

# Sentul City

## Lessons Learned

### Sentul City

Sentul City is a greenfield development by the Sentul City PT. Located in a mountainside region, close to Mount Salak and Mount Mas, it is also conveniently close to the toll road, and it is home to 8,000 permanent residents who live and work in Jakarta or Bogor. It also functions as a resort and hotels area, with approximately 2,000 residents living in Jakarta during the week and using Sentul City as a weekend retreat. 9 villages are also located within the Sentul City area, and many local villagers are employed to work in the commercial areas of the city. A large part of the Master Plan has already been built and additional housing and commercial projects are currently under construction.

High quality, sustainable and green living is an integral part of Sentul City's development plan. The overall aspiration is to become a pioneering Global Green City embodying Water Sensitive Urban Design. However, the area faces challenges related to water scarcity and increase in stormwater runoff due to land use changes. The cluster provided a set of recommendations for the adaptation of the Master Plan towards a more water sensitive city. The project proposes to upscale the pilot initiatives currently in use in Sentul City such as V-drains and vertical gardens and assess the potential of alternative water sources such as rainwater harvesting to reduce the need for city water supply.



POPULATION  
**11,000**



AREA  
**3,100 Ha**



POPULATION DENSITY  
**3.54 / Ha**



DEVELOPERS  
**SENTUL CITY PT**

## ISSUES



### STORMWATER RUNOFF

Rainwater is not absorbed due to the impervious nature of the soil, and therefore flushes down the streams and causes floods downstream.



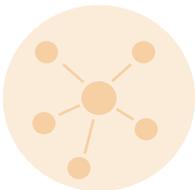
### WATER SCARCITY

Underground water wells are not sufficient to support the current and future population.



### RIVER POLLUTION

Water bodies in the area are exposed to waste water discharge from some dwellings and commercial buildings.



### INTEGRATION OF THE LAKES WITH OTHER WATER CONNECTIONS

Some lakes in the area are disconnected from the surrounding.



### WASTEWATER MANAGEMENT

The existing wastewater plant is not operational, therefore, treatment relies on septic tanks.

## PLANNING RECOMMENDATIONS

- » Integrate WSUD principles more actively in the master planning of the current and future areas of Greenfield development.
- » Include alternatives for water harvesting in large commercial building areas to reduce dependency on city water supply and reduce stormwater runoff.
- » Integrate public and active transport options in the masterplan to reduce the need for private cars and motorcycle use.
- » Promote sustainable land use alternatives integrating green and blue open spaces into the design and planning process.

## URBAN DESIGN RECOMMENDATIONS

- » Develop guidelines for developers to integrate WSUD in the public and private open areas for residential and commercial projects.
- » Promote the active use of public open spaces as a places for community interaction, offering alternatives different than shopping malls and other private spaces.
- » Connect public spaces with well design pedestrian and bicycle lanes to promote more active transport and community wellbeing.
- » Integrate native species into the landscape design of public and private spaces

## G.I ADAPTATION RECOMMENDATIONS

- » Upscale current initiatives to promote stormwater treatment and flow attenuation such as V-Drains and Raingardens
- » Develop incentives for developers and residents to incorporate rainwater harvesting in their buildings (reduction in water prices or tax incentives).
- » Integrate vertical gardens in large commercial surfaces (i.e. Aeon mall) to treat light sources of greywater and increase greenery and reduce CO<sub>2</sub>.
- » Develop assessment guides to evaluate the impact of Green Infrastructure in the environmental performance of Sentul City (i.e Cost-benefit analysis). This can provide support for the business case proof for further adoption of GI.

## G.I REPORT MAIN FINDINGS

- » Sentul City has developed small scale pilot projects for GI that are a valuable first step in the progress towards WSC.
- » The V-Drain along the main road in Sentul City is one of the largest GI implementation projects in Indonesia and can provide good support for wider adoption
- » The use of large vertical gardens and green roofs in some hotels show that these systems can be implemented successfully in the Indonesian context.
- » Despite water scarcity, alternatives such as rainwater harvesting and greywater reuse are not currently used. There is potential to introduce green infrastructure systems to address this issue.

Green Roof (Neo Green Savana Hotel)



Vertical Garden (Aston Hotel)



V-drain on the main access road

