

# Infiltration Wells and Biopores, Solution to Overcome Jakarta Floods

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UGM flood expert, Dr. Eng. Ir. Agus Maryono, urged the Jakarta administration to take immediate preventive measures to address sea level rising and ground water level falling that allegedly will make Jakarta submerged within the next 50 years. The lowering of ground water level reaches 0.5 - 12 cm per year while the increase of sea water is about 0.9 cm per year. "It is estimated that within 50 years, Jakarta will sink because of sea level rise by up to 25 cm," Agus Maryono said on Thursday (30/9) in a discussion with reporters on flood problems and decline in ground water in the city of Jakarta.

The rapid development of infrastructure in the last 20 years has caused the decrease in the amount of green open space in Jakarta where the green space is used as water infiltration areas. "It has left the green area in Jakarta to only 6.6 percent currently while 15 years ago it was 28 percent," he said.

To overcome the problem of flooding, the Chief Manager of Master of Engineering Systems (MST) advises the government to evaluate Jakarta's development master plan that is more focused on the revitalization of the river as a means of transportation. He said the master plan has not been able to accommodate or even anticipate the rapid changes of urban development. For example, in Jakarta the conversion of wetlands (Rawasari, Rawamangun, Rawabadak, Rawajati) into developed regions has occurred.

"There are about 13 rivers in Jakarta, all now experiencing sedimentation. In the year 1816, boats could float in Jakarta rivers," said the man born in Sukoharjo, Solo, on 11 November 1963.

Agus Maryono added that the concept of Greater Jakarta (Jabodetabek) in the perspective of flood management should be developed into Jatasebeker (Jakarta, Serang Tangerang Bekasi Karawang) as



it relates to river management. In addition, regional decentralization (local autonomy) should not hamper cross-regional flood management. Addition of forest covers in upper watershed areas. The Jakarta administration needs to consider the scale of urban development in North Jakarta, so it does not burden the city and causes a change in ground level.

According to Agus, flood control that can be done through upstream region management consists of reforestation and forest conservation, management and conservation of agricultural-plantations land, as well as conservation of river basins, lakes, and ponds, both large and small. No less important is the management and conservation of watersheds in rural areas.

Agus called on all parties ranging from government, private companies to the public to work together to overcome the problem of decreased water level and flooding by building infiltration wells and biopores around the house yard. "The capital is ours; it is a must for us to contribute our thoughts. Our awareness and efforts are needed in this case," he said.

Answering to reporters' questions, he said that Yogyakarta has not experienced the groundwater decrease. Although in some places such as Jambusari, Condongcatur, the decrease occurs each year. "The lowering of ground water here has not been a problem as long as the areas around Mount Merapi are still used as open green areas," said the doctoral graduate of the University of Karlsruhe, Germany, in 2000.

Even so, he suggested that other areas having groundwater, Bantul and Yogyakarta, must support the reforestation program in the water catchments in North Jogja.

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