



# **2018 Taipei International Water Environment Forum**

## **Challenges in Water Provision Bengkulu City**

Taipei, August 29 - September 1, 2018

**Presented by : INDRARINI  
UCLG ASPAC**

# Indonesia



# Bengkulu city Snapshot



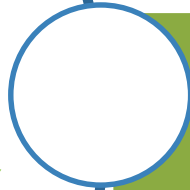
- ❑ **Total area** : 144;52 km<sup>2</sup>
- ❑ **Population in 2018** : 382.000 persons
- ❑ **Located** : West coast of Sumatera island (coastline = 525 km) , Stretching parallel to the Bukit Barisan mountains and across the India Ocean
- ❑ **Capital of Bengkulu Province**
- ❑ Bengkulu lies near the Sunda Fault and is prone to Earthquake & Tsunamis.

City of Bengkulu is an active member of UCLG ASPAC

# Environmental Condition & its Surroundings



Potential Tsunami, meeting place of 2 plates, earthquake

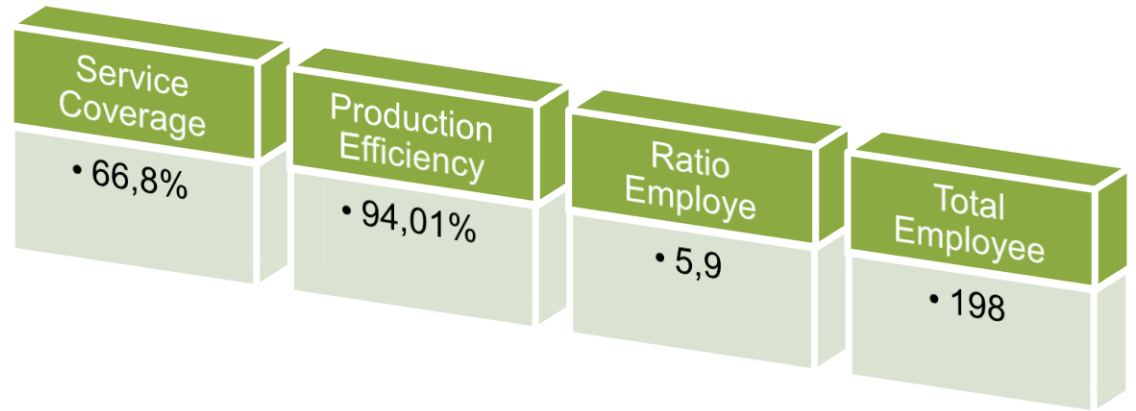


Landslides and flood, forest switching function, so that forest area as Catchment Area is very severe graded



Human destructive activity, decreased carrying capacity, mining coal and crude palm oil production

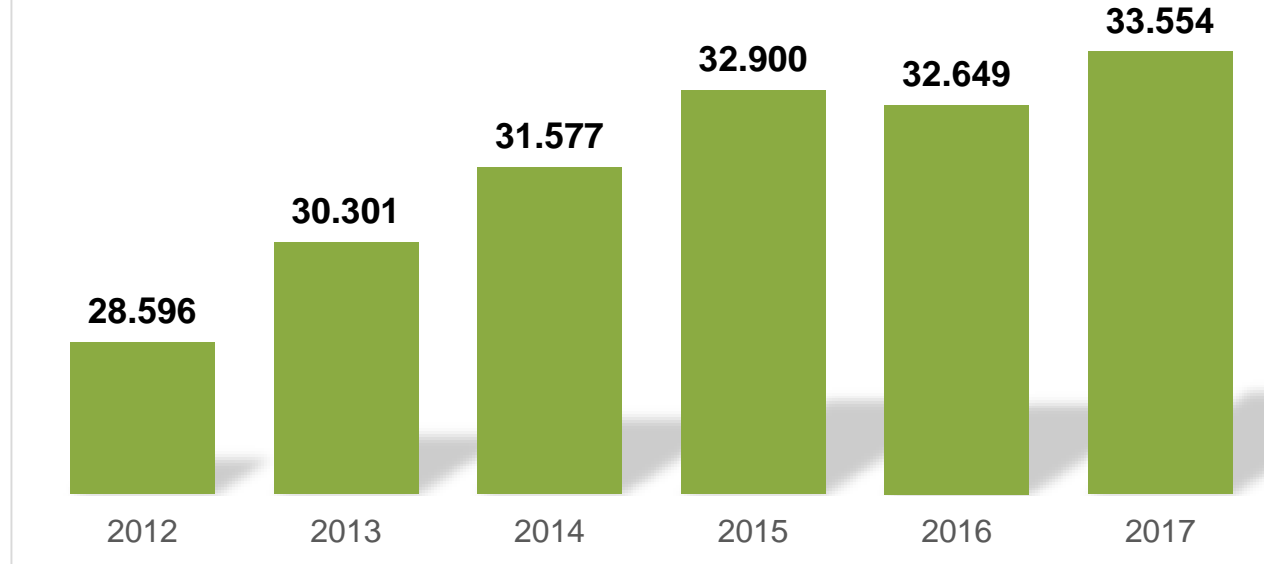
## DATA 2017



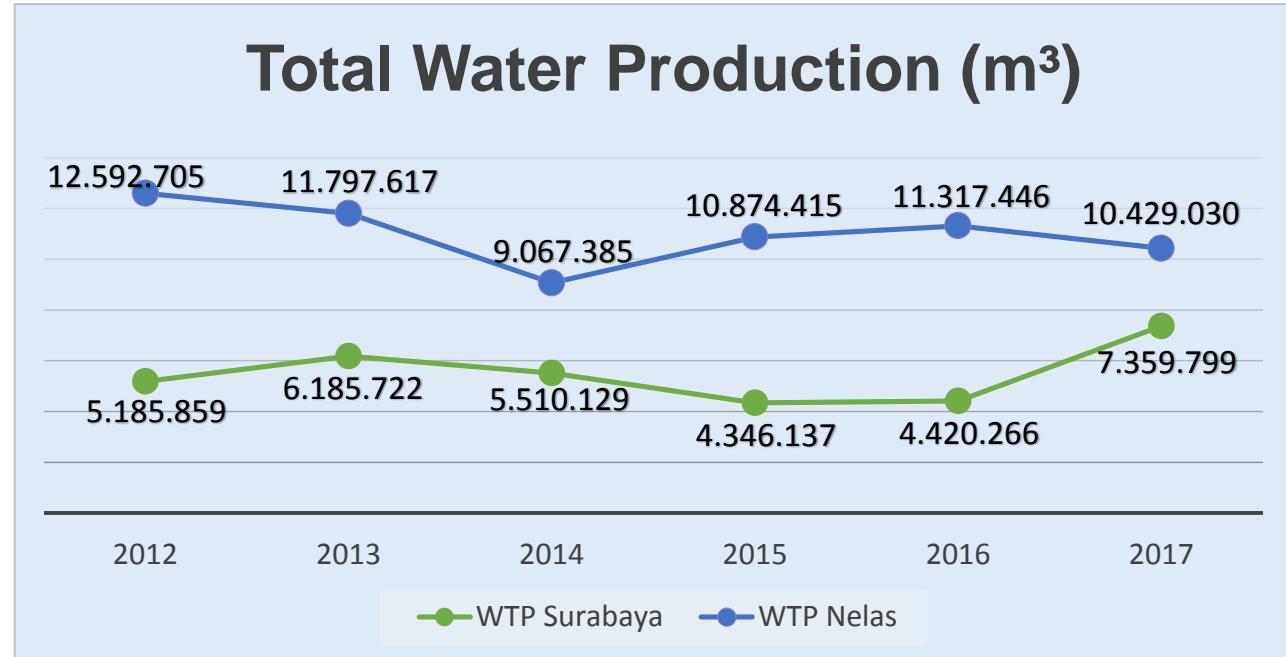
# Bengkulu City Water Supply Company (PDAM )



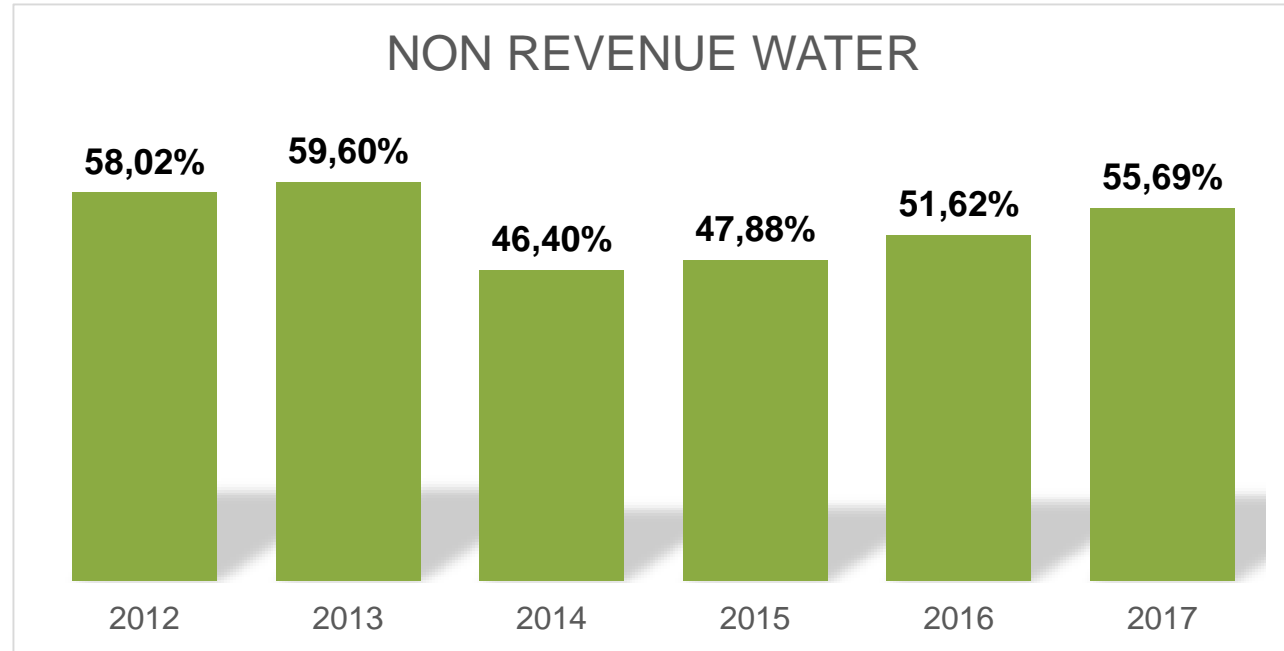
TOTAL CUSTOMER



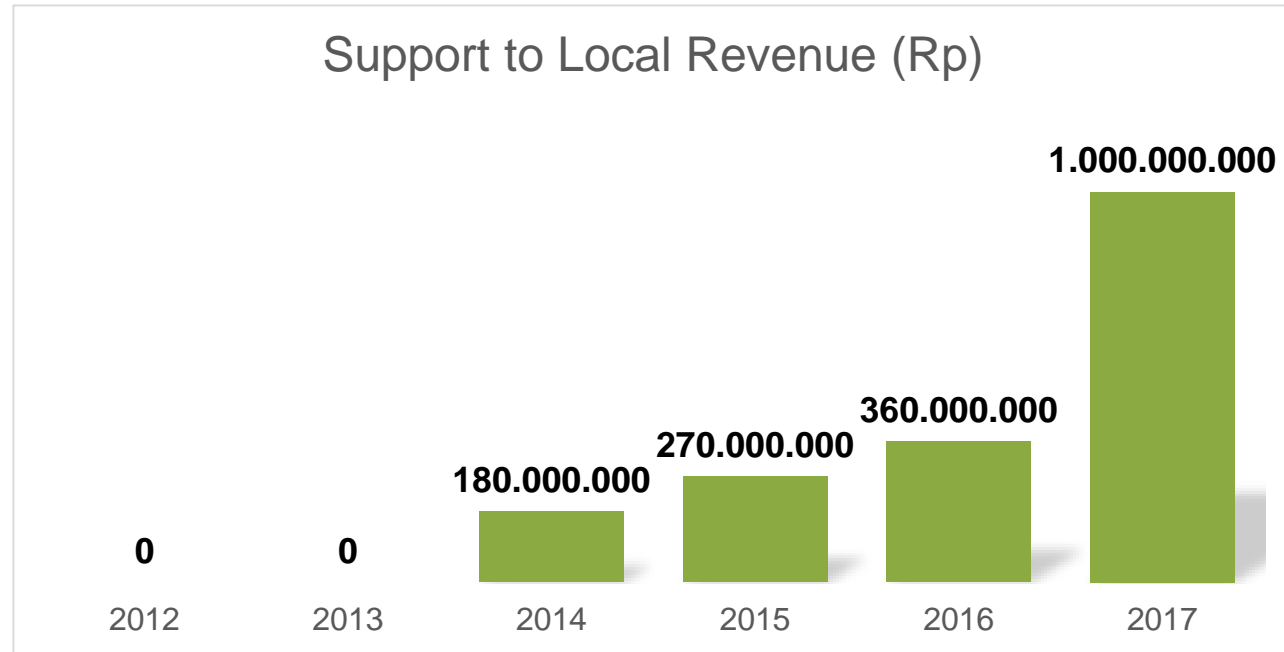
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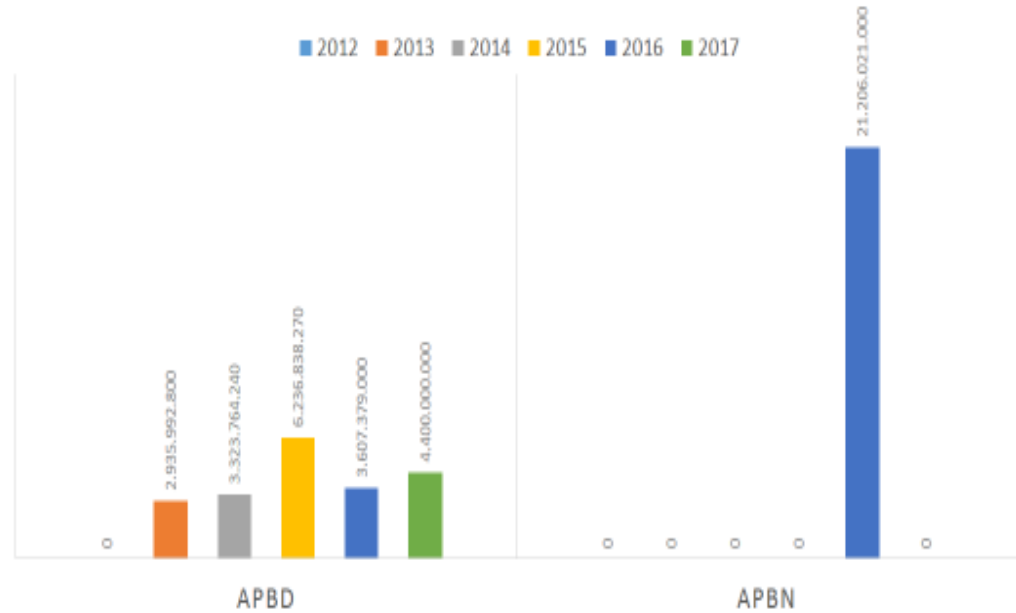


# PDAM Bengkulu Administration & Financial Capability





## CAPITAL PARTICIPATION FROM LOCAL GOVERNMENT



# PDAM Bengkulu Performance Grade Indicator

## Performance Assessment based on BPPSPAM Indicator

ASPEK	TAHUN					
	2012	2013	2014	2015	2016	2017
Financial	0,250	0,250	0,250	0,250	0,700	0,700
Services	0,950	0,850	0,850	0,850	0,800	0,850
Operational	1,060	0,995	0,725	1,060	1,210	1,210
Human Resources	0,360	0,360	0,360	0,430	0,430	0,430
Total Value	2,620	2,455	2,185	2,590	3,140	3,190
CATEGORIES	Unwell	Unwell	Sick	Unwell	Healthy	Healthy

Sources Data : Performance Audit from BPKP/ Governemnt Financial Audit Agency

# Common Obstacle in Water Supply Provision

1. Institutional  
and Regulation

2. Lack of  
Funding  
Capacity

3. Deterioration  
of Raw Water  
Quality &  
Quantity

4. Low Service  
Coverage & its  
quality

5. Low people &  
Private  
participatory

# Most problems description examples

- 
- ❑ Disintegrated development programs
  - ❑ Low capacity of human resources & institution as the provider of water supply
  - ❑ Lack of fund of development & O/M due to low tariffs.
  - ❑ Sometimes low commitment of local government to fund the development
  - ❑ Raw water capacity is decreasing as a result of inappropriate Catchment area management
  - ❑ Raw water quality deteriorated as a result of human activities regardless the environment protection.
  - ❑ Low pressure in distribution system
  - ❑ NRW still high
  - ❑ High cost of new connection

# Challenges faced by PDAM Bengkulu

## Technical Problems:

- ❑ Production and Distribution Flowmeter have not function as should be
- ❑ Pipeline network need to be replaced/changed
- ❑ High NRW
- ❑ Inaccurate meter reading ( android need to be changed by Chip system)
- ❑ District Metering Area / DMA did not yet formed
- ❑ No GIS system yet to control flow and pressure on the distribution network
- ❑ Hilly area make it difficult to squeeze water distribution
- ❑ Low Energy Efficiency ( electricity and chemical consumption are high )

# Serious challenges of environmental damage that affect WTP operations :

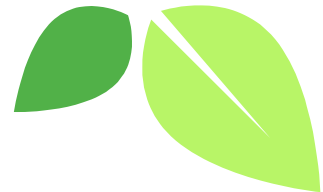
- ❖ Raw water resources is obtained from Bengkulu River, length of 43,75 km , with the Catchment area of 500 km<sup>2</sup> , with the debit maksimum 30,2 m<sup>3</sup>/sec , very high Turbidity ( 135 – 24.000 NTU)
- ❖ It is verymuch influenced by weather and due to activities in the upstream, makes the quality and quantity decreases.( coal mining , crude palm oil production)
- ❖ Raw water pollution **VS** simply water treatment proccess ( package system with non Presed , minimal detention time and can not be treat water > 1000 NTU )

# The Water Treatment Plant Facilities





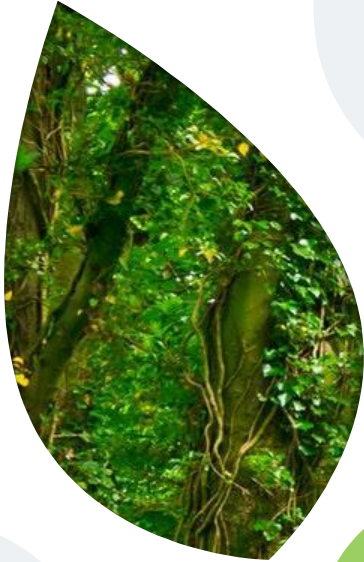
# The Water Treatment Plant Facilities



# Raw Water Condition and Its Quality



# Stream condition and its environment



# Community activities to collect Coal waste





What PDAM  
Bengkulu City  
does in  
tackling the  
problems ??

# Policies:



Increasing Service Coverage & Water Supply Quality

Development of funding Resources


Development of Institution & Regulation

Sustainable Raw Water provision

Improving Role & Partnership among business sector private & people



# Strategy

- ❖ Developing water provision especially to Low Income people
  - ❖ Developing water supply asset management to enhance effectiveness & efficiency of water supply provision
    - ❖ Developing information system and data base
  - ❖ Improving roles of private sector in the funding of water supply provision
  - ❖ Implementing Good governance & good corporate government principle
    - ❖ Watershed conservation campaign & water resource protection
    - ❖ Improving community empowerment, particularly for Low income community
- 



# Implementation of real Step

- Empowerment the HR through Training & Twinning program
- Good relationship among Stakeholder, Central government, legislators, media and customers
- Having a Corporate Plan
- Seeking actively to get grants
- Actively participate in the Catchment area management activities :  
River and watershed protection
- Cooperation related to the water resources management (NGO's , Ministry of Environment, etc )
- Control pressure in the distribution network
- Create NRW reduction program (established the DMAs etc)
- Plan to improve the performance of WTP by constructing a Pre Sedimentation Tank



A decorative graphic on the left side of the slide. It features a large, light blue circle at the top left, a smaller light blue circle at the top center, and a larger light blue circle at the bottom left. Overlaid on these are three stylized leaf shapes. The top leaf is a solid blue shape. The bottom-left leaf contains a photograph of a field of yellow sunflowers. The bottom-right leaf contains a photograph of a field of yellow sunflowers with several white wind turbines in the background under a clear blue sky.

Special appreciation  
to the Director of  
Bengkulu City Water  
Supply Company  
,Mr SJOBIRIN  
HASAN , to bring  
along with the  
Managers to attend  
this Forum

