

# UGM Researcher Makes Precipitation Threshold Based Landslide Early Warning System

Friday, 18 May 2018 WIB, By: Marwati



Researcher from Faculty of Geography UGM has developed Landslide Early Warning System that is simple and easy to operate, named as Sipendil.

Sipendil is a system that works based on precipitation threshold, developed by Environmental Geography lecturer Nugroho Christanto, M.Sc., and Dr. M. Anggri Setiawan, M.Sc., and Sul Khan Nurrohman, S.Si., alumnus from the Faculty.

The system uses simple and easily available components. It has two main components, rainwater container and box controller. In the box controller there are some components such as spillway tap, LED light, threshold controller, and power.

Sipendil has been installed in 40 spots in Temanggung, Wonosobo, and Banjarnegara that are landslide vulnerable.

“The idea to make this tool emerged in 2013 which came from the request of the people of Sitieng,



Kejajar, Wonosobo, who were worried by landslide possibilities,” said team chairman, Nugroho Christanto, to reporters on Friday (18/5) at UGM Public Relations Office.

Nugroho said to use the tool, users should empty the tube each day by turning the tap and noting the volume of the water that is contained. This is used to determine the threshold of the rain for landslide. Threshold value is estimated by threshold controller. Sipendil can be set at 55, 60, 65, 70, 75, and 80 mm.

The Early Warning System would work based on the precipitation threshold. If the water contained in the container is over the threshold, alarm will go off to warn the people.

“The Early Warning System is also equipped with LED that will turn on if the precipitation is over the threshold so even deaf people would be able to see it,” he said.

The rainwater measurement, said Nugroho, can be developed with simple and easily available tools, such as plastic bottle, PVC pipe, or plastic funnel. Sipendil has been produced in mass and sold at Rp1.5 million per unit. Nugroho and team also give services to those that need guidelines for making the tool.

“We hope the society could develop by themselves this Early Warning System,” he said.

---

## Related News

- [UGM Landslide Early Warning System Becomes World Reference](#)
- [UGM Team Present Early Landslide Detection System at International Standard Organisation](#)
- [UGM - BNPB Cooperate in Landslide Early Warning Tools](#)
- [UGM Rector Leads Landslide Mitigation Team to Ponorogo](#)
- [Landslide Detection Tool Brings Ministry’s Award to Faisal](#)