

## UGM Students Invent Drinking Water Generator from Air

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Students of Universitas Gadjah Mada never stop innovating. This time, several students invented a machine that extracts clean water from air, “Magic Water Harvester”.

“Magic Water Harvester is developed as an alternative solution of water shortage issue in some parts of Indonesia,” said Amalia Adinugraha Arisakti, one of the developers, Thursday (7/4) at UGM.

Amalia with fellow Agricultural Engineering students, Arjuna Maulana Rifqi and Dimas Sandy D.R., were inspired to create the machine after examining the potential of generating clean water from air. As a tropical country, Indonesia’s relative humidity is around 80%.

“The fact shows that Indonesia’s air contains plenty of moisture,” she said.

Meanwhile, the demand for clean water continues to increase. The average daily water use ranges between 169.11 liters/person and 247.36 liters/person. In fact, by 2025, Indonesia is expected to suffer from water scarcity due to the lack of sufficient water resources to meet the demands.

“We hope this machine can be a solution for obtaining clean water.”

The machine is able to generate water out of air rather than groundwater. It is composed of four main components, including a peltier, heat sink, fan, and power supply.

It operates by using the dew point principle. In order to convert air into water, the machine lowers the air temperature with a heat sink below the dew point. Then, condensation is formed and the dew turns into water drops.

“The machine has been tested at the FTP Laboratory and it generates 70 ml of clean water.”

Amalia said that the obtained clean water is still insufficient. It is because the invented machine is only a small prototype that needs further development in the future.

The three students will continue developing the machine by maximizing cooling system and using renewable energy as an energy source. In addition, they will also enlarge the cool surface to achieve maximum results.

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