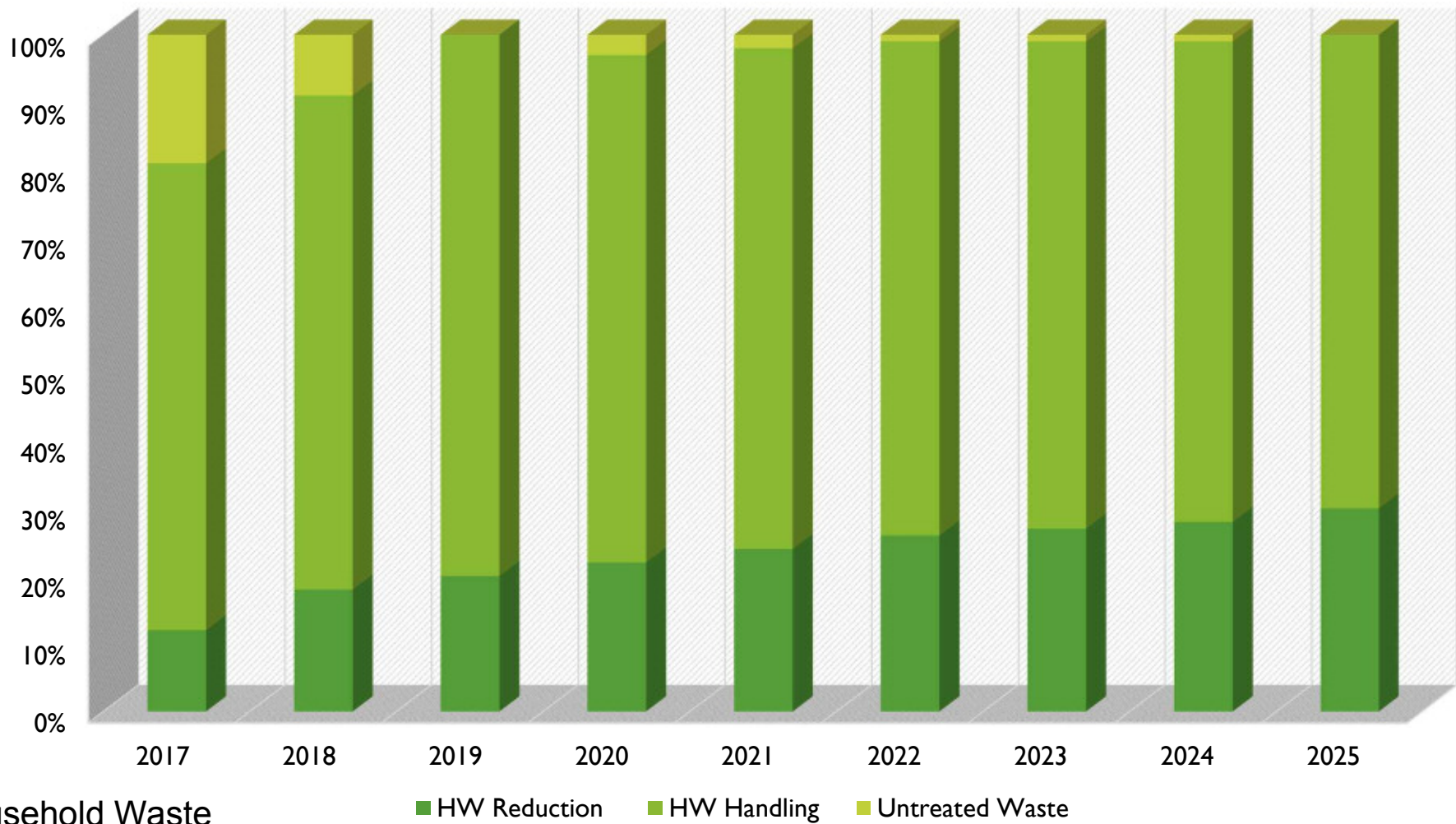
1. WASTE SEGREGATION
2. WASTE COLLECTION
3. WASTE TRANSPORTATION
4. WASTE HANDLING
5. WASTE FINAL DISPOSAL

JAKSTRANAS PARADIGM IS WASTE REDUCTION AT SOURCE, SHOWING A FIRM DETERMINATION FOR IMPROVING PUBLIC PARTICIPATION THROUGH SHIFTING OF BEHAVIOR AND CULTURE AS COMMUNITY MOVEMENT

HW : Household Waste

Bandung City Waste Management Policy for The Future

WASTE REDUCTION AND TARGET (2017-2025)



HW : Household Waste

■ HW Reduction ■ HW Handling ■ Untreated Waste

Bandung City Waste Management Policy for The Future

KANG PISMAN:

Innovation Term and Program,
Led by Bandung City Mayor



KANG = KURANGI = REDUCE

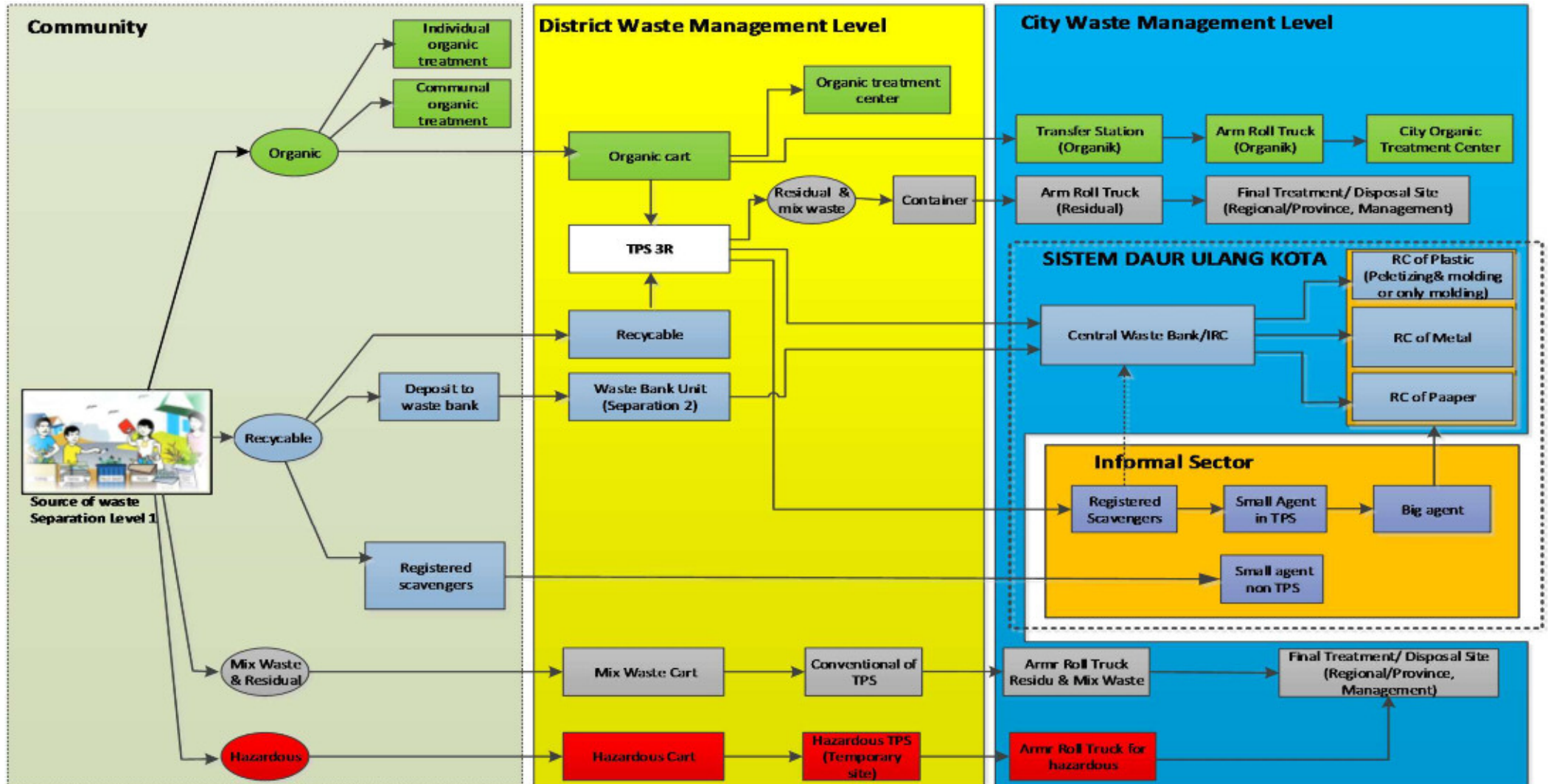
PIS = PISAHKAN = SEPARATION

MAN = MANFAATKAN = REUSING/ RECYCLE



Bandung City Waste Management Policy for The Future

Bandung Integrated Waste Management System



Bandung City Waste Management Policy for The Future

Prevent waste generation at the source, avoid using disposable packaging



Bandung City has made local regulation no. 17 of 2012 concerning reducing the use of plastic bags



PERATURAN DAERAH KOTA BANDUNG
NOMOR 17 TAHUN 2012
TENTANG
PENGURANGAN PENGGUNAAN KANTONG PLASTIK
DENGAN RAHMAT TUHAN YANG MAHA ESA
WALIKOTA BANDUNG,

- Menimbang : a. bahwa dalam rangka menumbuhkembangkan kesadaran masyarakat untuk mewujudkan lingkungan yang bersih dan sehat, dipudukan partisipasi berbagai pihak untuk menjaga dan meningkatkan kelestarian lingkungan;
- b. bahwa penggunaan kantong plastik telah menjadi permasalahan terhadap lingkungan, sehingga perlu dilakukan upaya pencegahan terhadap dampak negatif dari kantong plastik secara komprehensif dan terpadu dari hulu agar memberikan rasa aman, bersih dan sehat bagi lingkungan;
- c. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a dan huruf b, perlu membentuk Peraturan Daerah tentang Pengurangan Penggunaan Kantong Plastik;
- Mengingat : 1. Pasal 18 ayat (6) Undang-Undang Dasar Negara Republik Indonesia Tahun 1945;

2. Undang-Undang ...

Bandung City Waste Management Policy for The Future

Treatment at the source, both individual and communal



Donate to the scavenger for recyclable waste



Individual organic treatment



Communal organic treatment



Deposit to the garbage bank for recyclable waste



Upcycle product



Bandung City Waste Management Policy for The Future

Treatment at TPS 3R



Collection system
with separated
waste



TPS 3R building



Organic treatment



Recyclable treatment



Pikiran Rakyat

pip.rubberfeet.org

Thankyou

