

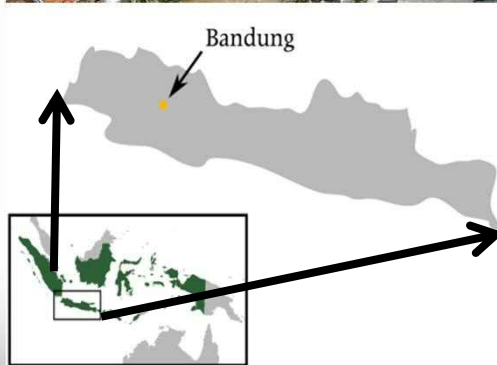
Water and Wastewater Management at Resettlement Area in Bandung City

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Demographic



- With 167,3 km² of its area, Bandung was home to 2,4 million people at night and had 3,2 million people in the morning.
- Administratively, Municipal Bandung is divided into 30 districts and 151 sub-districts.
- Bandung City Master Plan is determined from the year 2012 to 2031.
- According to the Indonesian Bureau of Statistics, in the year 2031, Bandung will be settled by at least 3,4 million people at night and populated by 4,5 million people at noon.

Water and Wastewater Challenges

- Coverage of Fresh Water Supply service under 70%;
- Percentage of water loss from Leaked Pipeline relative high (over 10%)
- Coverage domestic waste water service lower than 50 percent
- Decreased Level of Ground Water Surface from 0,8 to 4 m per year;
- Quantity of potable water sources from river decreasing as the impact of the raise of river pollutions only 2 rivers from 46 rivers can be utilize for water treatment plant;
- Over 15% city populations live in riverbank area which hardly to access by common city utility services such as waste collecting, fresh water pipeline, and proper sanitations facility and generates 80% of water pollutions;



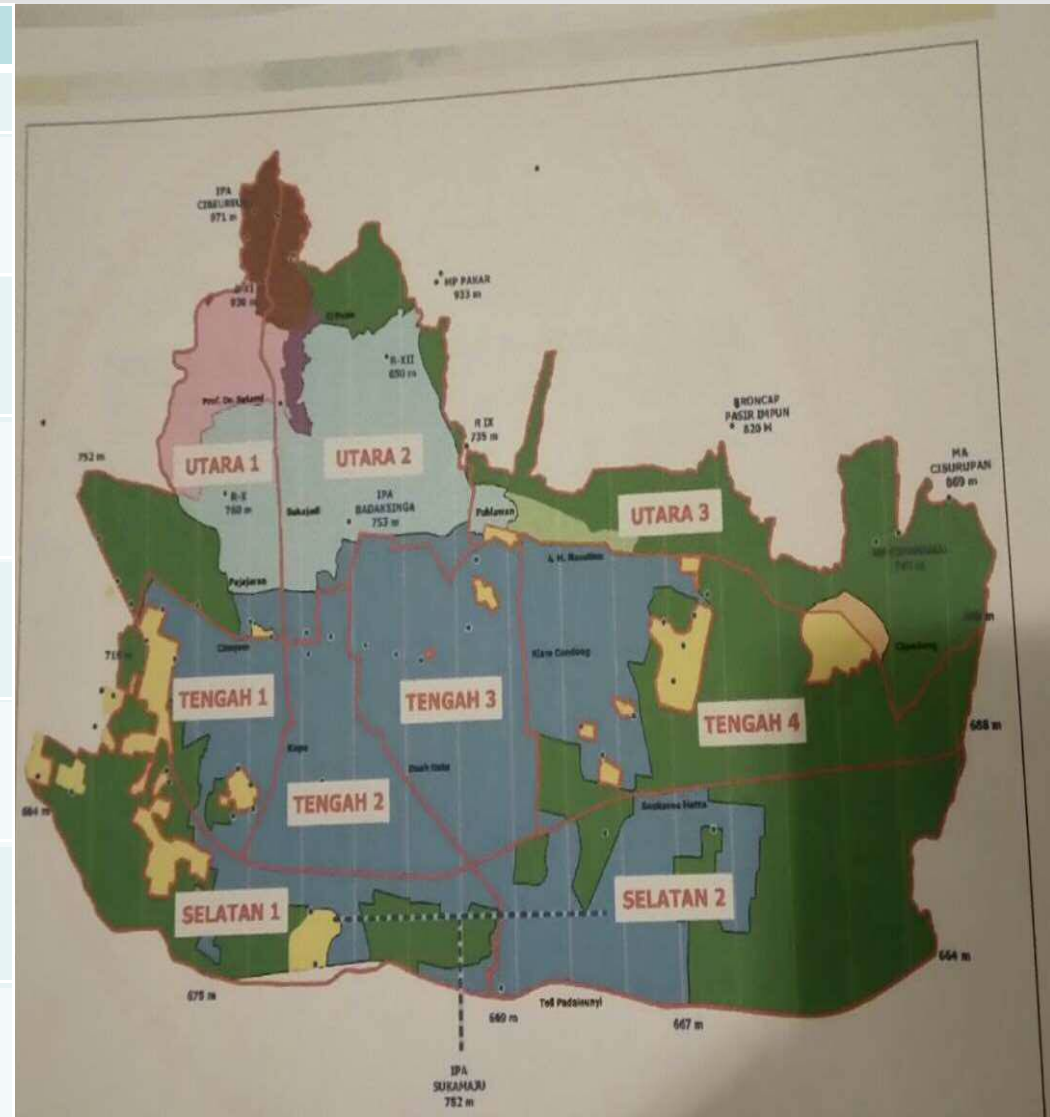
Communal Septic Tank

Communal septic tank will be build to treat the sewage from Ecovillage#1 community. The sewage will pass through sewer pipes to the communal septic tank.



Map of Bandung Water Resources, Coverage Area and Planing Zone Borders

Map Mark	Legend
Black Spot	Water Resources
Green Area	Uncoverage by Public Water Supply System
Pink Area	Supported by Ledeng Water Treatment Plant
Pale Yellow Area	Supported by Ground water Well
Light Blue Area	Supported by Badaksinga WTP
Purple Area	Supported by Cibadak water Springs
Dark Brown Area	Supported by Ciwangun water Springs
Orange Area	Supported by Cipanjalu & Cisarupan WTP



Clean Water Supply Coverage per area in Bandung City

Area	Districts	Sub-Districts	Populations	% Coverage Service
West Bandung	5	23	610.544	12
Center-South Bdg	11	30	920.185	35
East Bandung	15	58	1.089.743	15
North Bandung	7	27	672.049	40



Effort to solve Water Supply Deficits

- Government of Bandung City targeting Increasing Clean Water Supply Capacity from 2.600 lt/sc (2013) to 5.750 lt/sc (2018);
- PDAM Tirtawening Committing to reduce the rate of water loss from >10% to 5% in 2018;
- Government of Bandung City planning to build 46 River Water Filtration Installations from 2015 – 2018 to addition amount of fresh source water supply;
- Increase water supply from artesis and pipping line at high density settlement;
- Improving fresh water supply from additional source such as Ground Water and Rainwater Harvesting.



Effort to solve the increasing of Surface Water Pollutions

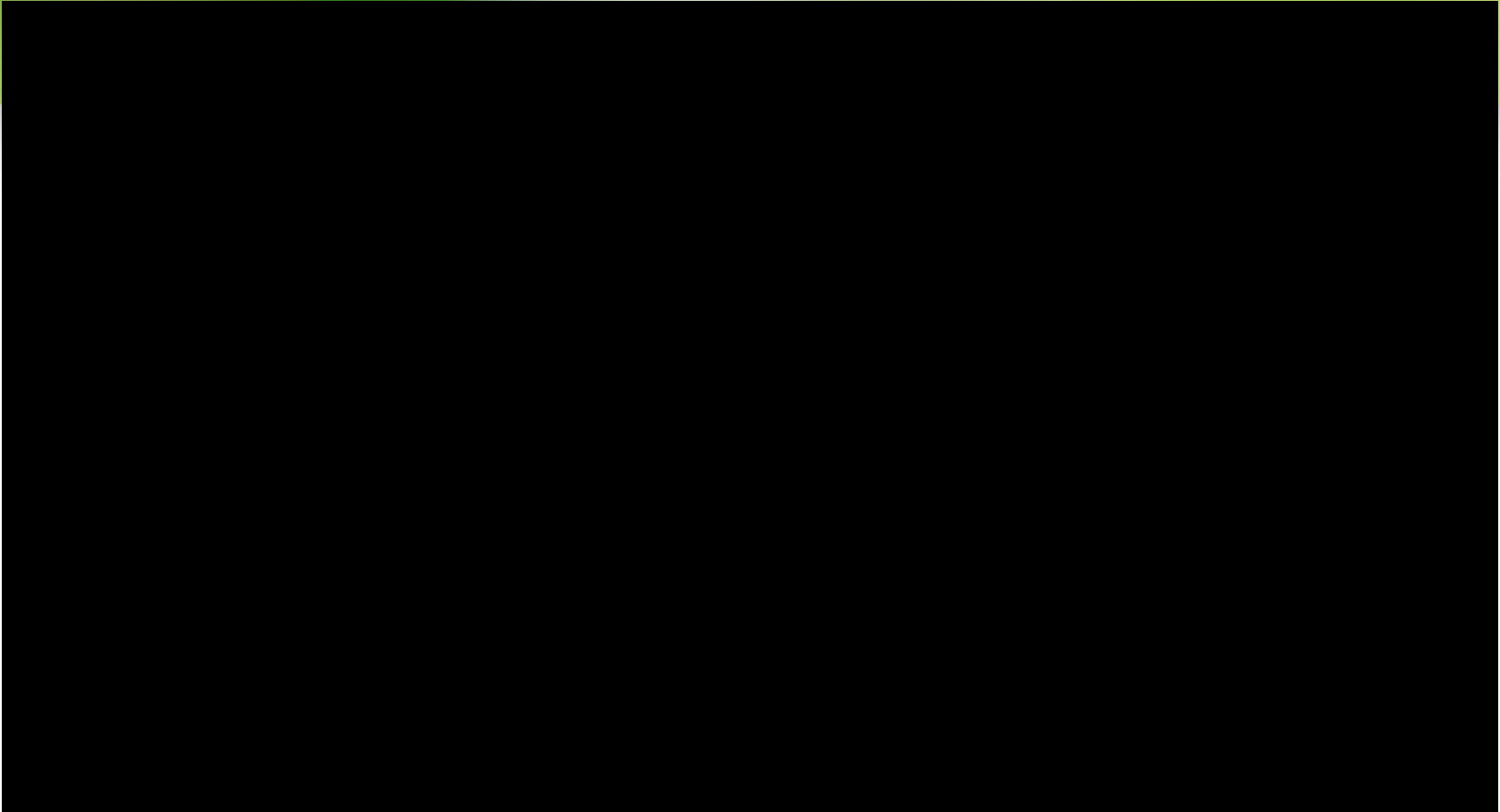


- Effluent monitoring from Wastewater Treatment Plant at industrial, hotel, hospital and commercial activity site;
- Annual River Quality Monitoring for 16 rivers in Bandung.
- Small River Restoration;
- Increasing Septic tank comunal at high density settlement.



Effort to solve the Decreasing of Ground Water Surface

- Ground Water Management Policy through Local Law Number : 03 year 2012 About Ground Water Management;
- Build and develop in Massive Quantity of infiltration well, bio-porous holes, and shallow well;
- Increasing ground cover at open green space
- Using porous concrete in public utility
- Permit Limitation of Ground Water Exploration and Exploitations for commercial use in critical zone;
- Excessive close and state controlling upon Illegal Drilling Well;
- 10 % Annual Debit Reducing for every permit holder at yearly permits her-registration.



Porous-concrete technology provide by Holcim mortar & portland (Thrucrete)which utilize At Tegalega Park and will implement at many area in Bandung to increase water infiltration



Model with a cap

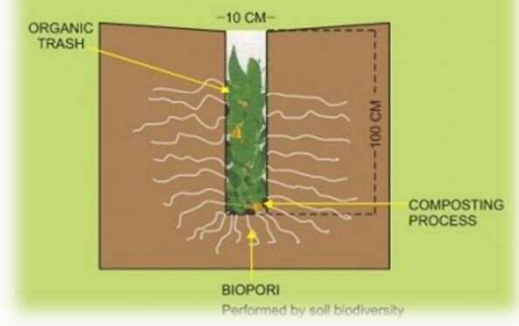
Model with a secondary funnel and open pipe



Model with gravel placed around the opening and draining down through a pipe covered by a pot



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• Thank You