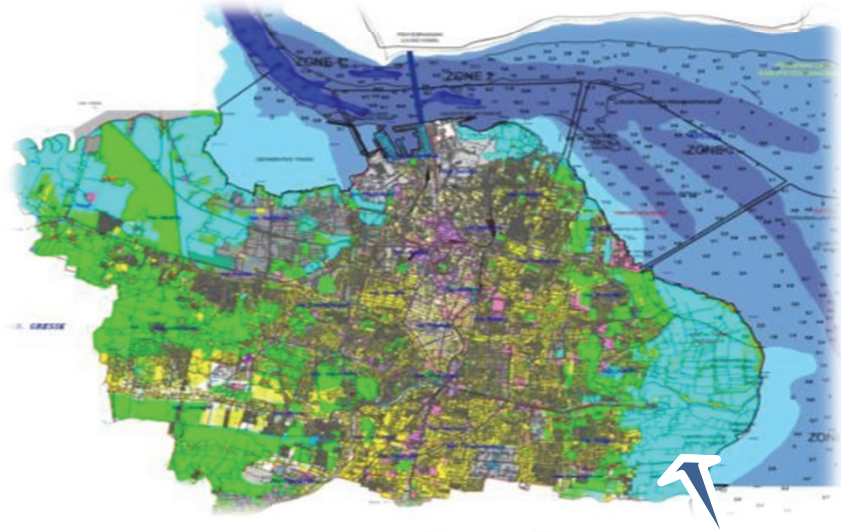


# LOW CARBON MANAGEMENT IN SURABAYA CITY



Presented by  
Delegation of Surabaya City Government

# SURABAYA'S POINT OF REFERENCE



<b>Area</b>	<b>: ± 33.048 Ha</b>
<b>Population</b>	<b>: ± 2.934.174</b>
<b>Districts</b>	<b>: 31</b>
<b>Sub Districts</b>	<b>: 160</b>
<b>RW</b>	<b>: 1389</b>
<b>RT</b>	<b>: 9124</b>



**SURABAYA in GERBANGKERTOSUSILA**



**Surabaya in East Java Province scope**

## SURABAYA ORIENTATION

- ❖ In national scale, Surabaya is the center of development in Eastern Indonesia.
- ❖ In regional scale, Surabaya is the capital city and the center of services and cultural in East Java



# CONDITION OF SURABAYA CITY

"With a vision of long-term development plan 2005-2025:

**Surabaya as a city of international trade and services of local character is smart, clean and ecologically friendly**

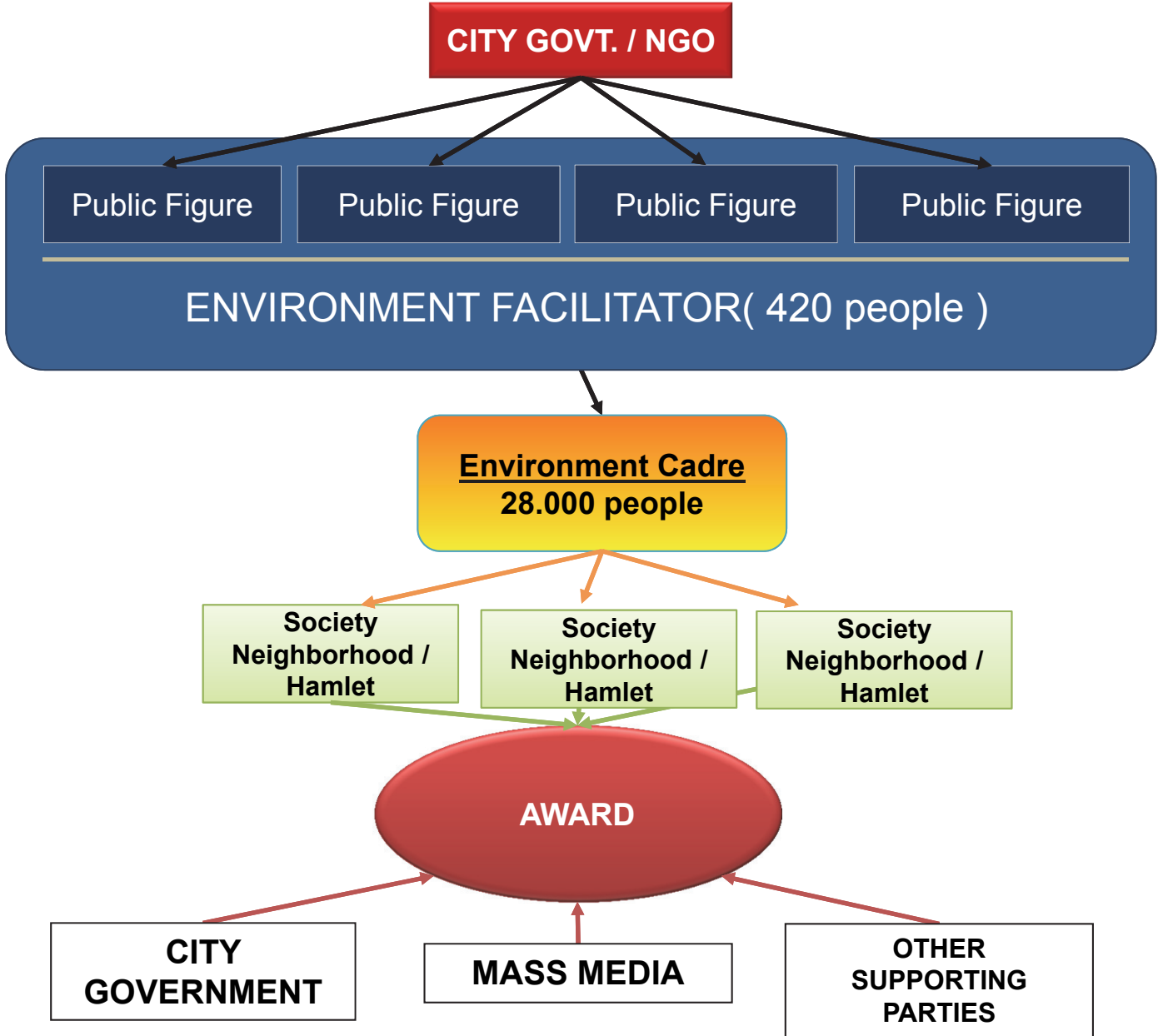
Surabaya City keep doing the best effort to improve the quality of life and environment for all people in the city of Surabaya."



# WASTE MANAGEMENT

*“Waste management activities in Surabaya city is focused on efforts to reduce waste at its source, and performs processing of waste at the landfill using environmentally friendly technologies.”*

# PATTERN OF ENVIRONMENT CADRE RECRUITMENT IN SURABAYA



# SEVERAL REGIONS ALREADY REDUCING THEIR WASTE

NO	REGIONS	NUMBER OF HOUSEHOLD	WASTE VOLUME (M3/ MONTH)		Outcome
			BEFORE	AFTER	
1	Rungkut Lor RW IV	1.165	65	16	
2	Mojo RW XII	1.156	262	139	
3	Kebunsari RW II	638	63,16	21,76	
4	Wonokromo RW V	523	46,32	0	1.500.000/month
5	Komplek Kenjeran RW I	260	90	0	
6	Pakis RW III	1.056	202,8	147,33	
7	Karah RW V	500	58	13,34	8.000.000/month
8	Margodadi RW VII	691	178	60,25	
9	Jambangan RW II	510	68	26	8.000.000/month
10	Kedung Baruk RW V	350	14,4	4,32	
11	Tenggilis Mejoyo RW IV	791	420	90	1.500.000/month
12	Ketintang RW III	720	618	210,4	
13	Margorukun RW X	617	186,04	65,05	

From 158 Villages in 2011, the average amount of waste reduced by household reaches  
**147,54 Ton / Day**

# WASTE BANK IN SURABAYA

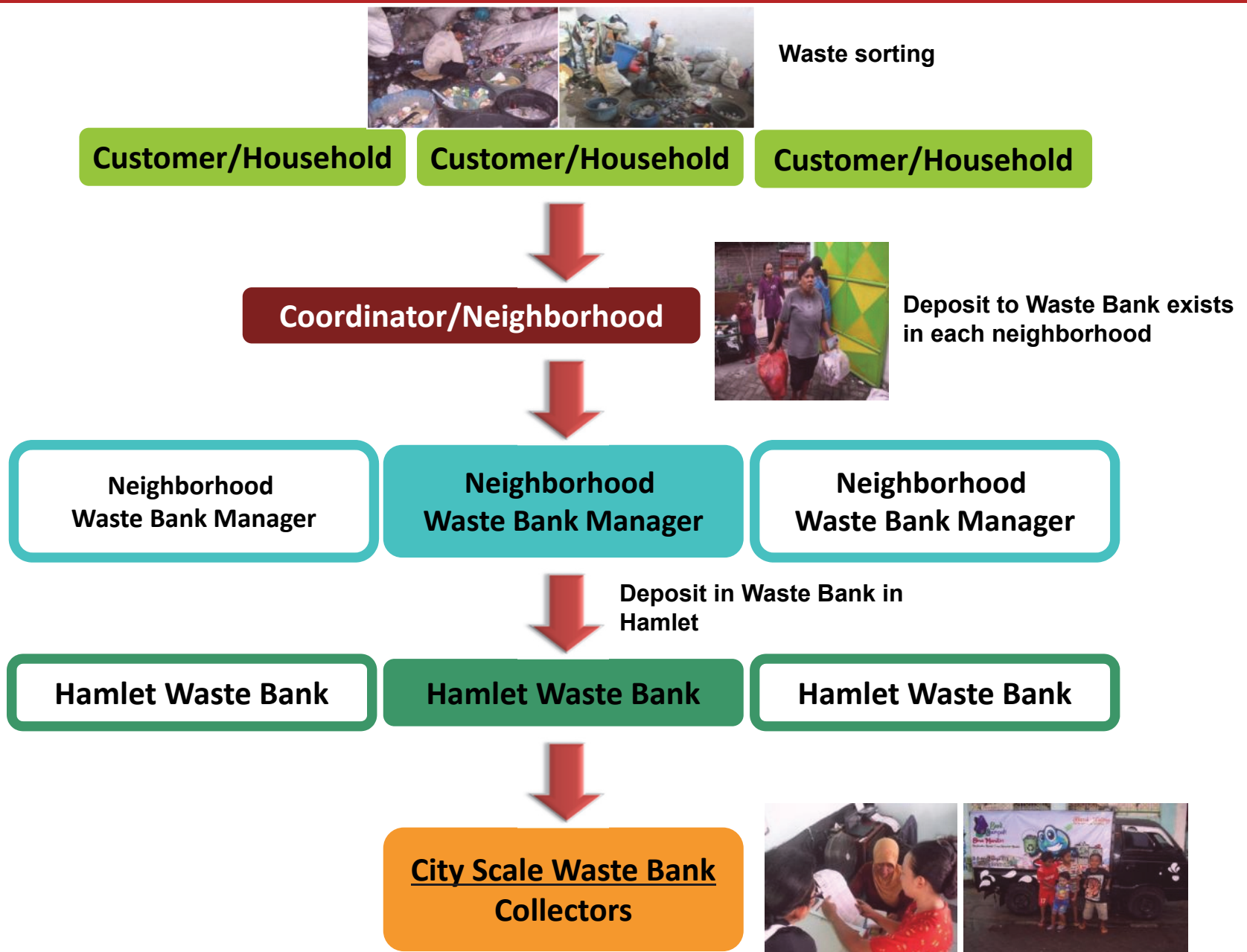
## *The number of customers and turnover of Waste Bank in Surabaya*

Name	Number of Customer	Turnover
1. Mandiri Waste Bank	± 600	± 15.000.000,00 / Month
2. Ruku Karya Waste bank	± 168	± 2.000.000,00 / Month
3. Jeruk Village, Lakarsantri Sub district	± 151	± 1.018.000,00 / 2 Months
4. Gading Village, Tambaksari Sub district	± 120	± 1.812.500,00 / 2 Months
5. Bulak Banteng Vilalge, Kenjeran Sub district	± 45	± 1.049.000,00 / 2 Months

## *The Benefits of Waste Bank:*

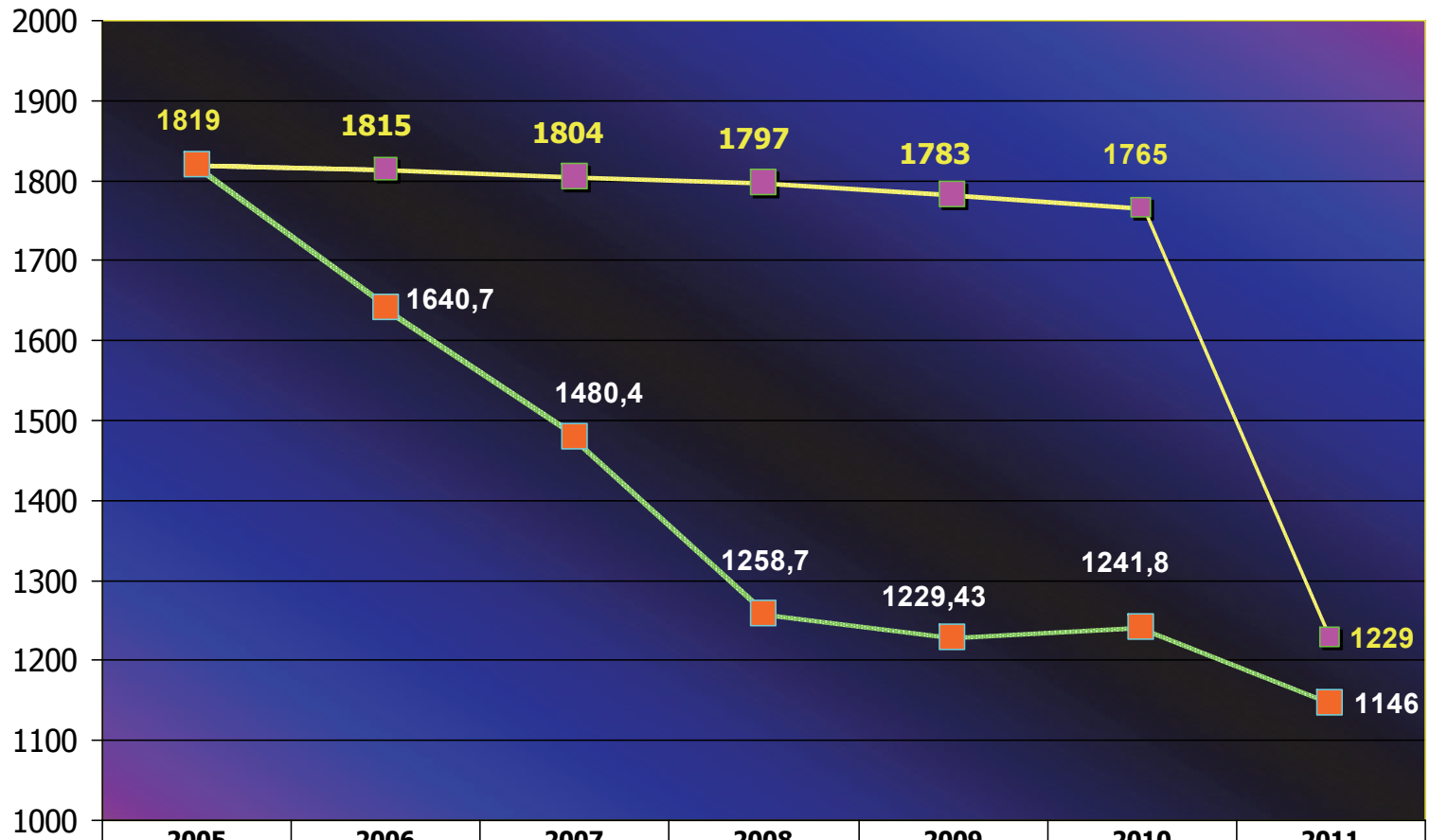
Environment Aspect	Economic Aspect	Social Aspect
<ul style="list-style-type: none"> <li>Reducing midden because the wastes are managed to get income.</li> <li>Environment is getting clean, healthy, and free from waste</li> </ul>	<ul style="list-style-type: none"> <li>The waste bank provides information on waste price (inorganic) on market to make it stable</li> <li>The customer of the bank may benefit many facilities such as coop savings and loan or household need procurement</li> </ul>	<ul style="list-style-type: none"> <li>Shaping habit to manage waste and not to litter</li> </ul>

# WASTE BANK ORGANIZATION IN SURABAYA





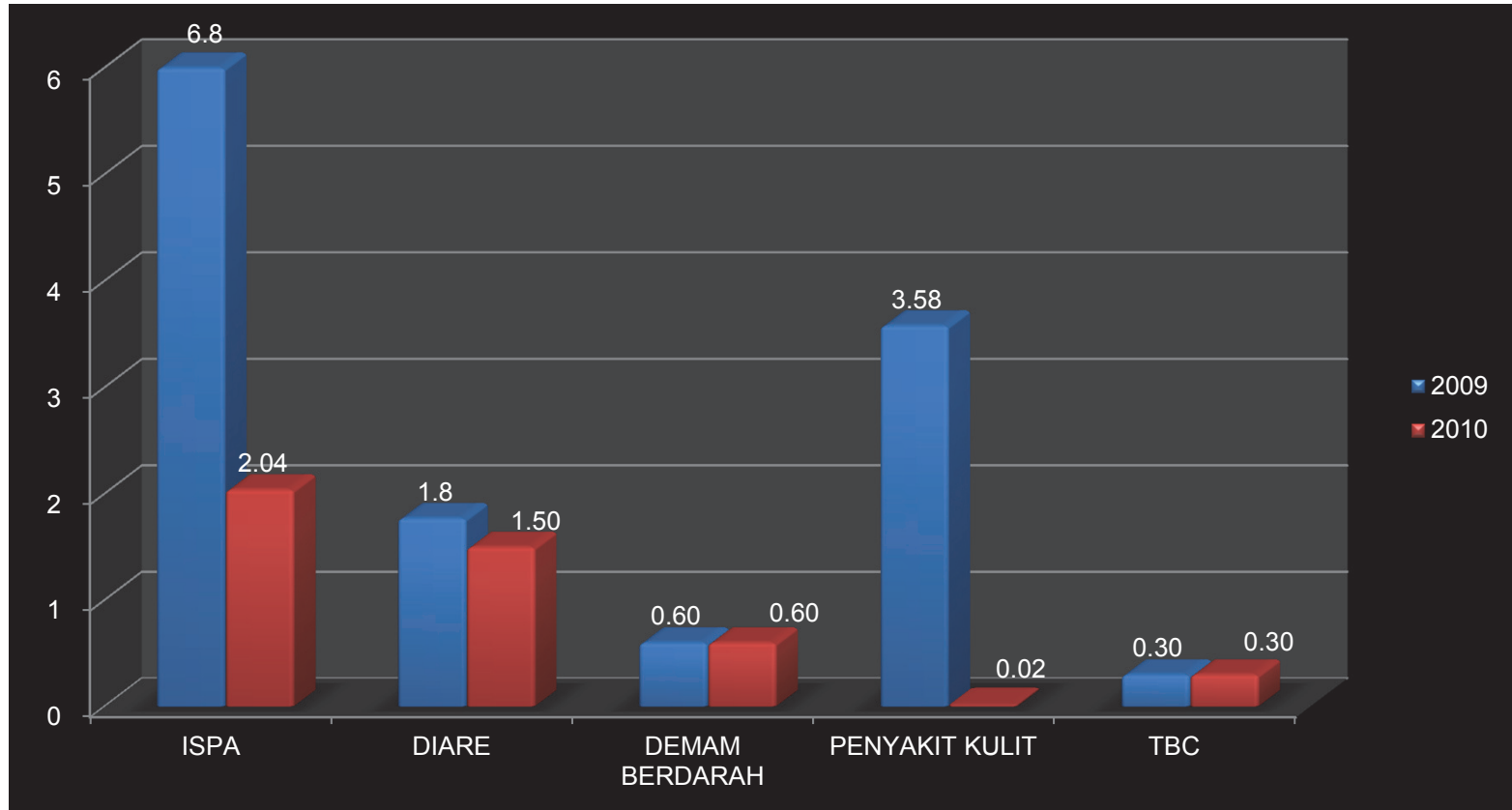
# WASTE STORED IN BENOWO LANDFILL



	2005	2006	2007	2008	2009	2010	2011
<b>Target</b>	1819	1815	1804	1797	1783	1765	1229
<b>Realisasi</b>	1819	1640,7	1480,4	1258,7	1229,43	1241,8	1146



## CHART OF DESEASE DECREASING IN SURABAYA



Source : Surabaya City Health Department Data 2010



# PLANTS ABSORBING CO<sub>2</sub>

## in Surabaya City

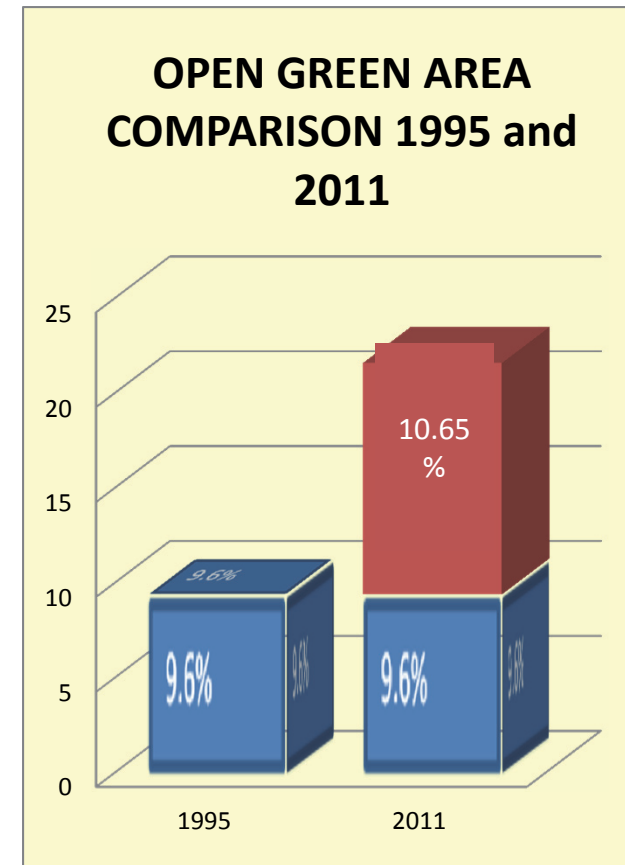
NO	NAMA LOKAL	NAMA ILMIAH	DAYA SERAP CO <sub>2</sub> (kg/pohon/th)	NO	NAMA LOKAL	NAMA ILMIAH	DAYA SERAP CO <sub>2</sub> (kg/pohon/th)
1	<u>Trembesi</u>	<u><i>Samanea saman</i></u>	28.448,39	16	<u>Akasia</u>	<u><i>Acacia auriculiformis</i></u>	48,68
2	<u>Cassia</u>	<u><i>Cassia sp</i></u>	5295,47	17	<u>Flamboyan</u>	<u><i>Delonix regia</i></u>	42,20
3	<u>Kenanga</u>	<u><i>Canarium odoratum</i></u>	756,59	18	<u>Sawo Kecil</u>	<u><i>Manilkara kauki</i></u>	36,19
4	<u>Pinaku</u>	<u><i>Dysoxylum excelsum</i></u>	720,49	19	<u>Tanjung</u>	<u><i>Mimosa elenai</i></u>	34,29
5	<u>Beringin</u>	<u><i>Ficus benvamina</i></u>	535,90	20	<u>Bunga Merak</u>	<u><i>Caesalpinia pulcherrima</i></u>	30,95
6	<u>Krey Payung</u>	<u><i>Fellicium decipiens</i></u>	404,83	21	<u>Sempur</u>	<u><i>Dilenia retusa</i></u>	24,24
7	<u>Matoa</u>	<u><i>Pometia pinnata</i></u>	329,76	22	<u>Khaya</u>	<u><i>Khaya anthotheca</i></u>	21,90
8	<u>Mahoni</u>	<u><i>Swettiana mahaoni</i></u>	295,73	23	<u>Merbau Pantai</u>	<u><i>Intsia bijuaa</i></u>	19,25
9	<u>Saga</u>	<u><i>Adenantha pavoniana</i></u>	221,18	24	<u>Akasia</u>	<u><i>Acacia mangium</i></u>	15,19
10	<u>Bundur</u>	<u><i>Lagerstroemia speciose</i></u>	160,14	25	<u>Angsana</u>	<u><i>Pterocarpus indicus</i></u>	11,12
11	<u>Jati</u>	<u><i>Tectona grandis</i></u>	135,27	26	<u>Asam Kranii</u>	<u><i>Pithecelobium dulce</i></u>	8,48
12	<u>Nangka</u>	<u><i>Arthocarpus heterophyllus</i></u>	126,51	27	<u>Saputangan</u>	<u><i>Maniltoa grandiflora</i></u>	8,26
13	<u>Johar</u>	<u><i>Cassia grandis</i></u>	116,25	28	<u>Dadap Merah</u>	<u><i>Erythima cristaqalli</i></u>	4,55
14	<u>Sirsak</u>	<u><i>Annona muricata</i></u>	75,29	29	<u>Rambutan</u>	<u><i>Nephelium lappaceum</i></u>	2,19
15	<u>Puspa</u>	<u><i>Schima wallichii</i></u>	63,31	30	<u>Asam</u>	<u><i>Tamarindus indica</i></u>	1,49
				31	<u>Kompas</u>	<u><i>Coompasia excelsa</i></u>	0,20

**Note:**

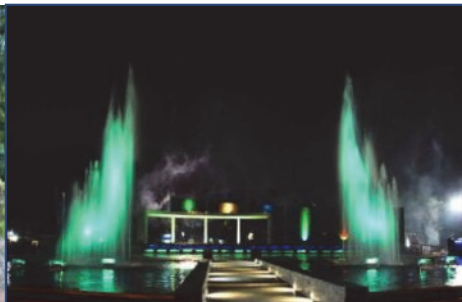
- 1-2 : very high
- 3-5 : high
- 6-10 : relatively high
- 11-16: medium
- 17-24:low
- 25-31:very low

# OPEN GREEN AREA DEVELOPMENT IN SURABAYA

Num.	Type	Width (Ha)	
		1995	2011
1	Protected area	942,33	4.155,90
2	Park and median	1.535,63	1.864,19
3	City Forest (including zoo)	379,07	41,16
4	Sport field	123,83	220,68
5	Cemetery	191,95	178,45
6	Telaga Open Green Area / reservoir	-	144,33
7	Open green area from social and public facility of housing	-	113,93
8	Open green area of public universities	-	13,32
<b>Total width</b>		<b>3.172,81</b>	<b>6,691.96</b>
<b>Area OF SURABAYA CITY</b>		<b>33.048,00</b>	<b>33.048,00</b>
<b>PERCENTAGE OF OPEN GREEN AREA TO SURABAYA CITY AREA</b>		<b>9.6</b>	<b>20.25</b>



ITS CITY FOREST



MUNDU PARK



KEPUTIH CEMETERY



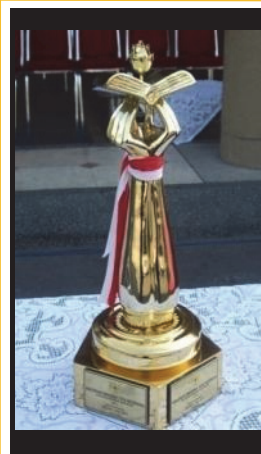
BUNGKUL PARK

# ACHIEVEMENT OF SURABAYA IN ENVIRONMENT FIELD

1. *Smart Environment 2011, Warta Ekonomi*
2. *Indonesia Green Region Award 2011, Majalah SWA & KBR68H*
3. *ADIPURA 2011*
4. *The Best Park Management in Indonesia 2011*
5. *Adiwiyata Mandiri – SDN Kandangan III*
6. *ASEAN Environment Sustainable City (ESC) Award 2011*
7. *Asian cities of the future 2009/2010*
8. *National Adiwiyata– SDK Santa Theresia*
9. *“Dubai International Award For Best Practices to Improves The Living Environment 2008” for Green and Cleas Initiative Indonesia*
10. *“The Green Apple Award 2007” for Environmental Best Practice*
11. *Energy globe 2005*
12. *Adipura 1988-1998 and 2005-2010*
13. *Adiwiyata*
14. *Green Building in Surabaya: ASEAN Center for Energy Award*



ADIPURA KOTA SURABAYA  
2005-2010





**SURABAYA CITY GOVERNMENT**

**Thank  
You**