



Previous and Future Plans for Water Quality Management in Bandung City



PRESENTATION OUTLINE

BACKGROUND

LESSON LEARNT FROM INTERCITY COOPERATION WITH KAWASAKI CITY

RIVER PROFILE IN BANDUNG CITY

WATER QUALITY INDEX

DECISIONS-MAKING POLICY IN RIVER WATER MANAGEMENT AND POLLUTION CONTROL

CHALLENGES IN RIVER WATER QUALITY MANAGEMENT



BACKGROUND

TIMELINES



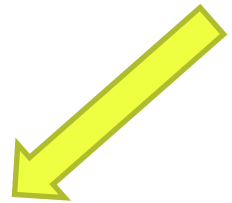
- On going cooperation between Bandung City and Kawasaki City through The Asian-Pacific Eco Business Forum to the present in collaboration with UNEP

- Signing of the MoU between Bandung City Government with Kawasaki City Government on Feb 18th 2016

- Approval and support from the Ministry of Environment and Forestry of Republic of Indonesia, for the implementation of Cooperation, as the first step in implementing the cooperation project

- Waste Management Support Project toward a Sustainable Resource Recycling Society in Bandung (JICA – Bandung City Partnership Project)

- Water Quality Management Support Project for Citarum Harum Program (Bandung City partnership with Kawasaki City – MURC)



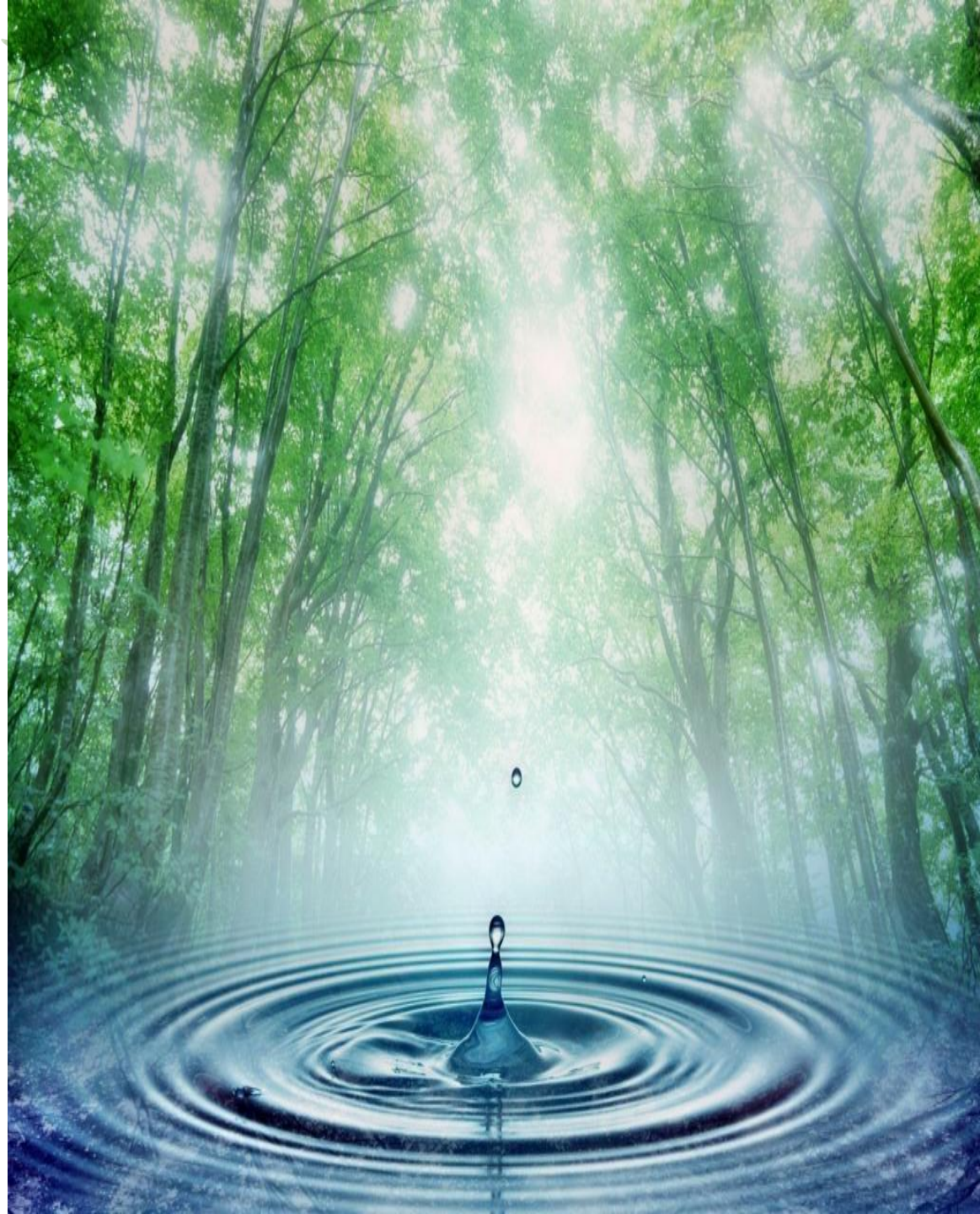
Main Issue

- Cipamokolan River is polluted

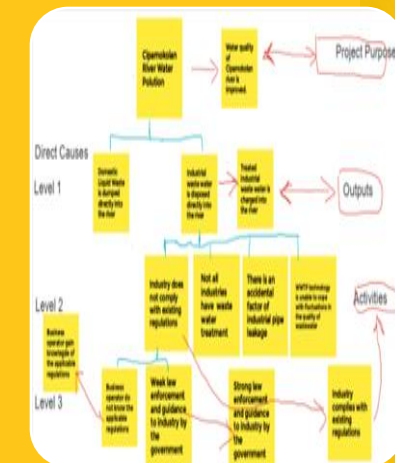
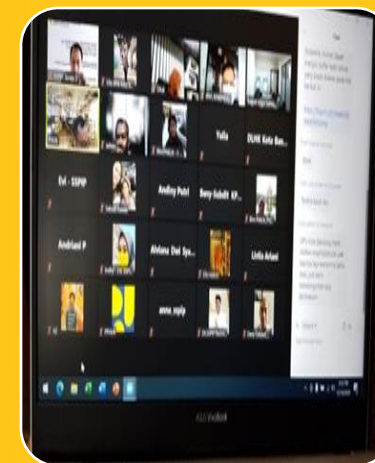
Main Target

- Improve the water quality of Cipamokolan River

**Lesson Learnt from
Intercity
Cooperation
with Kawasaki City**
related to
Development of
water quality
improvement plan for
the Cipamokolan
River



PROJECT ACTIVITIES



- The activities are about how to manage the river water quality.
- Case study in Japan located in Tama River, meanwhile in Bandung City is Cipamokolan River.
- The direct cause of pollution in Cipamokolan River comes from industrial wastewater, household wastewater, and wastewater from small and medium industries.
- Contributions in the form of thoughts from all participants in the PCM session are very important to solve the root problems. With this, the master plan for the management of Cipamokolan River water can be completed.

Nov 2019

- **Location** : Japan
- **Participants** : Government from Bandung City (DLHK, DPKP3, PDAM)
- **Resume of Activities** : Learning about how Japan do the domestic and industrial wastewater management

Feb 2020 (10-15)

- **Location** : Bandung City (Bappelitbang)
- **Participants** : Government from Bandung Area and West Java Province
- **Resume of Activities** : Knowing the history of water management, conservation of the aquatic environment, law enforcement about Water Management in Tama River in Japan, Identifying the pollution factors which contributed to Cipamokolan River in Bandung City

Feb 2020 (26-28)

- **Location** : Bandung City
- **Participants** : Government from Bandung City, Business parties from Bandung Area
- **Resume of Activities** : Socialication of master plan of Kawasaki Water System Management

Dec 2020 (14-22)

- **Location** : Bandung City
- **Participants** : Government from Bandung City & West Java Province
- **Resume of Activities** : Water management in Citarum River and in Japan, Integrated Decentralized Domestic Wastewater Management in Indonesia, Learning how to make a problem tree about Cipamokolan River Pollution with Project Cycle Management Method

Lesson Learnt from The Project Activities

Transfer of knowledge about history of the process of improving water quality in Tama river from various aspects of regulation, institutional, city planning, pollution control technology, monitoring methods, raising awareness, law enforcement and funding support, there are an interrelated cycle that cannot work separately.

Detailed introduction to the river management problem is important, as a basis to determining problem solving and choosing the right technology.

Masterplan is a planning tool that used to build river management concepts, harmonize watershed management and formulate action plan that are more measurable and focus on objective/development goals. So its important for Bandung City to develop an integrated plan on river management. It will be our commitment.

Capacity bulding in water quality management must be carried out in the face of dynamics of development

More implementing regulation and raising public awareness are important.

**RIVER
PROFILE IN
BANDUNG
CITY**

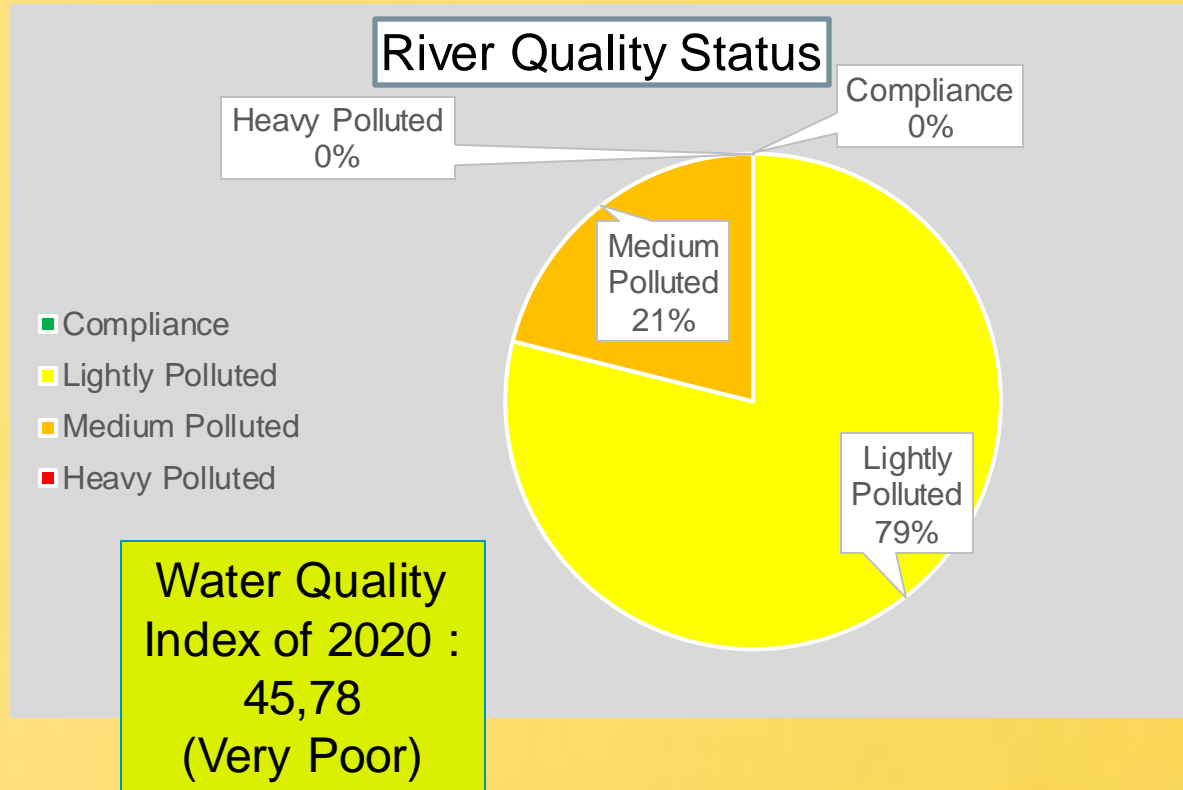


WATER QUALITY INDEX



2020 WATER QUALITY INDEX IN BANDUNG CITY

(Indeks Kualitas Air, IKA)



- ❑ Water Quality Index is an index that shows the quality of river water. The higher the IKA value, the better the river water quality.
- ❑ The Index is calculated from **128 sampling data**. Data collected from 2 periods of river water quality monitoring of:
 - 16 rivers : upstream, middlestream, downstream
 - 8 rivers : upstream & downstream
- ❑ Quality status of these rivers are **79% Lightly Polluted** (101 of 128 data) and **21% Medium Polluted** (27 of 128 data). Meanwhile there is no “Compliance” and “Heavy Polluted” status.
- ❑ Water Quality Index of rivers in Bandung City in 2020 is **45,78** which predicate is **VERY POOR**

The Water Quality Index method used is the Pollution Index method which refers to the Decree of the Minister of Environment No. 115 of 2003 concerning Guidelines for Determining Water Quality Status (Keputusan Menteri Lingkungan Hidup No. 115 tahun 2003 tentang Pedoman Penentuan Status Mutu Air).

The parameters used as the basis are 7 parameters, i.e. TSS, DO, BOD, COD, Total Phosphate, Fecal coli, and Total Coliform.

The Rivers that are Prioritized for Improving its Water Quality

River water quality improvement priority based on

Medium Polluted Quality Status are:

Cikapundung
River

Cipamokolan
River

Cisaranten
River

Cibeunying
River

Cicadas
River

Cikendal
River

Cidurian
River

Cibuntu
River

**IDENTIFICATION
&
INVENTORY OF
POLLUTION
SOURCE**

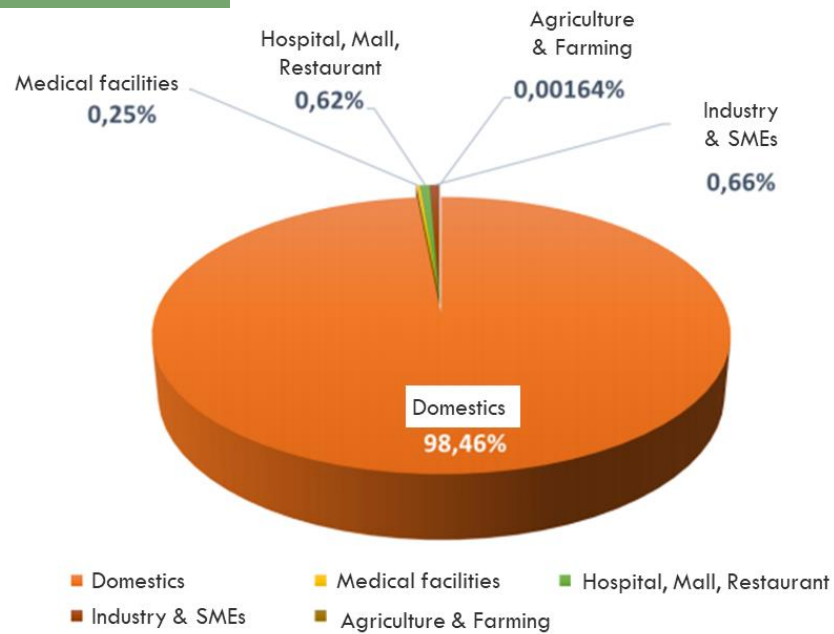


LOCATION OF INVENTORY AND IDENTIFICATION OF RIVER WATER POLLUTANT SOURCES

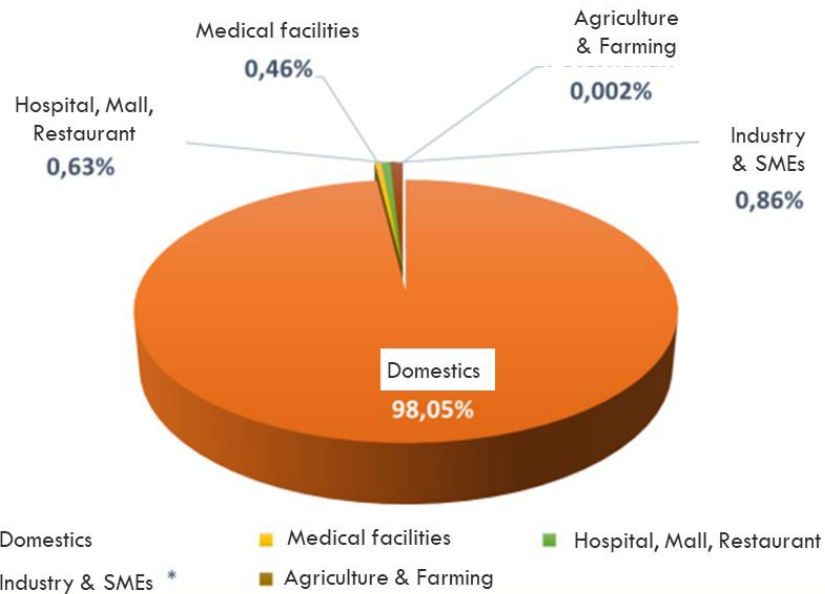
- Inventory and identification of pollutant sources will be carried out in the main rivers in Bandung City
- Until 2020, there are 4 rivers that have executed the Inventory and Identification of pollutant sources. These rivers are the priority because they receive a lot of pollution, both caused by the domestics and by business activities (industry, hospitals, hotels, etc.).
 - Cikapundung River
 - Cinambo River
 - Cipamokolan River
 - Citepus River



RESULT



(a)

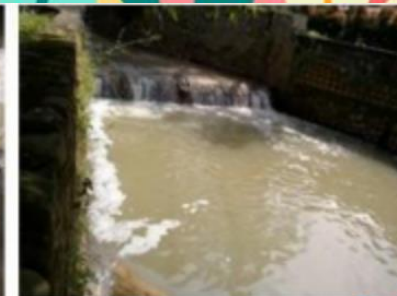


(b)

Contribution of potential river pollution load from parameters (a) BOD and (b) COD

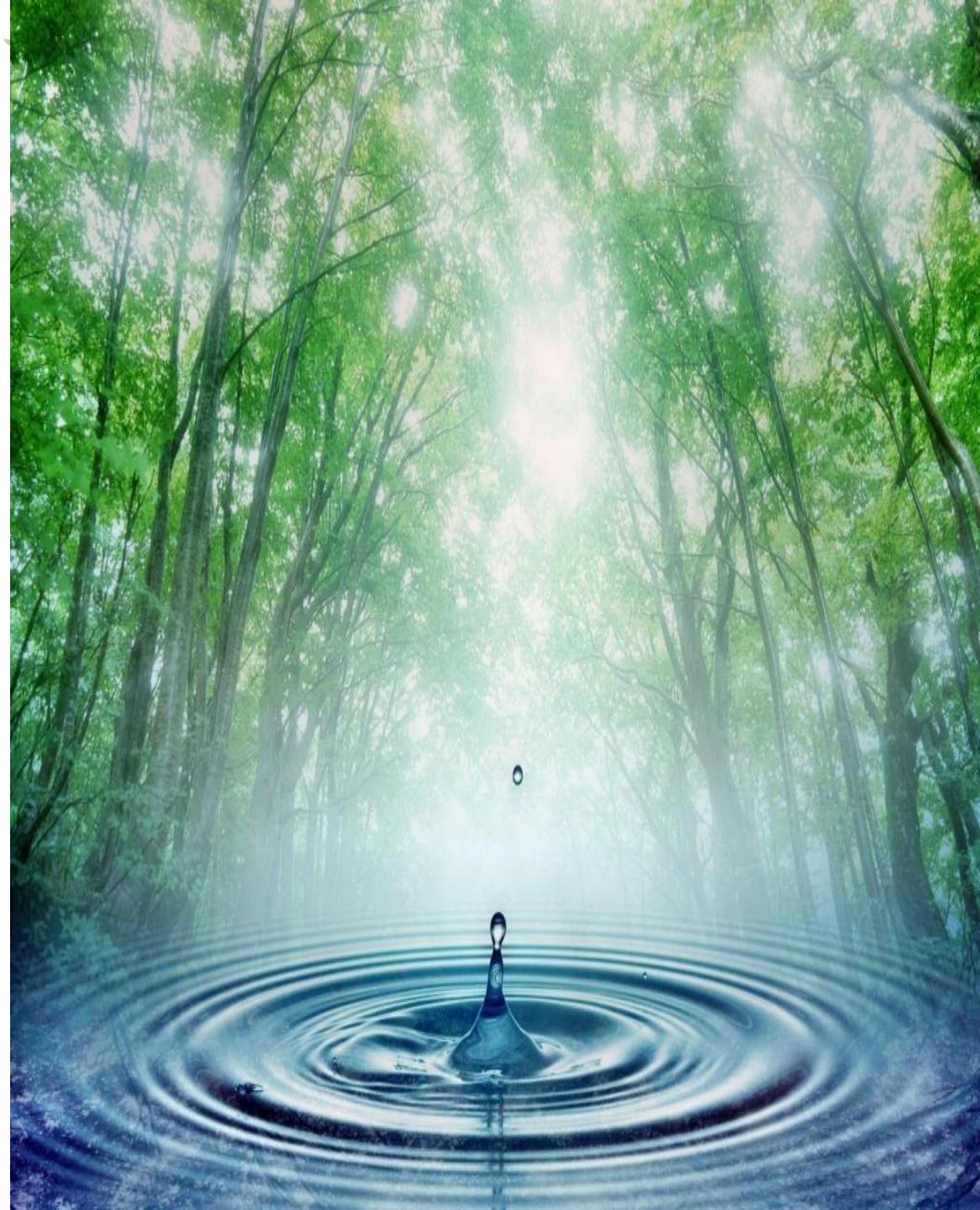
- The biggest potential for river pollution is from the Domestic sector, followed by the Industry & SME sector, Hotels, Malls, and Restaurants, Health, Agriculture and Animal Farming.

- Domestic sector wastewater comes from the discharges of community activities in residential areas

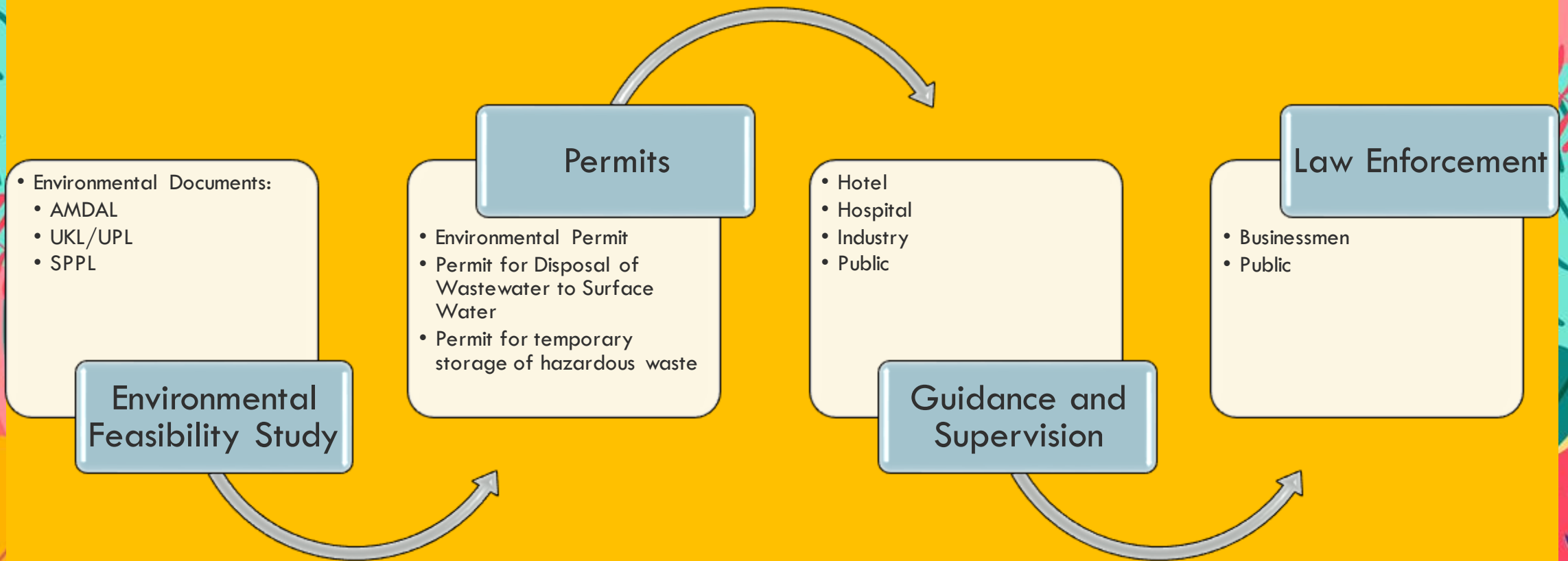




DECISIONS- MAKING POLICY IN RIVER WATER MANAGEMENT AND POLLUTION CONTROL



PLAN AND STRATEGY FOR RIVER WATER POLLUTION CONTROL IN BANDUNG CITY



ACTIVITIES THAT ARE AND WILL BE IMPLEMENTED



Monitoring the quality of the 24 rivers within 2 periods



Compile an inventory study and identification of river pollutant sources



Processing of technical recommendations for compliance with commitments for discharge of wastewater to surface water permits



Perform guidance and supervision of the community and business actors to maintain the quality of river water



Give sanctions to business actors who do not comply with environmental management



Drafting Master Plan for Wastewater Management

Draft of Wastewater Management Master Plan in Bandung City

Domestic Wastewater Management

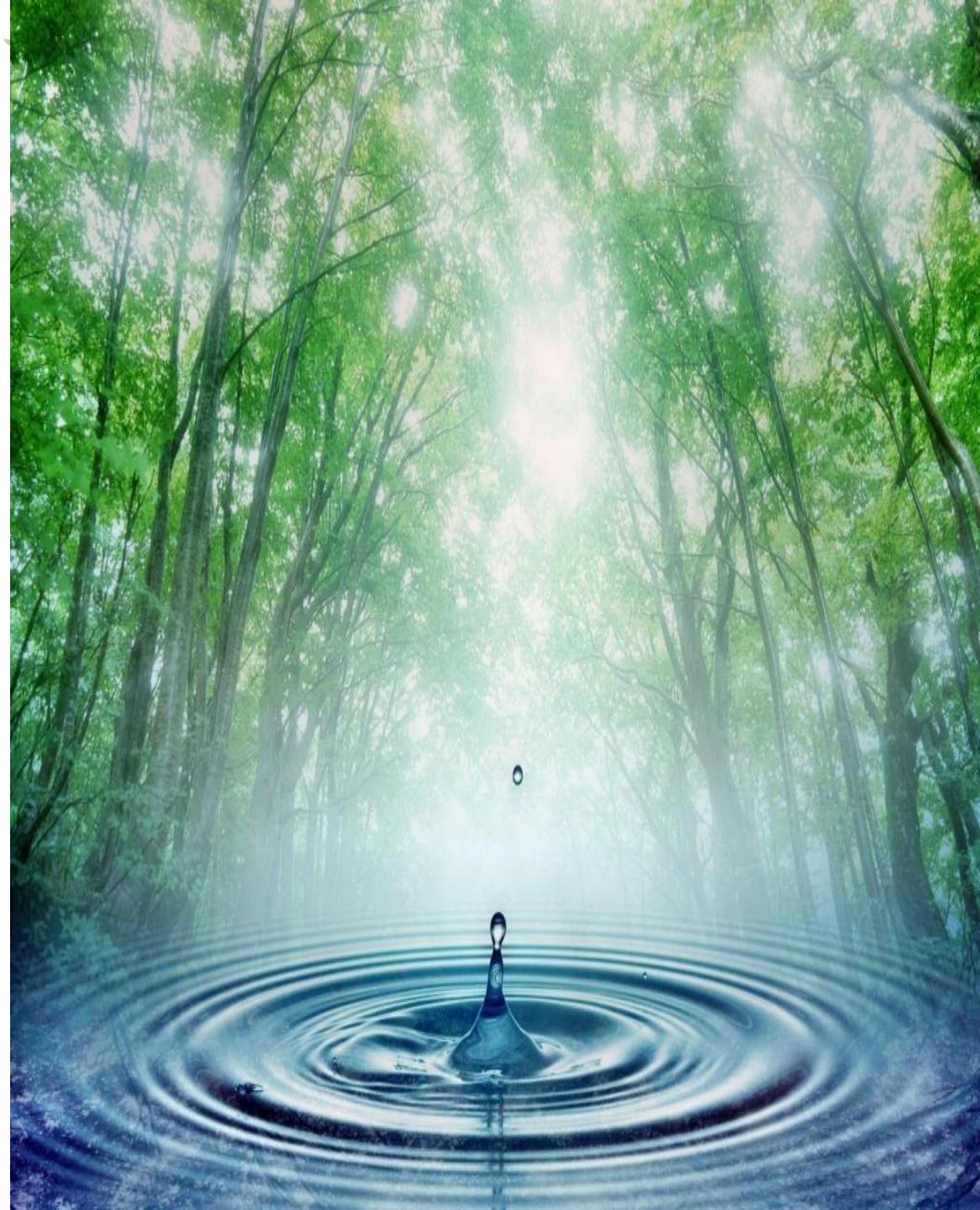
Non-Domestic Wastewater Management

Off-site system : sewerage system from each house

On-site system : WWTP (wastewater treatment plant) in every waste-producer, controlled by wastewater discharge permits



CHALLENGES IN RIVER WATER QUALITY MANAGEMENT





Challenges in River Water Management

- ❖ The river is not always in one city area but located in several districts / cities, so in management it must coordinate with other districts / cities.
- ❖ There are many organizations (regional government) in Bandung that have the authority to manage the river, and still working separately and need integrations.
- ❖ There is still a lack of quality and quantity of human resources who play a role in river water quality management.
- ❖ Based on the river water utilization plan, it is necessary to make regulations regarding the stream standard in Bandung City.



Challenges in River Water Management

- ❖ Speed of housing/settlement/others economic activities is faster than the readiness of environmental infrastructure development and wastewater management infrastructure, so that the current municipal wastewater management system can only serve less than 43% of domestic wastewater sources.
- ❖ In the future, river water will be the source of public drinking water, so it is important to improve the quality of river water in Bandung City.
- ❖ There is still no integrated wastewater treatment planning throughout watershed.
- ❖ There is still no integrated and continuous planning on law enforcement, related to the polluters.

THANK
YOU!

