

UGM Students Develop Fog Reaper Technology

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Long term draught escalates water crisis. This did not happen in east Indonesia only but also other regions, particularly in the high altitudes, for example in the Ngoho hamlet in Kemitir village, Sumowono sub-district of Semarang, Central Java.

During the dry season, hamlets in Semarang that are adjacent to Temanggung regency always lack of water. The Central Java Geology Agency had built an arthesis well of a depth of 200 m, but this did not work successfully. So, people still have to toil themselves to get water.

In the meantime, Ngoho hamlet in the high altitudes of Ungaran has the potential in fog energy that can be used to reduce water crisis in the area. It is almost foggy there every day, but this potential has not been utilised due to lack of technology.

A number of students of Civil Engineering and Environment Study Programme of UGM, Aditya Riski Taufani, Puji Utomo, Taufiq Ilham Maulana, and Musofa, were moved to help resolve the water crisis by applying the fog reaper technology that can collect the water in the fog. "This technology is expected to resolve the draught issue in Ngoho," said Aditya, chairman of the team, on Thursday (11/4).

The programme was produced in the Student Creativity Program for Research 2013 funded by Dikti. Under the supervision of Prof. Dr. Ir. Fatchan Nurrochmad, M.Agr., they started developing fog reaper technology since February.



Aditya said the technology is very simple. It consists of a polypropylene net that is supported by two poles to catch fog water. The water is distributed through pipes and contained in water jugs. “The system we develop is very simple and economic, so it is very possible to be produced massively,” he said.

Puji Utomo said since February, one installation of the technology could produce between 1.5 - 3 litres of water every day. Meanwhile, Puji and friends have installed two units as a pilot project to determine water debit.

He is optimistic though that in the future when many units have been installed, the water they produce can be utilised to meet water demand. “We’re optimistic this technology would be successful to meet water demands, so draught is no longer an issue in Ngoho, also in other areas in Indonesia,” he explained.

In the future, the four students plan to develop the technology using machines so that it can collect water in greater amount.

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