

DEPED STORY**2019 NSTF delegate hopes to save Mother Earth one tree at a time**

Grade 10 student Maryjoise Karla Buan always visits his father who works at a power plant in Sual, Pangasinan. The road she travels gives her an unobstructed view of the mountains. However, instead of admiring lush forests blanketing the mountain's surfaces, she ends up distressed by the land that is almost parched and barren. And Karla knows the culprit—illegal logging, *kaingin* or slash-and-burn agriculture, and other activities carried out by humans.

This is what prompted Karla to create a device that aims to detect signs of activities which lead to deforestation. The "Solar Powered Anti-Illegal Logging and *Kaingin* Alerting Device Through Global System for Mobile (GSM) Communication," her entry to the 2019 National Science and Technology Fair (NSTF), will not only determine the capability of a solar-powered alerting device for detecting signs of deforestation activities. It will also help reduce, albeit gradually, the effects of the continuously worsening climate change and global warming.

For P3,000, Karla was able to use Arduino R3 as the microcontroller, flame sensor, smoke sensor, and sound sensor which are all used to detect possible signs of illegal logging and burning of trees. She also used GSM Shield Sim8001 which, when connected and coded to the Arduino R3, will send a text message to alert those concerned in case the factors being monitored by the specific sensors are detected.

"For example, when the sound sensor detects a sound of chainsaw, or when the flame sensor and smoke sensor detect flame and fire, the GSM will send a text message to, for example, a forest ranger," Karla shared.

This Pangasinan National High School student plans to take up the Science, Technology, Engineering, and Mathematics (STEM) strand under the academic track for Senior High School. She dreams of becoming a pilot—which might seem far-fetched from her research project at first, but oh, who wouldn't love to fly over verdant forests that shelter an affluent flora and fauna? "Someday," she hoped.

Indeed, there is a difference between knowing that Mother Earth needs saving, and actually doing something about it. Many people travel to her father's work site daily, and see the same view that troubled her. But Karla chose to act on it, and this year's NSTF provided her with a venue to present her research to stakeholders.

Win or lose, Karla plans to propose this undertaking to the Department of Environment and Natural Resources (DENR), and to whoever wishes to take part in saving the environment, one tree at a time.

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