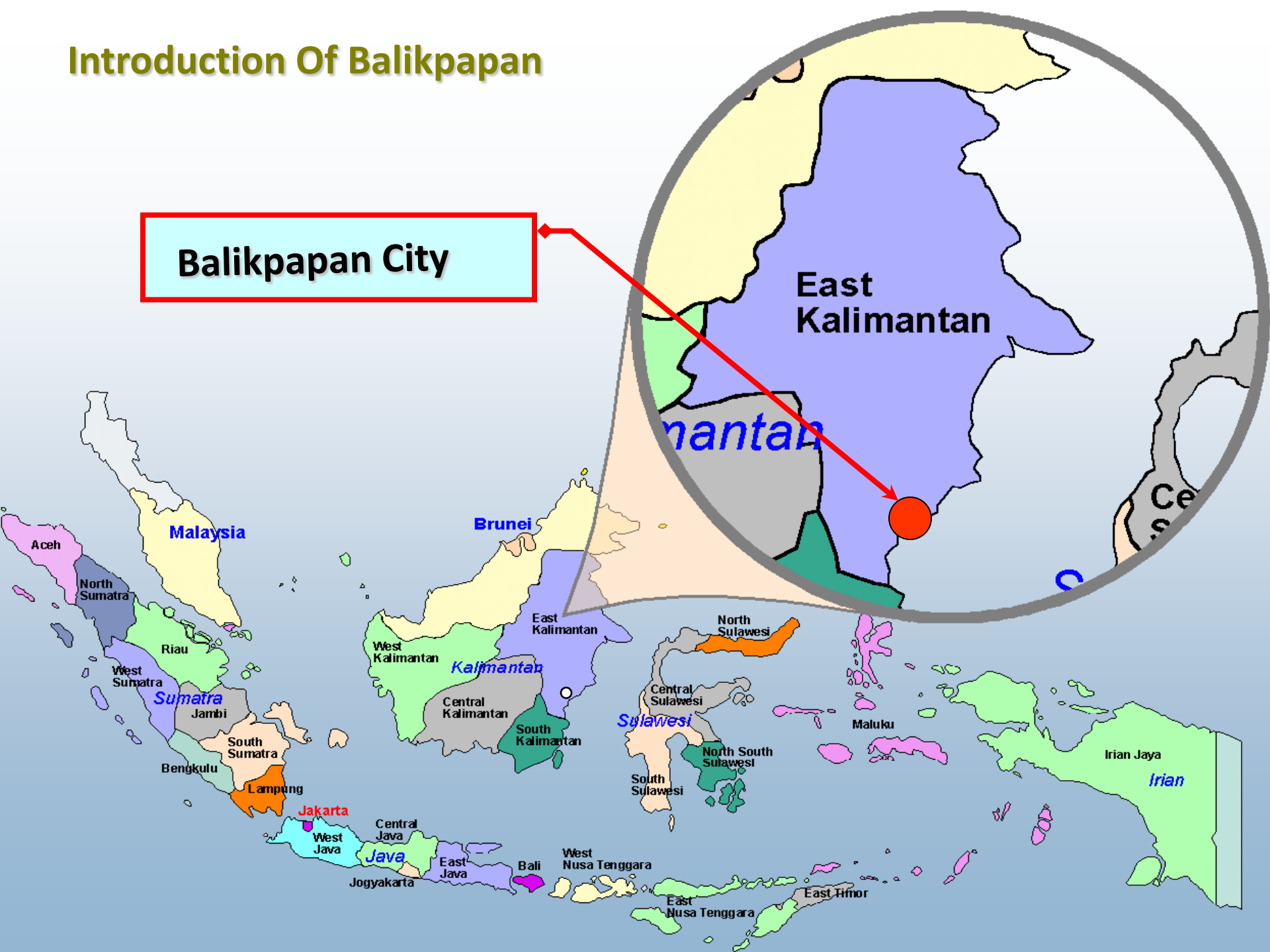


# SOLID WASTE MANAGEMENT BALIKPAPAN CITY 2014



# Introduction Of Balikpapan

**Balikpapan City**



## OVERVIEW OF BALIKPAPAN CITY

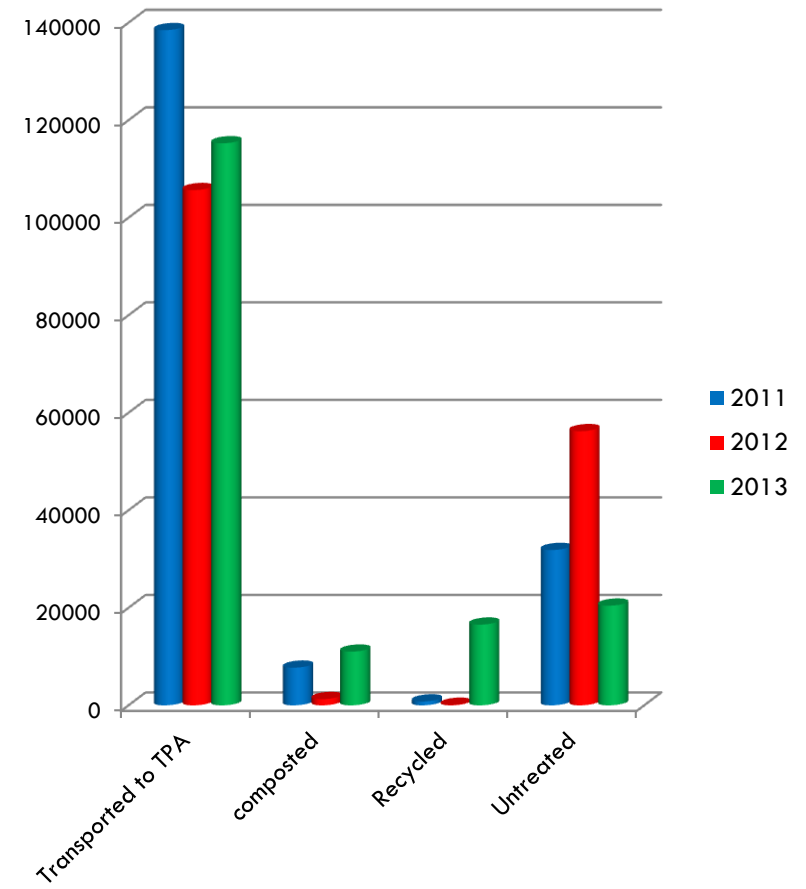
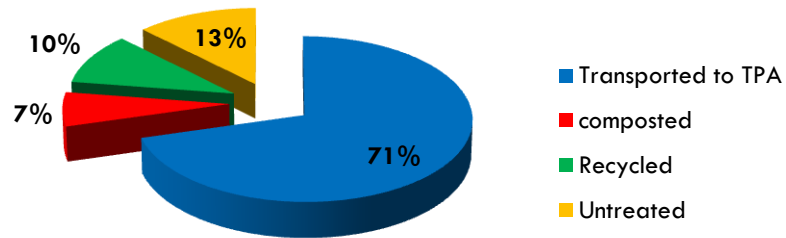
### GENERAL

- THE ENTRANCE GATE OF EAST KALIMANTAN PROVINCE
- WIDTH : 83.189 hectare (land : 50.330 hectare, sea : 32.859 hectare)
- TOPOGRAPHY : 85% HILLY & 15% FLAT
- THE CITY OF MICE (MEETING, INCENTIVE, CONFERENCE, EXHIBITION)
- CENTRE OF OIL REFINERY FOR THE EASTERN PART OF INDONESIA

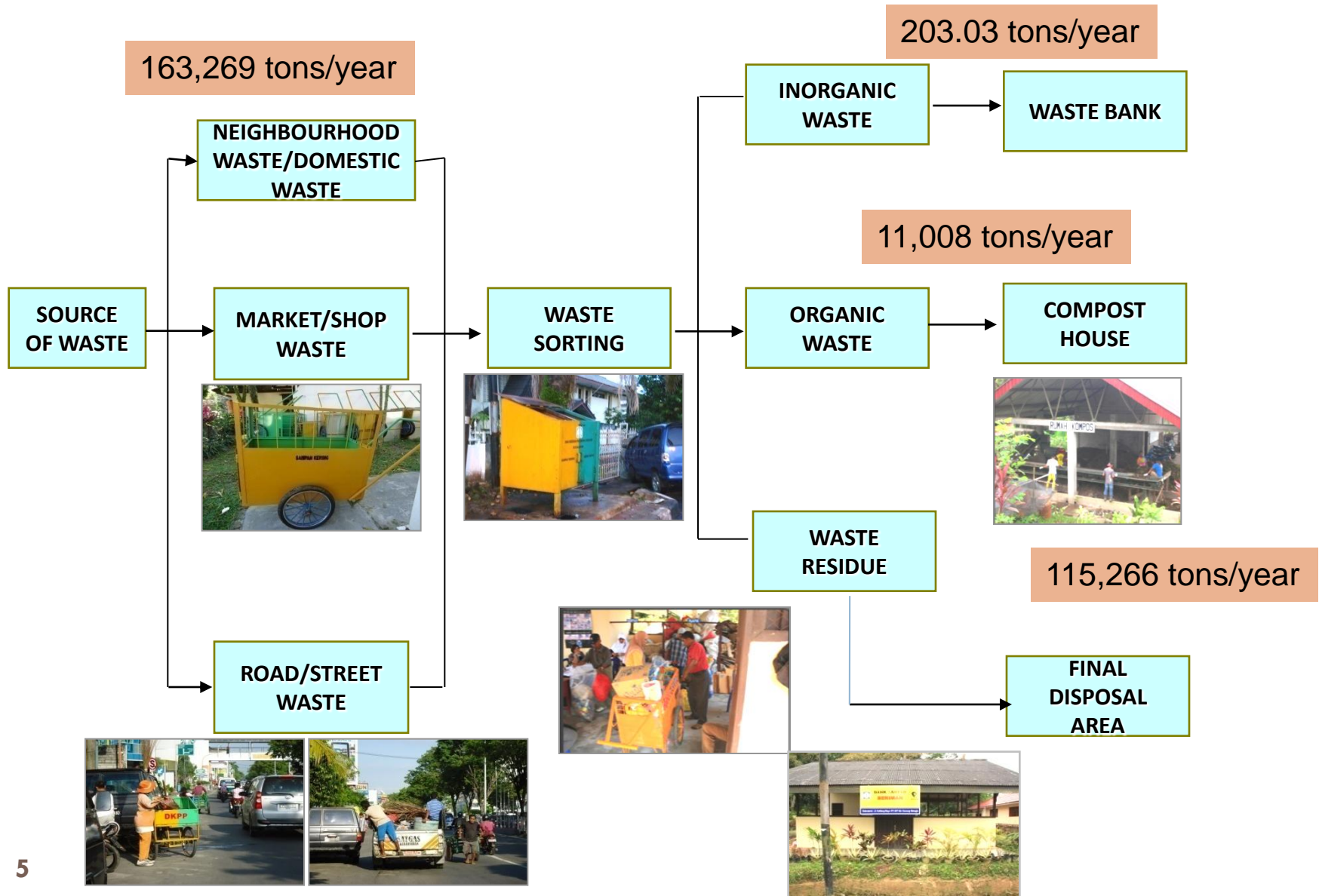
### DEMOGRAFI

- **POPULATION IN 2012 : 637.488 PEOPLE**
- **POPULATION IN 2013 : 660.437 PEOPLE**
- **POPULATION GROWTH : 4,89 %**

# Waste Stream Balikpapan City



# SOLID WASTE MANAGEMENT



# Waste Collection System

**Motto : No Waste Stays in Waste Container**

There Are 4 shift for collection the waste

1. Shift 1, (00-08.00 am), 60 truck, all waste container in the city
2. Shift 2, (03.00-11.00 am), 5 truck, residu from shift 1
3. Shift 3, (07.00 am- 03.00 pm), 5 truck, residu from shift 2 and new waste
4. Shift 4, (07.00 am- 03.00 pm), 8 pick up, sweep the waste on the main street and new waste



## **KEBIJAKAN PEMERINTAH KOTA BALIKPAPAN DALAM MANAJEMEN PENGELOLAAN SAMPAH 3 R**

- 1. REVISION OF LOCAL REGULATION ABOUT SOLID WASTE**
- 2. COMPOSE FEASIBILITY STUDY FOR SOLID WASTE MANAGEMENT IN CITY BALIKPAPAN PADA TAHUN 2013**
- 3. RECOMENDED INTERMEDIATE TREATMENT FACILITY FOR CITY OF BALIKPAPAN (ITF)**
  - STAGE 1 : MATERIAL RECOVERY FACILITY ( MRF )**
  - STAGE 2 : AN-AEROBIC DIGESTION PLANT ( AD )**
  - STAGE 3 : ELECTRICITY PRODUCTION**
- 4. DEVELOPMENT CWB ( CENTRAL WASTE BANK )**
- 5. DEVELOPMENT WASTE WATER TREATMENT PLANT( IPAL) OFF-SITE.**
- 6. 2013-2016 : PROJECT FOR CAPACITY DEVELOPMENT OF CENTRAL AND LOCAL GOVERMENT FOR 3Rs AND DOMESTIC SOLID WASTE MANAGEMENT SYSTEM BY JICA**

# There are 65 units of WASTE BANK





# Pengelolaan Persampahan



**Rumah Kompos (38 unit)**

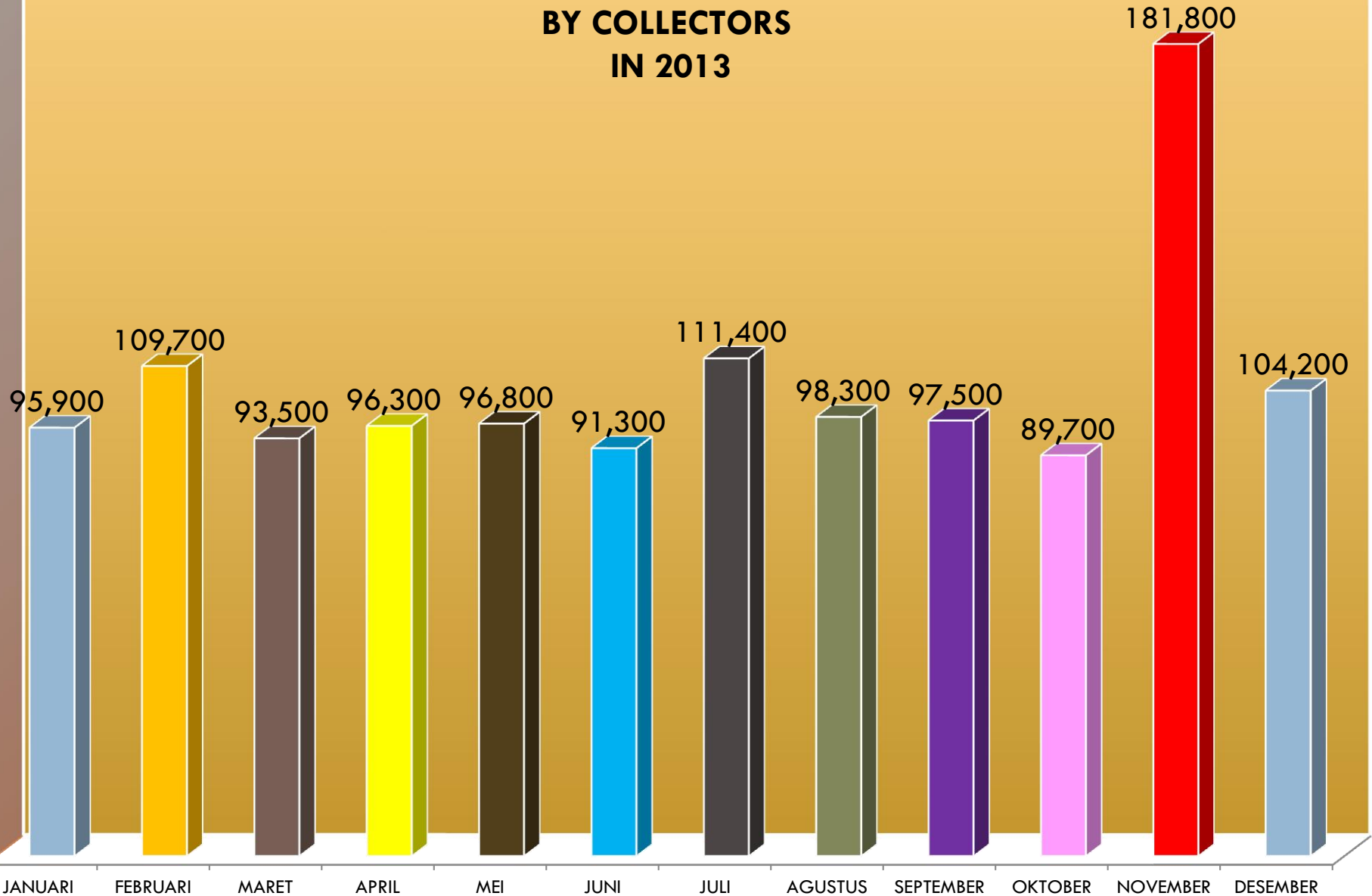
Compost House (There are 38 units)

**FINAL DISPOSAL AT MANGGAR LANDFILL**

# OVERVIEW OF FINAL DISPOSAL AT MANGGAR LANDFILL

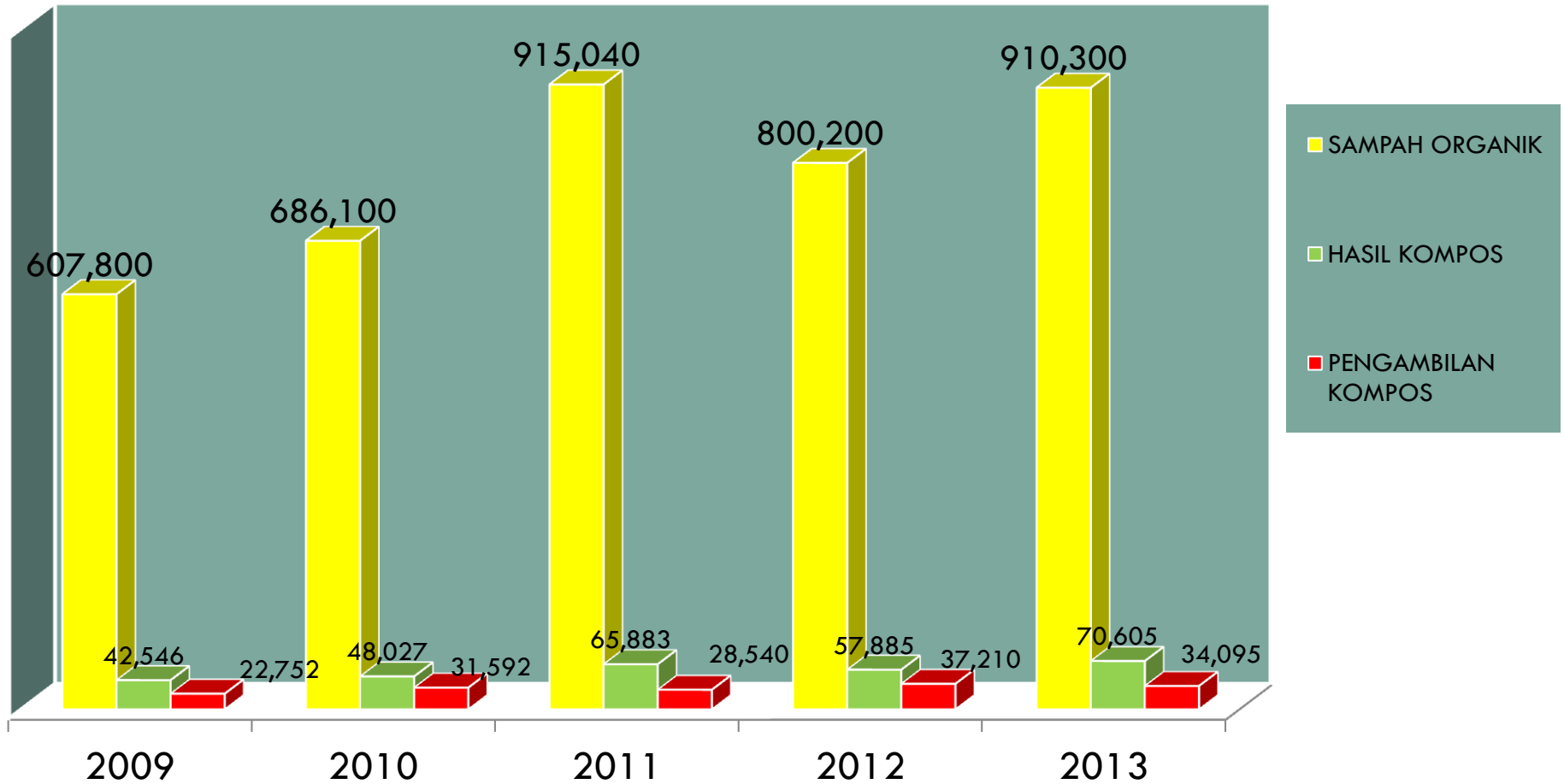
1. Location : Jl. Proklamasi RT 036 Manggar
2. Width : 27,1 Ha
3. Land Status : Property of Balikpapan City Government
4. System : Sanitary Landfill
5. Built in : 1997/1998
6. Fund Resource : KUDP (Kalimantan Urban Development Programme)
7. Operated since : 13 Januari 2002

# DATA OF INORGANIC WASTE COLLECTED BY COLLECTORS IN 2013



# DATA OF COMPOST MANAGEMENT AND DISTRIBUTION

IN 2009 - 2013



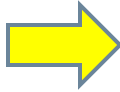


# ROUTE OF WASTE PROCESS INTO FINAL WASTE DISPOSAL AREA



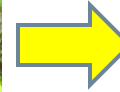
1

Truck entering TPA



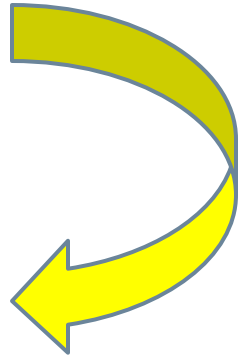
2

Scaling



3

Unloading



4



5



6

Washing

# TPA HUMAN RESOURCES & OPERATION

Currently, TPA Manggar has 65 personnel consisting of:

Civil Servants : 10 Person

Administrative Staffs : 2 Person

Operational Personnel : 51 Person

The employees above get the average salary of 1,000,000 IDR to 1,500,000 IDR per month

# FACILITIES AND INFRASTRUCTURE IN FINAL WASTE DISPOSAL AREA

NO	FACILITY	QUANTITY
1	HEAVY EQUIPMENT	9 UNIT
2	TRANSPORTATION EQUIPMENT	9 UNIT
3	3 R EQUIPMENT	6 UNIT
4	METHANE GASS BIO EQUIPMENTS	6 UNIT
5	OTHER EQUIPMENTS	39 UNIT

NO	INFRASTRUCTURE	QUANTITY
1	LANDFILL	1 UNIT
2	SCALING	1 UNIT
3	WASTE WATER TREATMENT PLANT	1 UNIT
4	COMPOSTING BUILDING	1 UNIT
5.	3R BUILDING	1 UNIT
6.	EDUCATIONAL PARK AND GAZEBO	1 UNIT
7	HEAVY EQUIPMENT GARAGE	1 UNIT
8	METHANE GASS AREA	1 UNIT
9	SECURITY POST	1 UNIT

## WASTE STACK LOCATION

The land arrangement uses Cut and Fill system.

The waterproof layer (Geomembrane) with an area of 26,000 m<sup>2</sup> in Zone I and 30,000 m<sup>2</sup> in Zone II is given a 40 cm-thick layer of red soil. The Leachate and gas pipeline installation has the distance of 20 m (10) lines. The Waste Destroying System is Sanitary Landfill. Final Waste Disposal Area Manggar is located on Jl. Proklamasi RT 036, Manggar subdistrict, East Balikpapan district or  $\pm$  23 Km from the city center

**WASTE IS UNLOADED  
USING THE EXCAVATOR**



**WASTE IS UNLOADED  
USING THE EXCAVATOR**



**WASTE IS LEVELED  
USING THE BULL DOZER**



**COVER THE WASTE USING THE  
LAND**

**AS MAXIMBLE AS POSSIBLE TRY TO  
HAVE NO MORE WASTE AND ODOR**







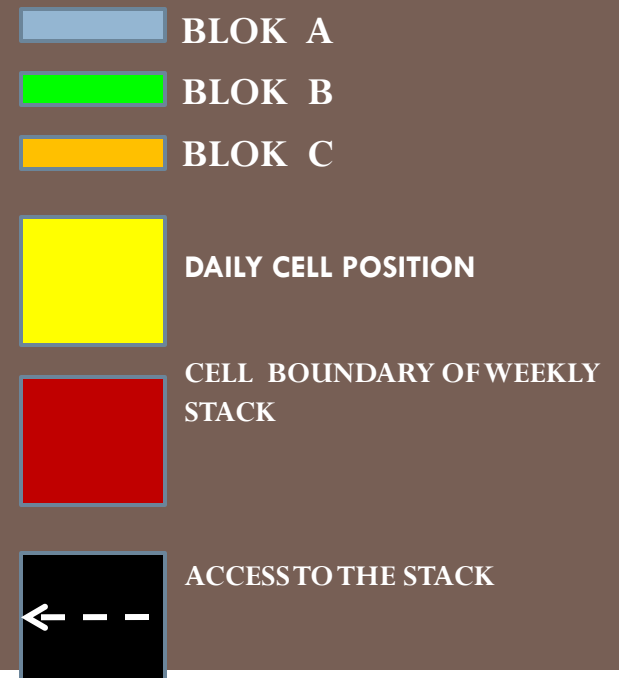
**CITY OF BALIKPAPAN**  
**CLEANSING, PARKS, AND CEMETERIES MANAGEMENT DEPARTMENT**  
**FINAL DISPOSAL AT MANGGAR LANDFILL**



**WASTE STACK AREA OPERATION BASED ON DAILY CELL**

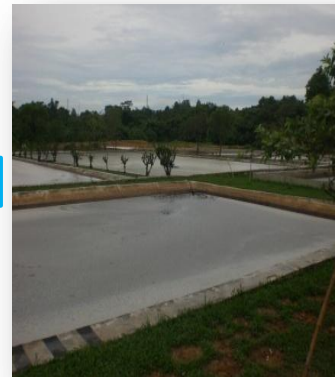


**WASTE STACK IMAGE DESCRIPTION  
IN ZONE II**





# *Leachate Treatment System*



# Compost Production Facilities



## DESCRIPTION KETERANGAN :

1. Compost Material
2. Material grinding
3. Fermentation
4. Reversal
5. Drying in the sun
6. Grinding
7. Packing





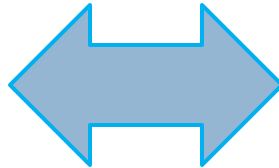
# Plastic Cutting Facilities



The house to cut up the plastic is still under construction

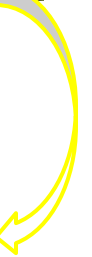


Cutting Machine



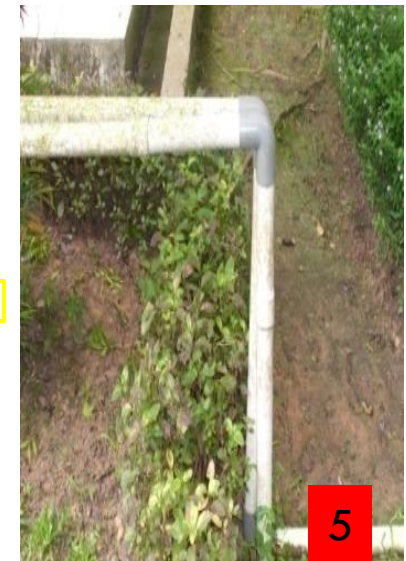


# Methane Gas Production Facilities



## Description Keterangan :

1. Stacking
2. Methane gas well
3. Separating tool of gas I and II
4. Gauge
5. Pipe transmitting methane gas to the population
6. Methane gas is utilised by the people





**FINAL WASTE DISPOSAL AREA AS THE  
EDUCATION FACILITY**

1. Change the people's point of view regarding the TPA that it is no longer dirty and smelly



Nursery House

2. Nursery house for education



3. Education on inorganic waste / use the waste for handcraft



Handicraft  
resulted from  
inorganic waste

#### 4. Education on organic waste/use the waste for compost.



Compost resulted from organic waste is ready to be distributed to the community free of charge.

#### 5. Education on the methane gas



Methane gas utilised by the community

#### 6. Education on reading park



Reading park

**FINAL WASTE DISPOSAL AREA AS THE  
RECREATION FACILITY**



The recreation facilities are among others:

1. ATP Car Mobil



2. Suspended bridge and other playing facilities





### 3. Flying fox



### 4. Cafe Methane



**THANK YOU**

