



**“THE OVERVIEW OF WASTE MANAGEMENT ISSUES
RELATED TO
BANDUNG CITY’S SMART CITY CONCEPT”.**

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Indonesia)**

**14th. Asia Pacific Eco Bussiness Forum,
Kawasaki International -Eco Tech Fair.**

THE CITY OF BANDUNG

Area

167.7 km square

Population

2.4 million

Density

14,000 /km²

Elevation

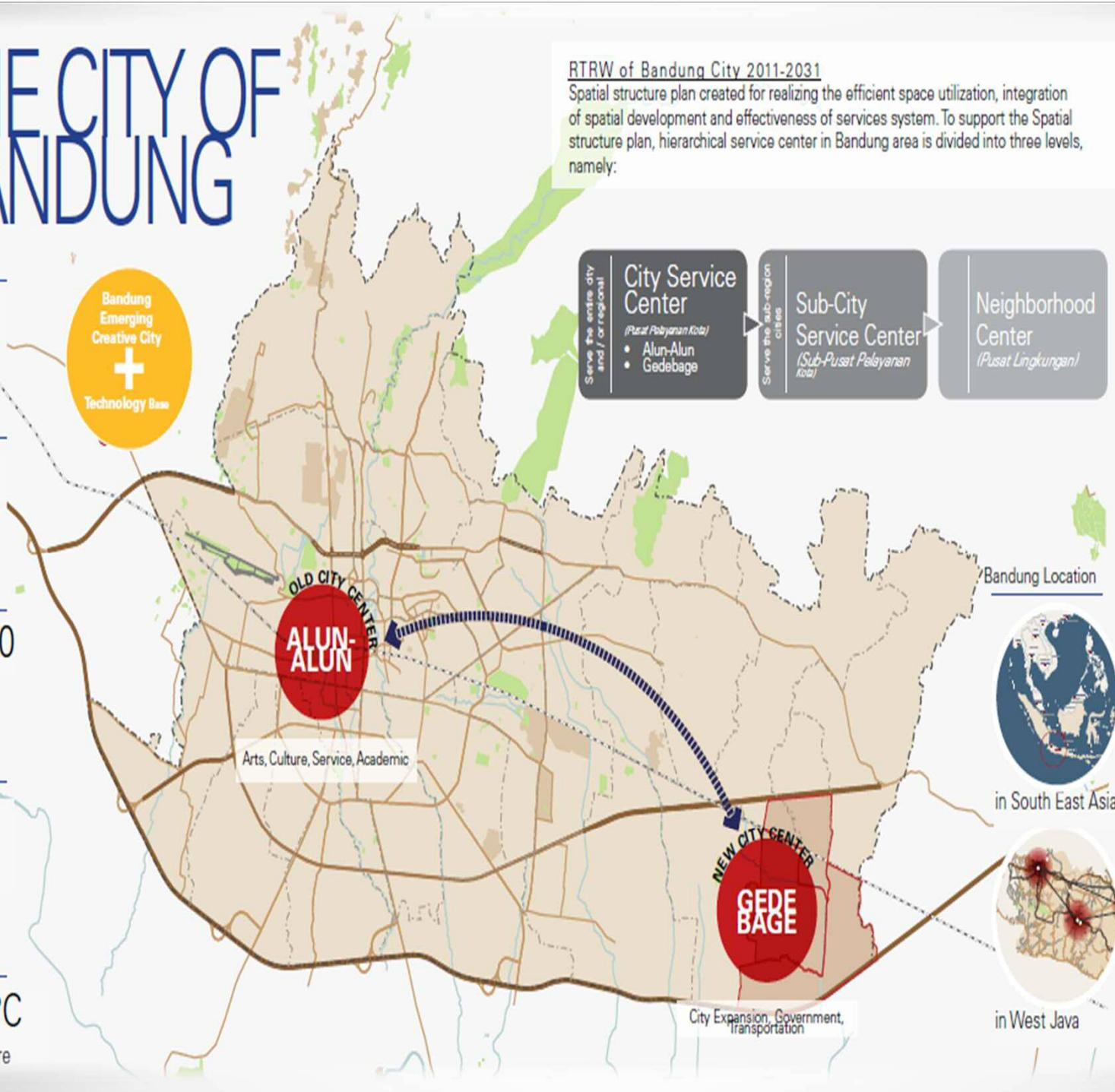
768 meters above sea level

Climate

23.6 °C average temperature



RTRW of Bandung City 2011-2031
 Spatial structure plan created for realizing the efficient space utilization, integration of spatial development and effectiveness of services system. To support the Spatial structure plan, hierarchical service center in Bandung area is divided into three levels, namely:



7.63 % economic growth

55% SMEs

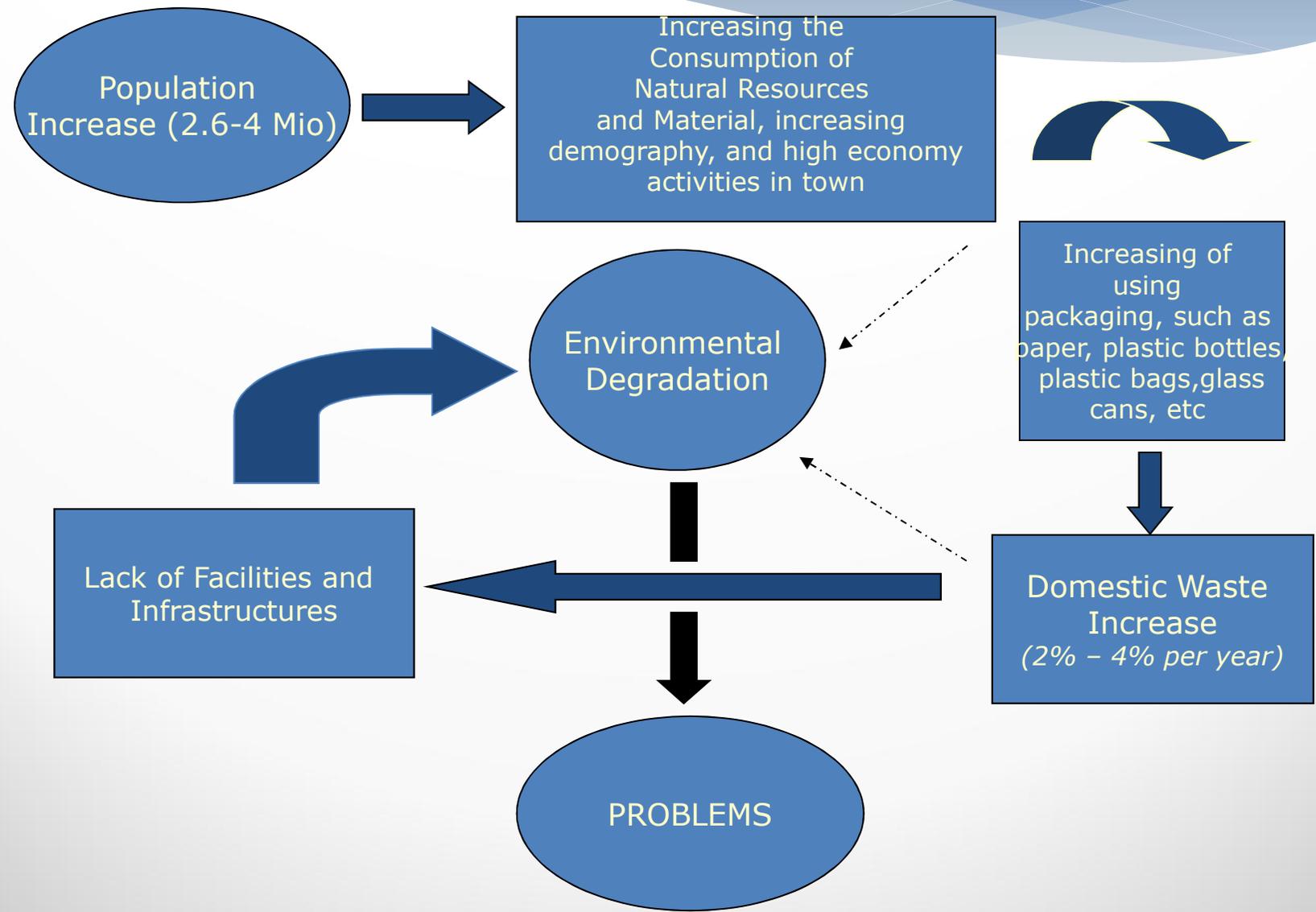
6 Million Tourist Annually coming to Bandung



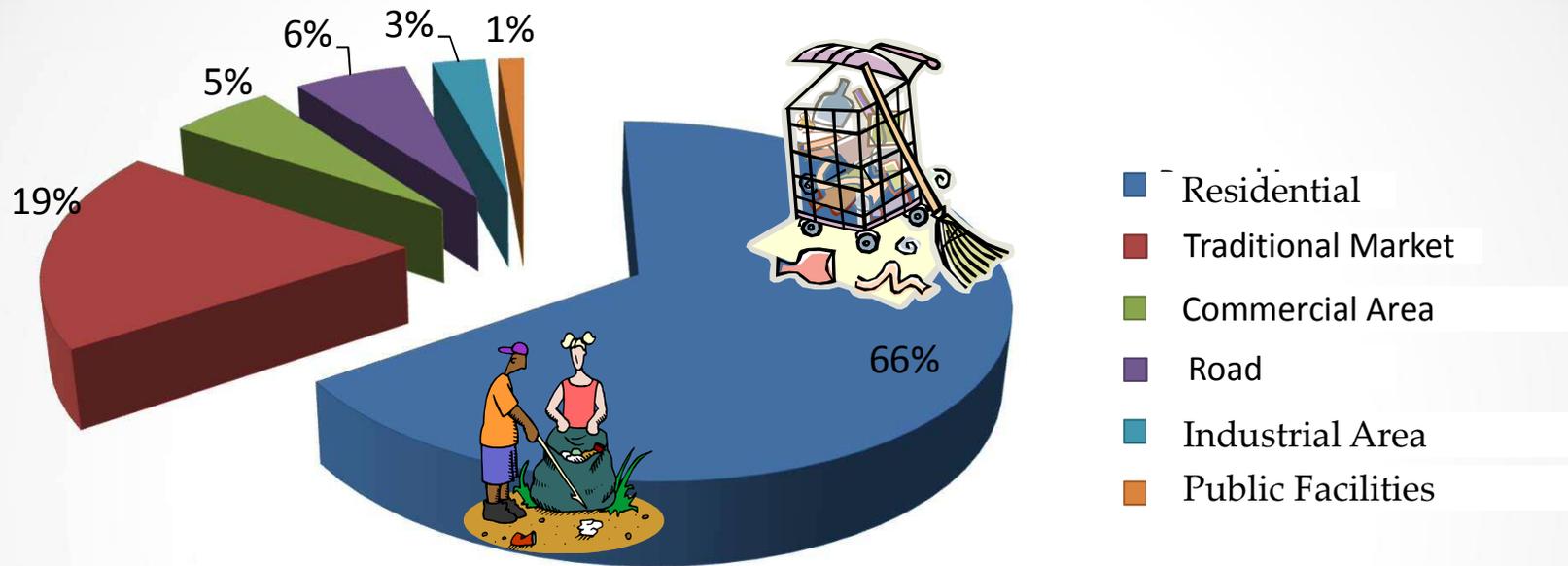
ENVIRONMENTAL ISSUES



Solid Waste Issues in Bandung : How it comes?

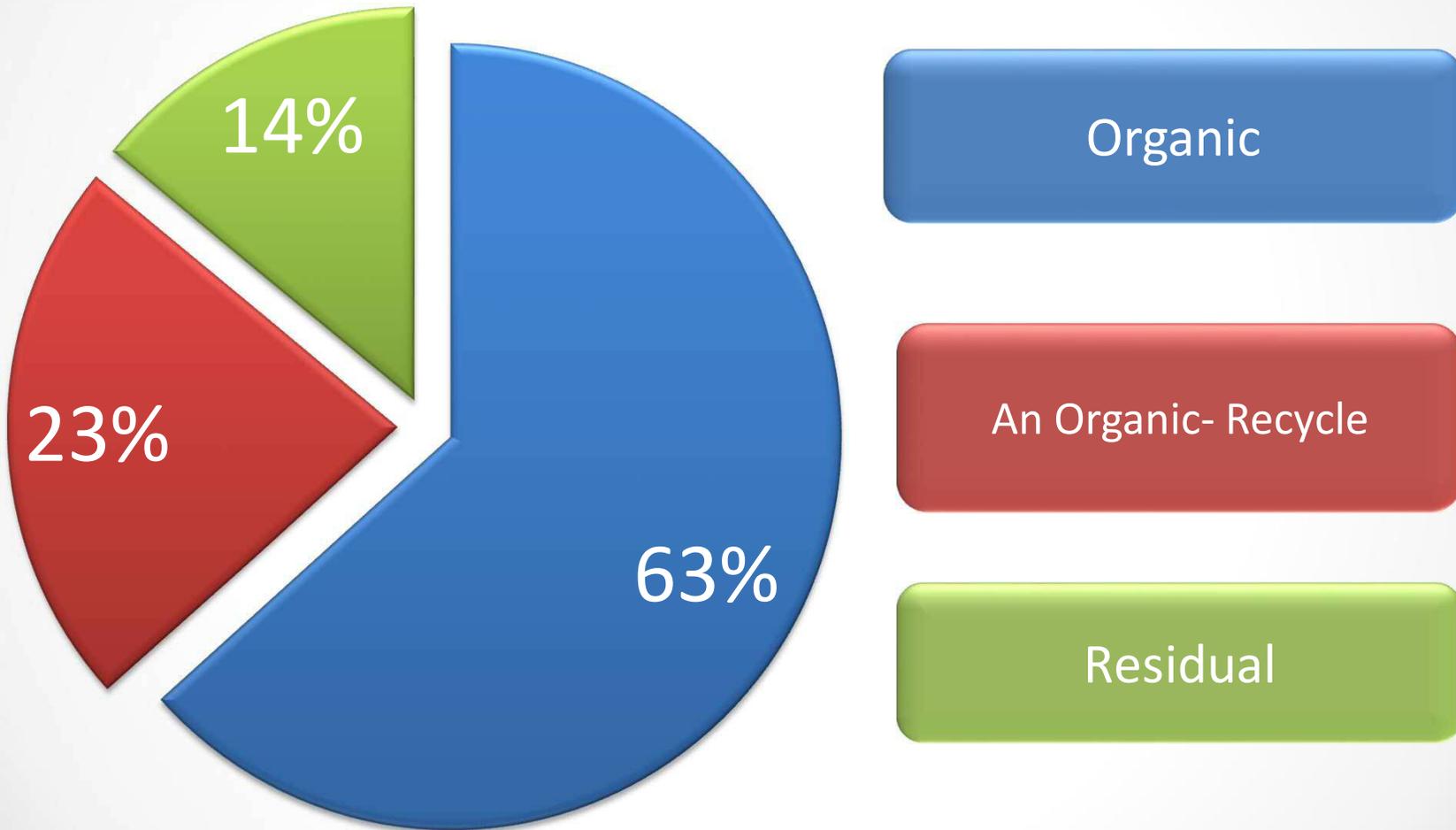


Source of Bandung City's Waste



No.	Source	Volume (Ton)	Percentage (%)	Waste To be proceed (ton/day)
1.	Residential	983,4	65,56	954,53
2.	Tradional Market	281,55	18,77	273,29
3.	Commercial Area	82,8	5,52	80,37
4.	Road	89,85	5,99	87,21
5.	Industrial Area	42,15	2,81	40,91
6.	Public Facility	12,94	1,35	19,66
	Total	1.492,69	100	1.455,97

Waste Composition of Bandung City



Solid Waste Generation in Bandung : ± 1500 tons/day

スライド 6

i-[2

dari komposisi ini, coba dilihat reducingnya seberapa besar dengan adanya TPST dan TPS 3R apabila diasumsikan TPST dan TPS 3R hanya mengirim residu ke TPA

ismail - [2010], 2014/06/25



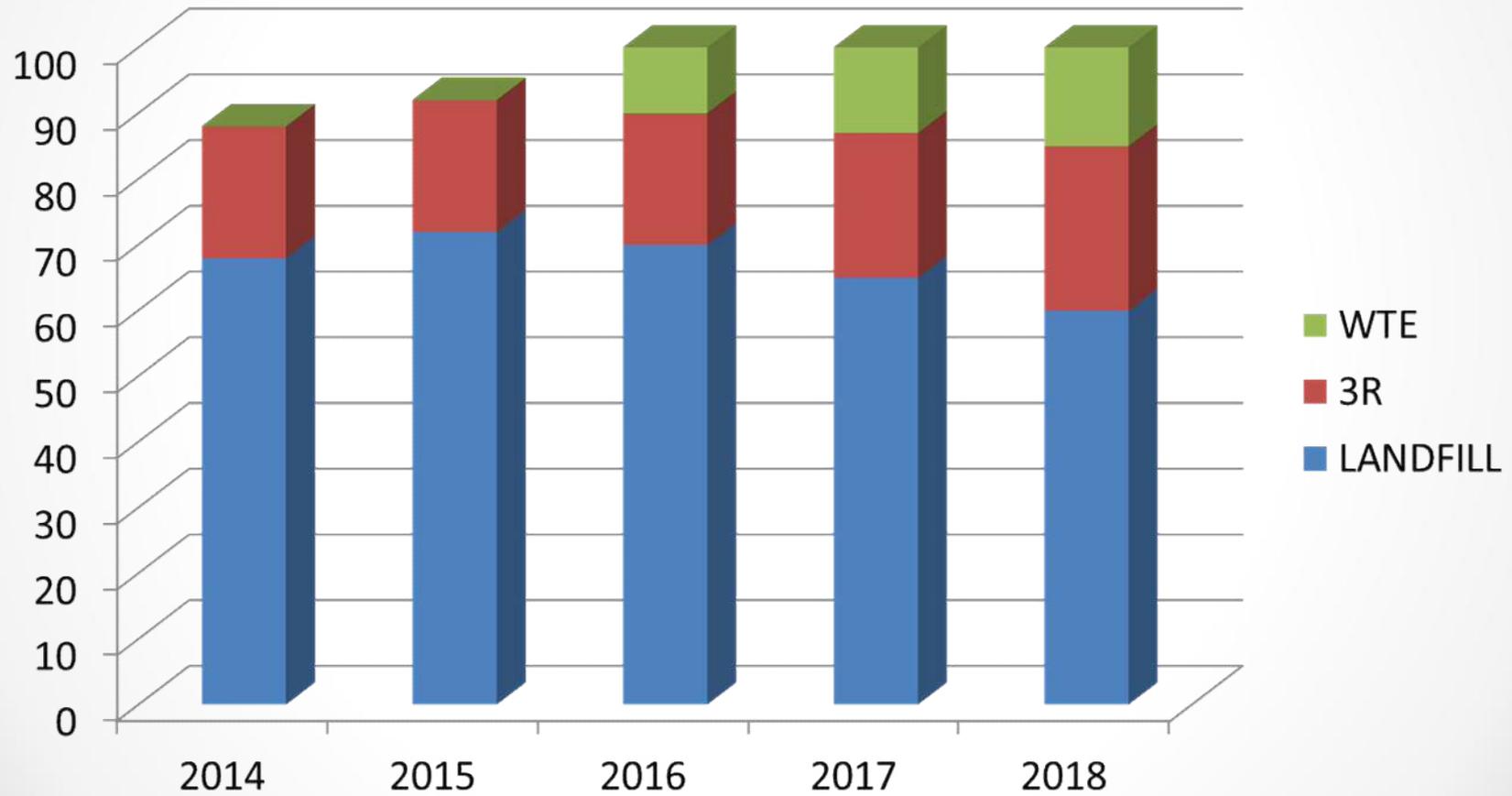
VISION

BANDUNG CITY

2013–2018

REALIZING
BANDUNG CITY
TO BE EXCELLENCE,
COMFORTABLE AND
PROSPEROUS CITY

Mid Term Development Planning 2014-2018



THE CHANGE OF WASTE MANAGEMENT MINDSET

Listed at Law Nr. 18 / 2008

END OF PIPE



(reduce at source)



Think
Before You
Buy.

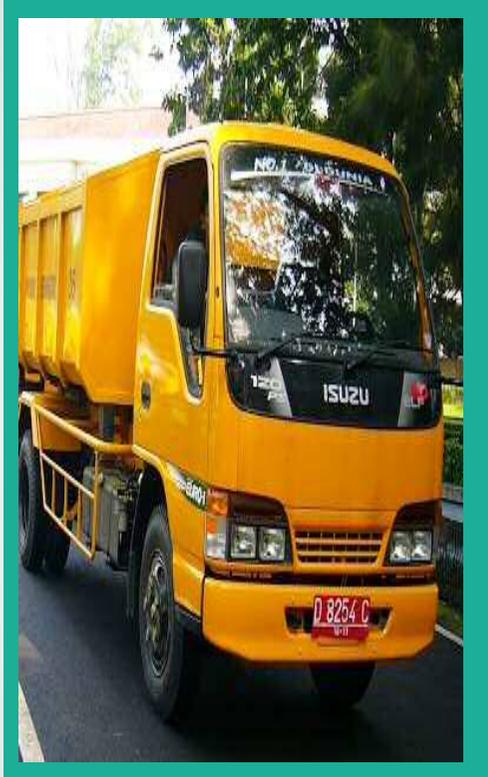
No Electrical Motors | No Electrical Installation
No Hydraulic Oil | No High Pressure Cylinders
= Lower Cost of Ownership



(resources recycle)



EXISTING OPERATIONAL



Send to Solid
Waste Disposal
(65–75 %)



Reduce & Reuse
By Waste Bank &
Informal Sector
(10–20 %)



3R Collecting Station,
Composting
& Small
Biodigester



OTHERS

Why we need smart city

Competition among cities in terms of managing the flow of people and information

Financial Crisis

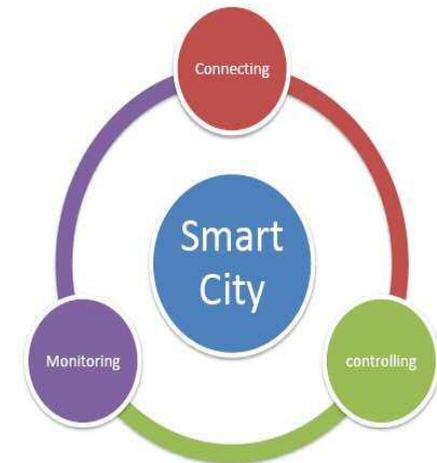
Climate Change

Urbanization

Scarcity of Natural Resources

Smart City

Utilization of **information and communication technology (ICT)** to **connecting**, to **monitoring** and to **controlling** a variety of resources that exist within the city **effectively** and **efficiently** in order to maximize **service** to the **citizens**



Why Smart City?

WHAT WE HAVE

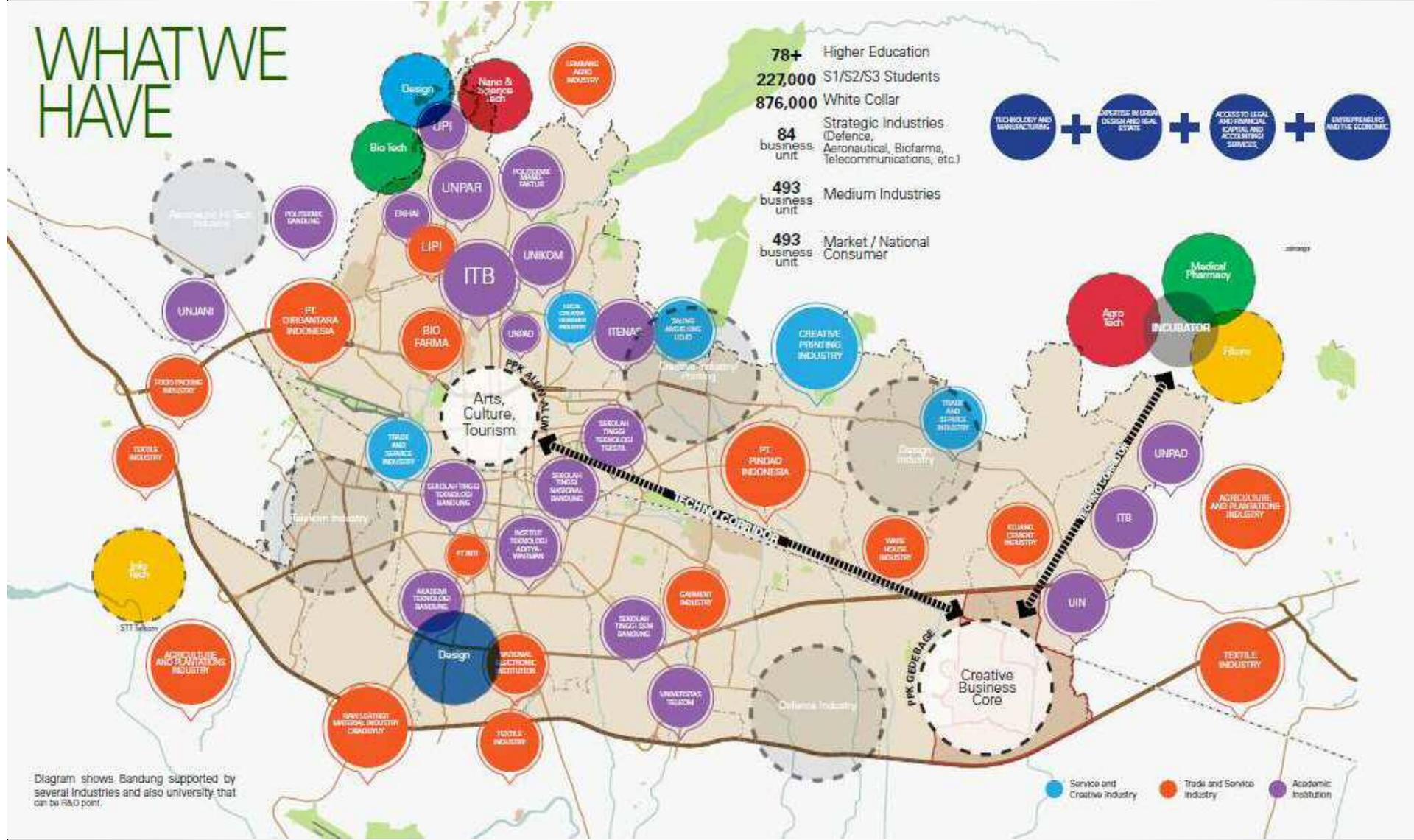
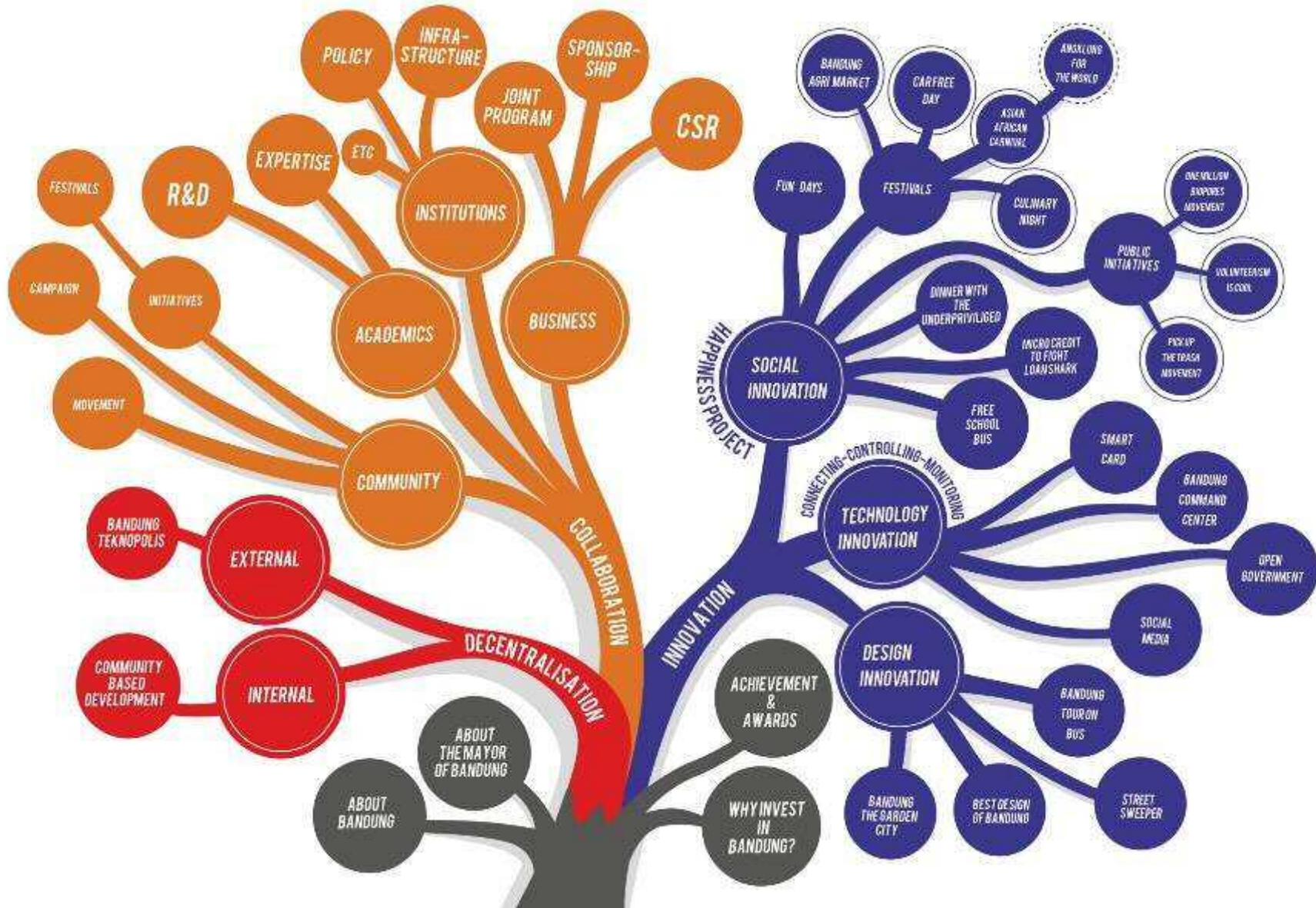


Diagram shows Bandung supported by several Industries and also university that can be R&D point.

3 Principles Developing Bandung City



The Bandung Tree:
Innovation. Collaboration. Decentralization

Government

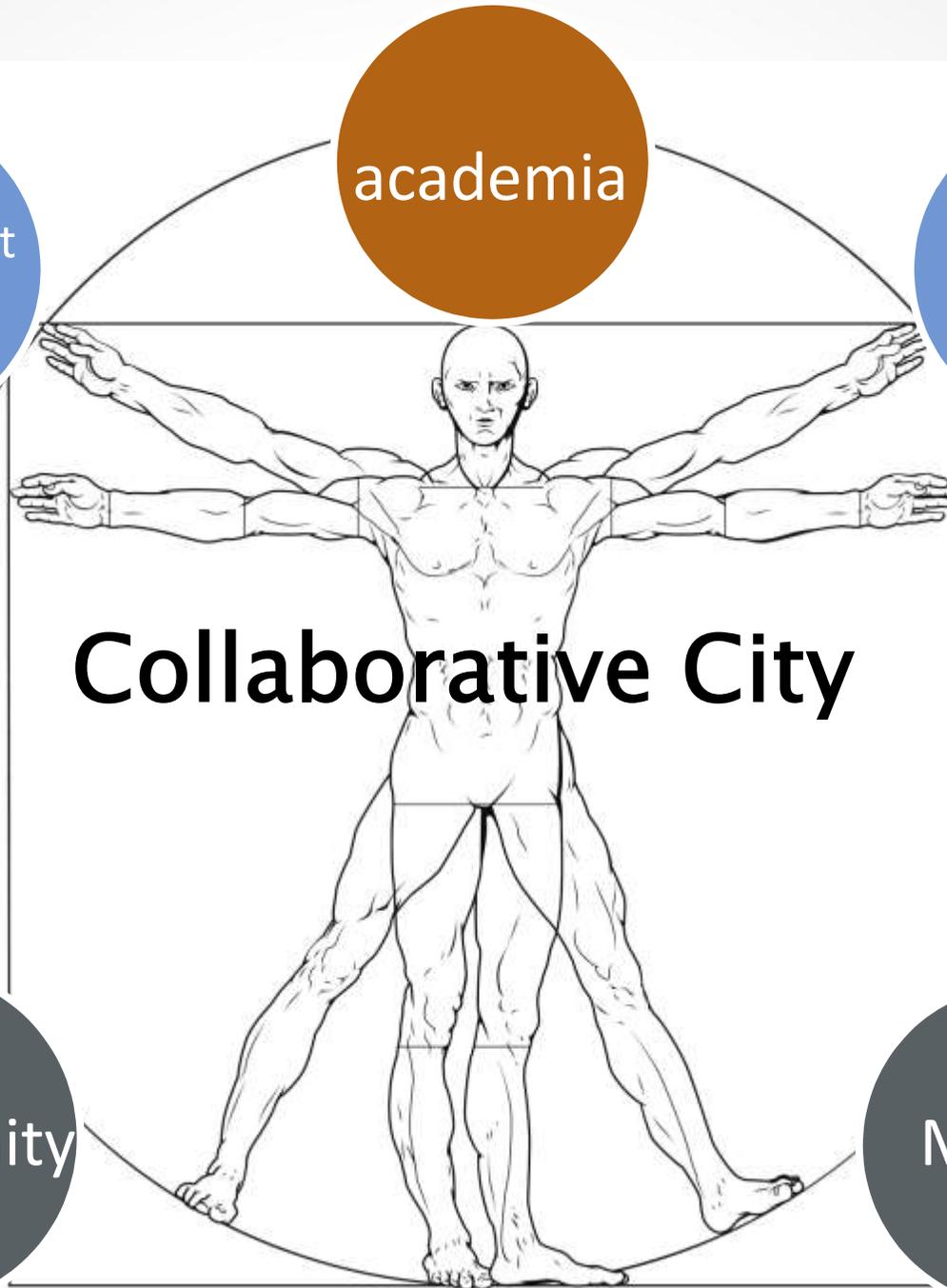
academia

business

Collaborative City

community

Media



MANUAL

COSTLY

INACCESSIBLE

TOP DOWN

SLOW SERVICE

CORRUPT

PROBLEMS

TECHNOLOGY

EFFICIENT

OPEN GOV

PARTICIPATORY

FASTER SERVICE

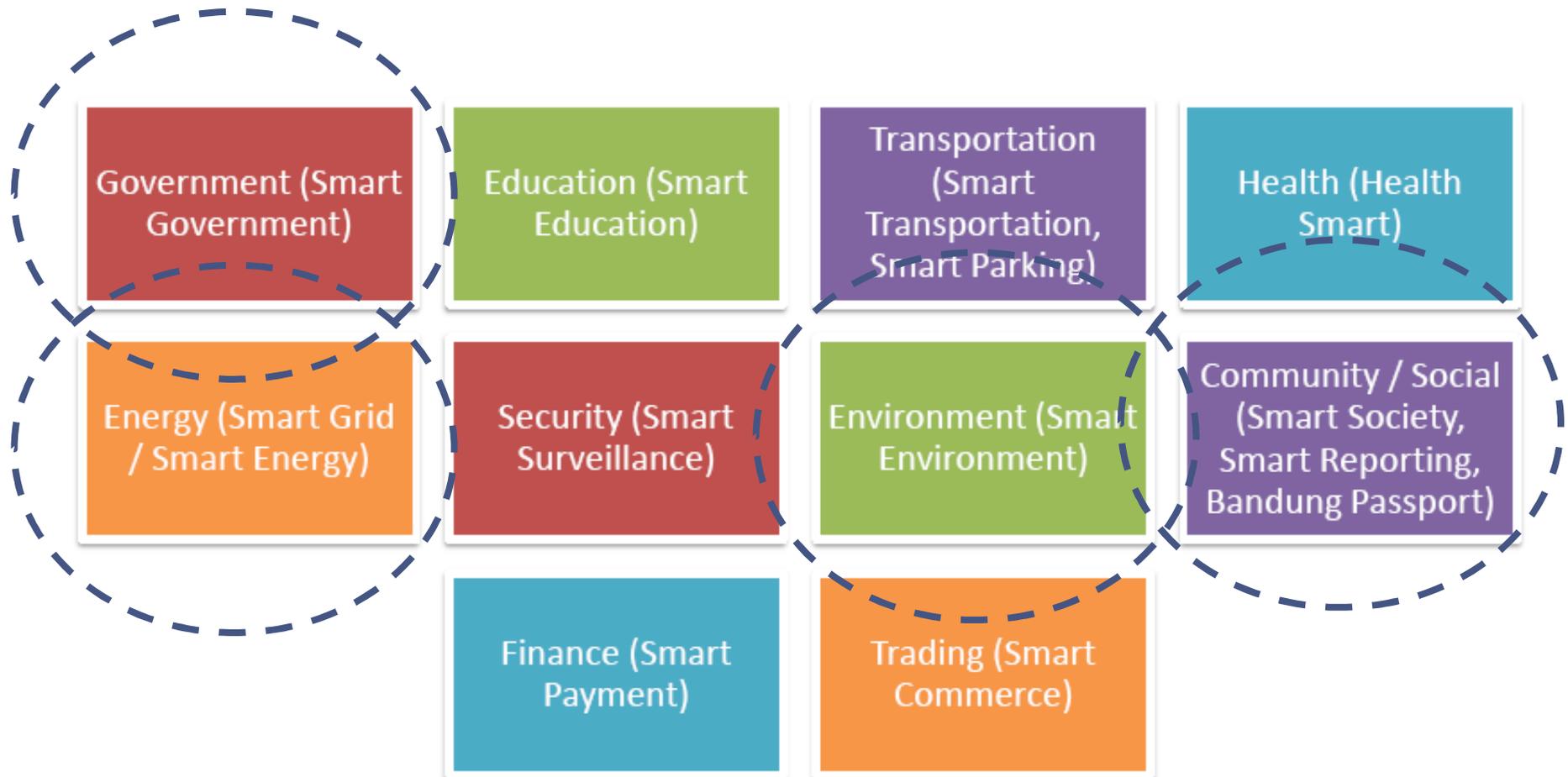
CLEAN BY DESIGN

VISIONS

bureaucracy

BANDUNG SMARTCITY

Priorities Area – Smart City Bandung



Related to waste management



**Bandung
Smart City
Command
Center as
Decision
Support
System**



Waste Picking Movement






GERAKAN SEJUTA BIOPORI — SE-KOTA BANDUNG —

Sebuah gerakan gotong royong untuk membuat Lubang Resapan Biopori (LRB) yang melibatkan Warga Bandung di **9691 RT, 1561 RW, 151 Kelurahan, dan 30 Kecamatan**

Mulai Tanggal
20
Desember 2013
Selama 5 Hari



Manfaat Biopori

- Menabung Air Tanah
- Mengolah Sisa Organik Menjadi Kompos
- Mencegah Resiko Banjir
- Menyuburkan Tanah

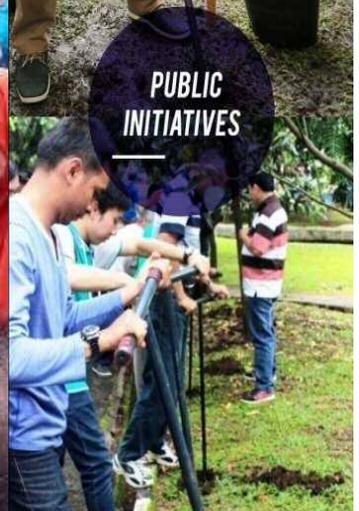
Hadiah Seru!

- Piala Bangle untuk tingkat RW
- Reviewasi fasilitas publik tingkat RW
- Makan satu RT
- Bersama Wali kota & Wakil Wali kota
- Buku bacaan untuk Masjid / Balai Warga
- WiFi Gratis untuk Masjid / Balai Warga
- Jalan - jalan satu RT
- W: Trans Studio, Pindad dan PT.DI

TANAH SEHAT, KOTA SEHAT, KITA BAHAGIA

Informasi lebih lanjut:

Media Promotif Resorator:

Biopori





Zero Waste Summit Forum

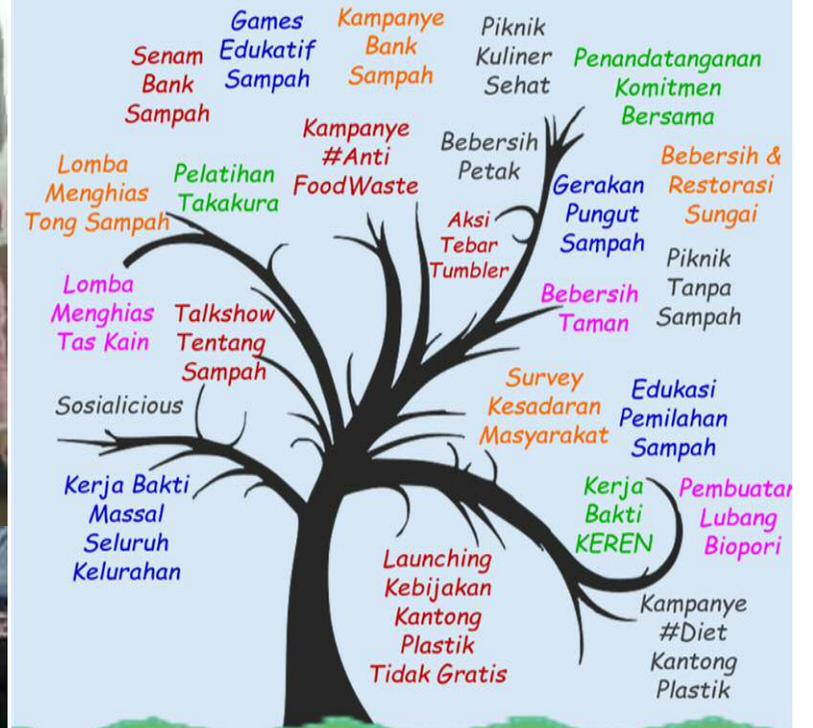


Zero Waste Model Area



AKSI KOLABORASI BANDUNG

Memperingati Hari Peduli Sampah
21 Februari 2016



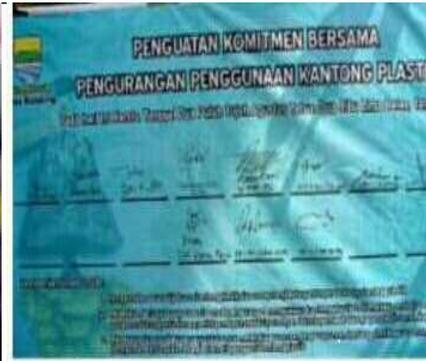
#bebassampah2020 #hpsn

@pdkebersihanba

Kolaborator :



Local Law Number 17 of
2012, regarding
Reducing Plastic Bag



Forbidden For Using Styrofoam Policy



ridwan kamil
@ridwankamil



Mengikuti

Warga Bandung, per tanggal 1 November 2016, penggunaan Styrofoam DILARANG untuk kemasan makanan minuman. Nuhun. cc @KemenLHK



ridwan kamil
@ridwankamil

The caretaker of lovable Bandung

Bandung Juara Indonesia

Bergabung Oktober 2009

Tweet ke

Pesan



Mengikuti

Untuk diikuti



audhila noveryni @audhila

Ikuti



Aidi Nurseptia @akusetaipndi
Dilihat oleh Akinn/AI Habi

Ikuti

COLLABORATION BETWEEN BANDUNG CITY'S DIVISIONS, NGO, CITIZEN, COMMUNITIES

BEFORE

AFTER

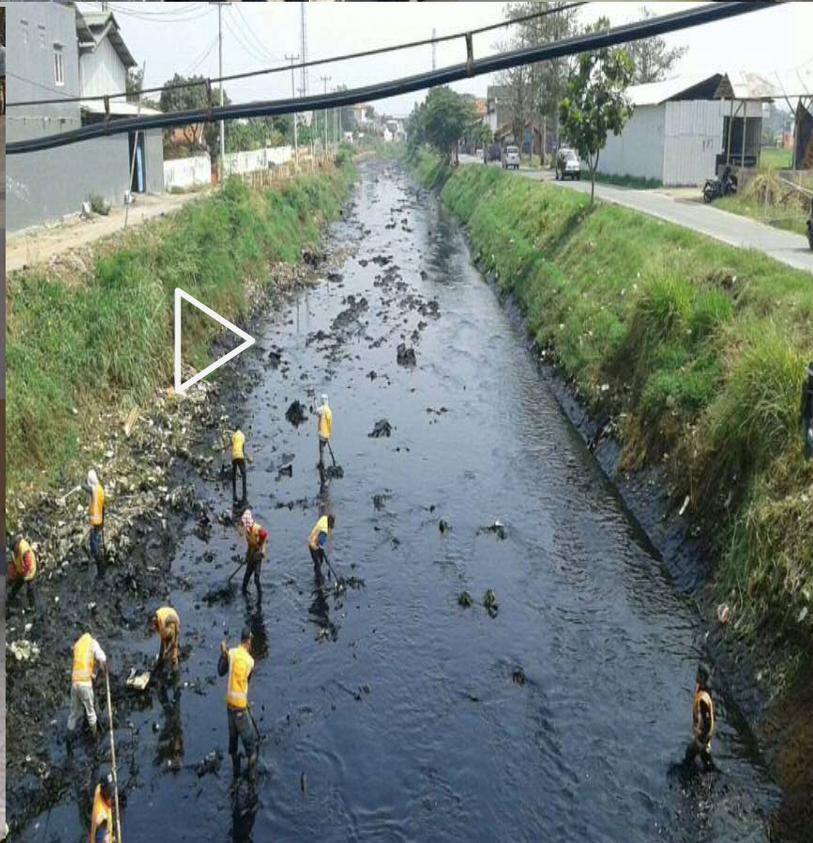


AKSI KOLABORASI BANDUNG

Memperingati Hari Peduli Sampah
21 Februari 2016



COLLABORATION WITH GOBER



1500
GOBER
TROOPS

GOBER
(GORONG-
GORONG &
KEBERSIHAN)

PUBLIC PARTICIPATION AND COMPLAINTS MANAGEMENT BY SMART CITY APPLICATION

PD.Kebersihan Kota Bandung & Bebas Sampah ID

SMART CITY APPLICATION

The image displays two digital interfaces. On the left is the website for PD.Kebersihan Kota Bandung, featuring a blue header with the word 'WEBSITE' and four green navigation buttons: 'EDUKASI', 'INFORMASI', 'INTERAKSI', and 'PROMOSI'. Below the navigation is a banner for a 2015 event with the text 'SEMOGA WARGANYA PUN MAKIN SADAR KEBERSIHAN'. On the right is the 'Bebas Sampah ID' application interface, which shows a map of Bandung with numerous location markers. Below the map are sections for 'Kontak Kami', 'Ikuti Kami' (with social media icons for Twitter, Facebook, and Instagram), and 'License' (Creative Commons Attribution-ShareAlike 4.0 International License).

<http://pdkebersihan.bandung.go.id>

<http://bebassampah.id>

RAPID RESPONSE TEAM



Resky Respati @reskyspt: 6d
@PemkotBandung ada penumpukan sampah di jalan ciungwanara , jadi kaya tps :(pic.twitter.com/PeAoxPPRD6



COMPLAINTS

RAPID RESPONSE TEAM



Petugas membersihkan tumpukan sampah di Jl.Ciungwanara
#YukJagaBdgBersih @PRFMnews
@reskyspt @ridwankamil
pic.twitter.com/F4icvmHIEK

tweets



Resky Respati @reskyspt
@pdkebersihanbdg @infobandung
@PRFMnews terimakasih proses pengakutan ya cepat dan responsif
pic.twitter.com/S9y28PEVkb



APRECIATION FROM COMPLAINANT

WASTE TRANSPORTING

UNDER COURTESY OF PD KEBERSIHAN



1

GPS Tracking

2

REJUVENATION OF OUR
TRANSPORTATION MODE

3

OPTIMIZATION OF AN
EFFECTIVE FREIGHT LINE

MANAGEMENT SYSTEM



BILLING APPLICATION

facilitating the consumers to pay their bill



PERFORMANCE SYSTEM

The screenshot displays the Billing System interface. The top section shows four key metrics: Total Pelanggan (8908), Input No. 1 (0), Input No. 2 (0), and Input No. 3 (0). Below this is a table for 'Kubikasi Terakhir Ditaji' which is currently empty. The bottom section shows a 'Laporan' (Report) for 'Rekap Tagihan' (Billing Summary) by region.

Wilayah	Kubikasi	Total	#
BANDUNG BARAT	7,095,80	428,486,750	Cetak Rincil
BANDUNG TIMUR	3,229,32	194,794,400	Cetak Rincil
BANDUNG UTARA	8,341,28	501,679,204	Cetak Rincil
BANDUNG SELATAN	7,415,48	445,020,180	Cetak Rincil
Total	26,091,84	1,568,866,534	

The application is still in process of improving the data such as the addition and modification of existing data, balance sheet, issuing invoice and receipt, export and import data features.

MANAGEMENT SYSTEM



GPS TRACKING

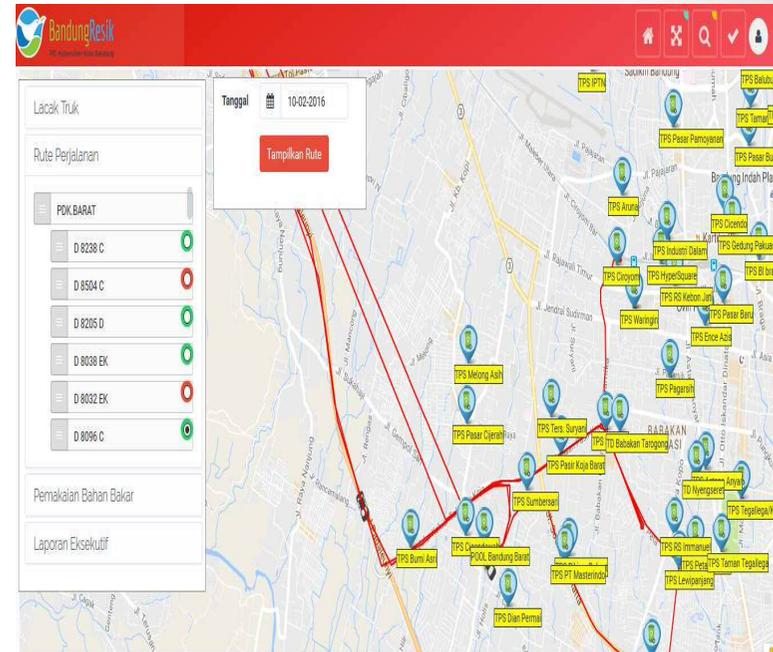
GPS tracking on our operational vehicle is aim to monitor our solid waste freighting to final disposal, and to arrange the most effective route

Target of operation :
Dec 2017

OnTest
Stages



PERFORMANCE SYSTEM



Still in progress : refinement of the data, will be integrated with Bandung Smart City

MANAGEMENT SYSTEM

E-REPORTING USING SMART PHONE APPLICATION



This system is called rapid reaction unit. Citizen can submit their complaint on PDK Hotline, LAPOR, social media rapidly and could be directly addressed by PDK.

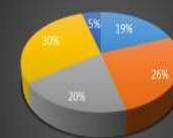


PERFORMANCE SYSTEM

The highest rapid reaction unit is using twitter. This e reporting using smart phone application still in progress.

DATA PENGADUAN

JUMLAH PENGADUAN PER WILAYAH

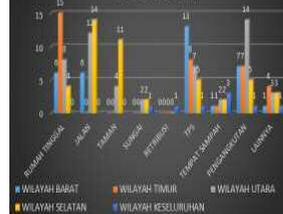


JUMLAH PENGADUAN MENDUNGKAN MEDIA SOSIAL

JUMLAH PENGADUAN MENDUNGKAN MEDIA SOSIAL



JUMLAH PENGADUAN PER KATEGORI JENIS ADUAN



@pdkebersihanbdg
 @pdkebersihanbdg
 @PD Kebersihan Kota Bandung
 VIA LAPOR
pdkebersihan.bandung.go.id

FAST RESPON TERBAIK



Terpilih menjadi salah satu Admin Fast Respon Terbaik dari Staff Kepresidenan Bidang Informasi & Pengaduan Publik

Gerakan #KANGPISMAN



Wujudkan Kawasan Bebas Sampah dengan mengikuti kebiasaan Kang Pisman dan Keluarga!

Kawasan Bebas Sampah



KANG

Kurangi;

Kang pisman setiap harinya selalu membiasakan:

- 1 Untuk menggunakan kembali barang-barang yang masih bisa digunakan,
- 2 Mengurangi penggunaan kantong plastik, plastik, styrofoam dan bahan lain yang sulit diurai oleh alam,
- 3 Membawa kantong belanja, tempat makan dan minum sendiri ketika berpergian,
- 4 Menghabiskan dan tidak menyisakan makanan yang dapat menjadi sampah.



Pis

Pisahkan;

Di rumahnya, kang pisman membagi tempat sampah menjadi 4 jenis yang berbeda:



- Warna Hijau untuk sampah makanan dan sapuan halaman.
- Warna orange untuk sampah daur ulang, seperti kaleng, logam, bahan yang terbuat dari plastik, kertas dan kardus.
- Warna merah untuk sampah Bahan Beracun berbahaya atau B3 Rumah Tangga, seperti lampu, baterai, barang elektronik, pembalut, popok, bekas obat dan juga bahan kimia.
- Dan terakhir Warna abu abu untuk sampah lainnya.

Sebagai langkah awal, Kang Pisman mulai membiasakan memisahkan sampah dalam 2 jenis saja, yaitu:

- 1 Untuk sampah organik yaitu sisa makanan dan sapuan halaman
- 2 Dan sampah anorganik atau sampah lainnya

Man

Manfaatkan Sampah.

Setiap minggunya, sampah makanan dan sampah kebun yang sudah dipisahkan, Kang Pisman masukkan ke lubang resapan biopori.



Fungsi: Menyuburkan tanah, Menyerap air.

Atau

Sisa sampah ini juga dapat menjadi bahan baku kompos dengan takakura.



Dan

Adakalanya Kang Pisman bersama warga lainnya membuang sampah ke Biodigester yang akan menghasilkan pupuk cair dan biogas untuk

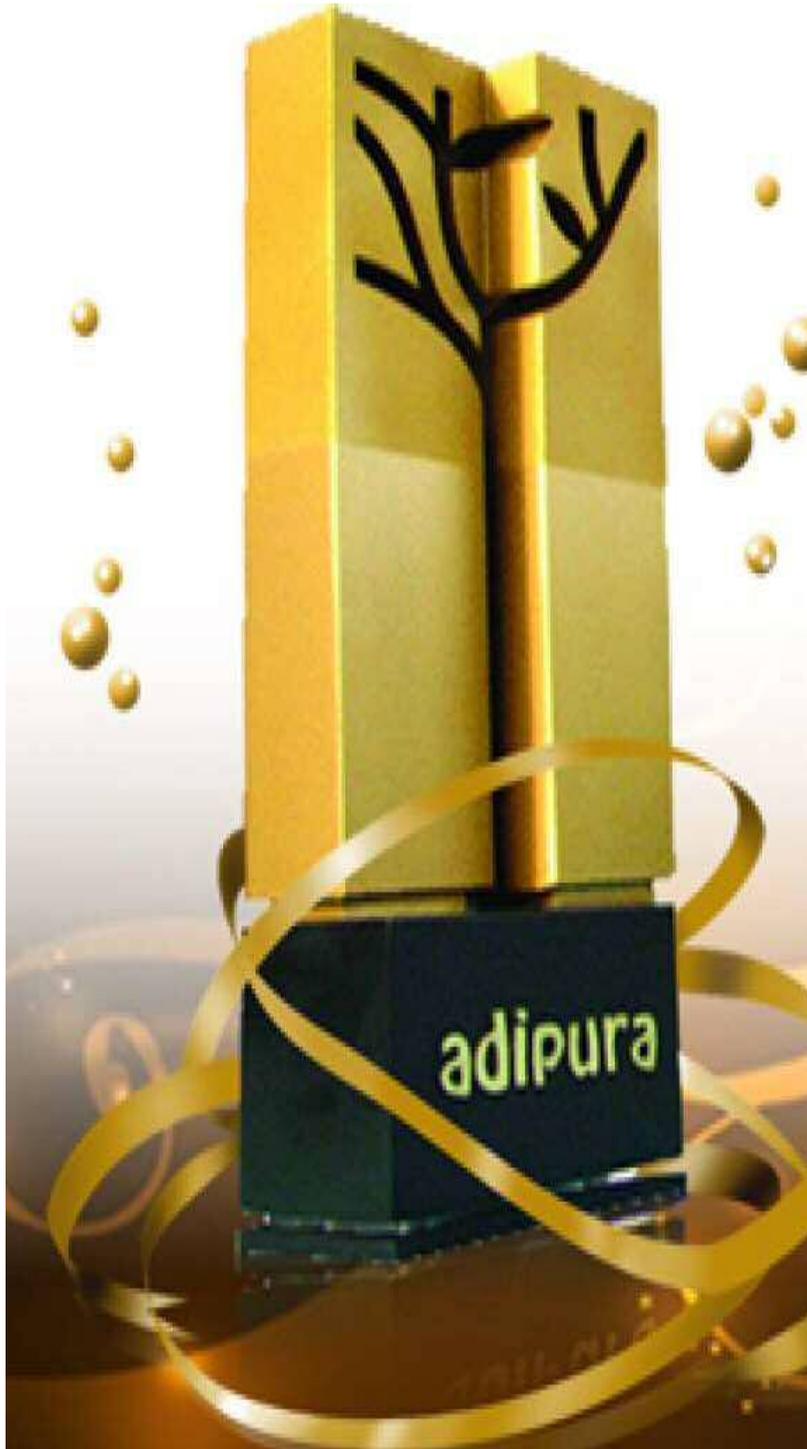


Sampah yang dapat di daur ulang, ia sedekahkan kepada pemulung, tukang loak, dan petugas kebersihan.

Ataupun ia serahkan ke Bank Sampah sebagai tambahan tabungan keluarganya.

Kang pisman selalu memastikan sampah B3 ditempatkan yang terpisah dengan sampah lainnya





ADIPURA AWARD CHARTER(3rd)

CLEAN CITY AWARD, THE
HIGHEST AWARD IN THE
ENVIRONMENTAL FIELD FOR
THE CITIES OF INDONESIA



**COOPERATION BETWEEN
BANDUNG CITY AND KAWASAKI CITY**

KAWASAKI CITY-BANDUNG

Continuous cooperation between Bandung City and Kawasaki City through Asian Pacific Eco-business Forum (from 2006 to present) in collaboration with UNEP



13th Asian Pacific Eco-business Forum

Feb. 16th 2017

KAWASAKI CITY-KOTA BANDUNG

B. KERI, IGES and JESC conducted feasibility studies for JCM scheme (supported by Ministry of the Environment, Japan) in Bandung City during FY2014 to FY2015

C. Exchange the MOU between Bandung City and Kawasaki City (Feb. 18th 2016)



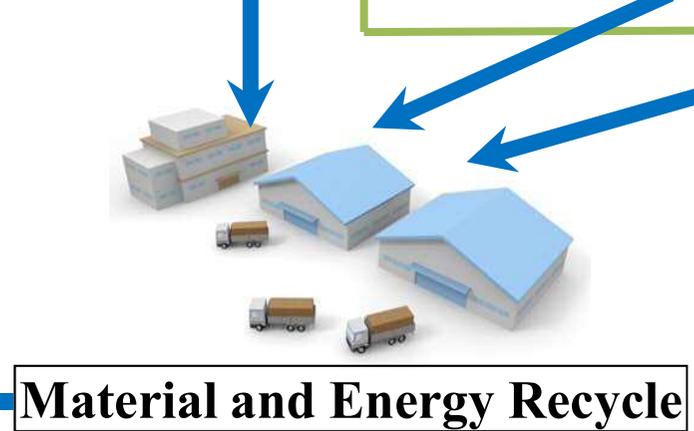
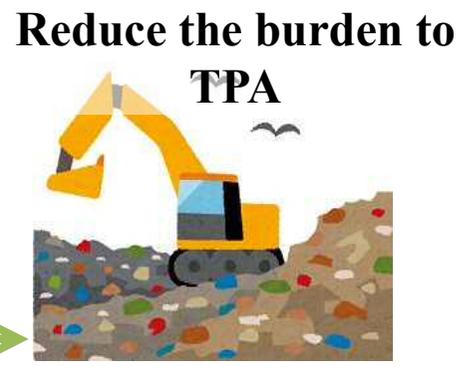
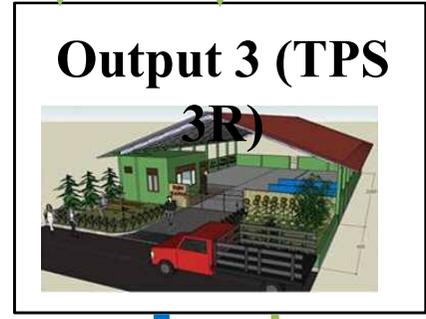
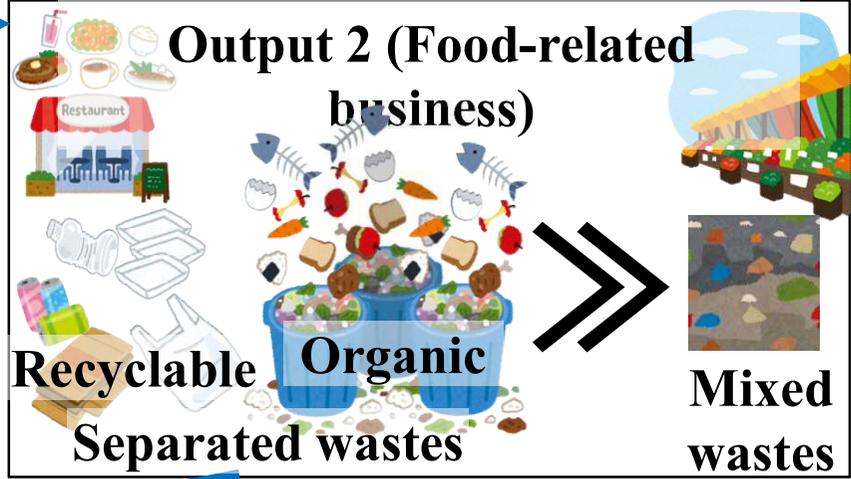
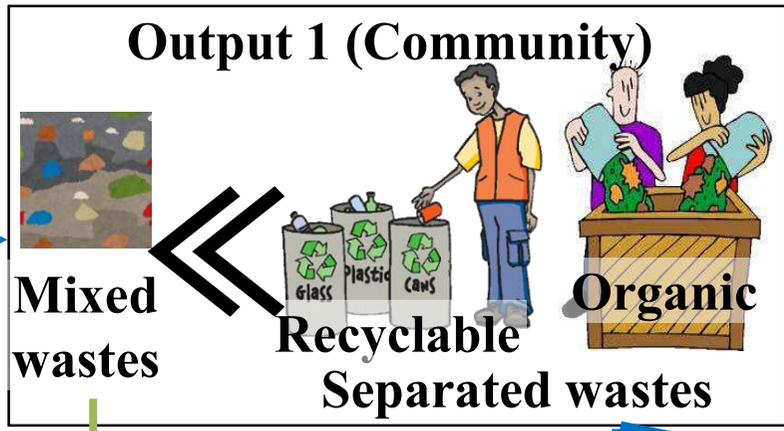
Request from Bandung City after MOU exchanging ceremony

- ◆ Technology and knowledge transfer on waste to energy process using organic wastes (such as food wastes), with installation of facility (such as bio-digester)
- ◆ Investigation of effective utilization methods for plastic wastes sorted out from inorganic wastes
- ◆ Support of establishment and management of recycling center



**Part of the request will be fulfilled
with this JICA Partnership Project
(From 2017 Mar. to 2020 Mar.)**

Facilitate using compost, bio-digester, waste bank and other 3R related facilities 6



HATUR NUHUN

