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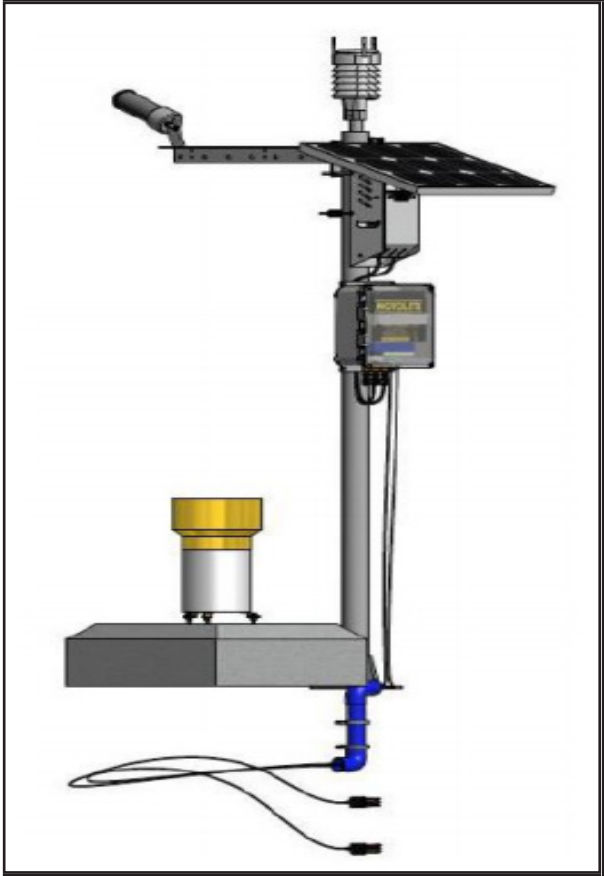
Providing streamlined and updated account on **PCAF** and its **Advisory Special Bodies'** resolutions and policy studies

PCAF US-PL480 funded Agro-Met stations spells risks ahead on highly vulnerable agricultural areas



3D render of AWS

Agro-Met station uncovered

The Agro-Met station is a hub that uses advanced remote data acquisition unit (arQ) with multiple weather sensors that can simultaneously measure solar radiation, wind speed and direction, air temperature, humidity and pressure, rainfall amount, duration and intensity, soil temperature and moisture, and sunshine duration.

These weather parameters provided by the Agro-Met stations are essential for planning and monitoring on highly vulnerable agricultural areas as well as disaster risk reduction management by providing data to aid the NGAs and LGUs in decision and policy making.

The project aims to develop a national base of Agro-Met data for the management of water resources projects for the agricultural sector; Engage the services of the Department of Agriculture Regional Field Offices (DA-RFO's); LGUs; and State Universities and Colleges (SUCs) in the operation and maintenance of Agro-Met stations; Develop a strategy on the awareness and preparedness for disaster risk reduction and management at the local community influenced by the Agro-Met station; and Develop the agro-ecological cell/ zone in the influence area of the Agro-Met stations.

Agro-Met station achievements

These are the notable achievements during the implementation of the Agro-met station project which formally ended on June 2020.

•Provided reliable source of localized climate and weather data

The collected data from the established Agro-Met stations were utilized in monitoring of rainfall, temperature, and other weather parameters before, during, and after the conduct of cloud seeding operations in drought affected areas, and source of evidence for the delayed implementation of infrastructure projects and request for extensions due to inclement weather.

• Increased knowledge through technology demonstration

Students from state college and universities (SUCs) and DA-Regional Field Offices outreach station recipients use the data from the Automated Weather Stations (AWS) in research studies conducted by students. It was also showcased to students taking up agriculture and agricultural engineering related subjects as part of their curriculum.

• Capacitated agricultural communities

200 Rice technicians were capacitated during Enhanced Farmer Field School (EnFFS) training and more than 2,500 farmers were educated on the importance of localized weather data and its use in agriculture such as modification of cropping calendar pattern.

• Disaster risk mitigation

Real-time data from the AWS helped the Disaster Risk Management (DRRM) Officers in providing information to local chief executives and communities on possible flooding incidence and thereby reducing or preventing casualties from the hazards.

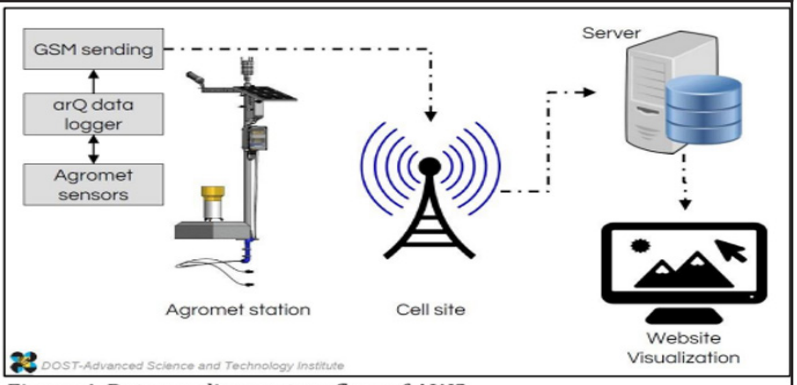


Figure 4. Data sending system flow of AWS.

How it all started

The agriculture industry is one of the most affected sectors to the effects of climate change. The planting calendar that has been used as a guide for years are all of a sudden unpredictable. Drought, flooding, and intensified tropical cyclones are worsening as the years pass by and these are affirmed by projections of various global climate prediction models.

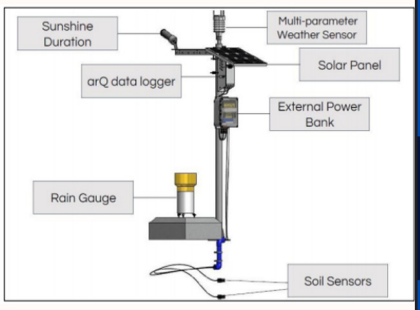
Preparation is one of the key in reducing damages in lives and properties due to climate change. While these adverse effects cannot be avoided, it is paramount to acquire instruments that can provide forecasts to National Government Agencies (NGAs), Local Government Units (LGUs), and farmers for monitoring, planning, and formulating effective agriculture and fisheries production methods and programs.

A joint project named "Establishment of Agrometeorological Staion in Highly Vulnerable Agricultural Areas: A Tool for Climate Change Adaptation and in the Development of Local Early Warning System (Agromet cum Climate Change Project) between the Department of Agriculture (DA), Philippine Council for Agriculture and Fisheries (PCAF), Bureau of Soils and Water Management (BSWM), Department of Science and Technology (DOST), and Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) was inked to establish agrometeorological stations in highly vulnerable agricultural areas which was implemented on December 16, 2011 with a total fund requirement of P175 million(M) which was funded under US-PL480.

The goal of the project is to reduce the vulnerability of the agricultural sector to the impacts of climate change through monitoring of agrometeorological (Agro-Met) data and be able to adapt to the effects of the changing climate and reduce the vulnerability to the risks that it entails.

How does it work?

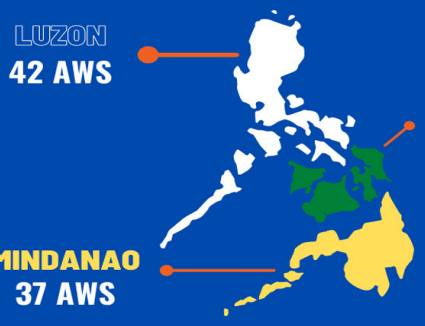
The data collected from the sensors of the Agro-Met station is fed through a cell site which can be then accessed to the central server and displayed to its website readily accessible to computers, laptops, and smartphones with internet connection.



Installed Automated Weather Stations (AWS) in the Philippines

Automated Weather Station

AWS can simultaneously measure solar radiation, wind speed and direction, air temperature, air humidity, air pressure, rainfall amount, duration and intensity, soil temperature, soil moisture, and sunshine duration.



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Five project components

The components of the agromet station project are the following:

1. Establishment/installation of automated weather stations (AWS) and standard rain gauges (SRG) In addition to the 16 agromet stations being managed by BSWM before the implementation of this project, 84 new agromet stations were established nationwide and 53 existing PAGASA and ASTI AWS were upgraded.

2. Conduct of Capability Building Activities: The activities under this project component include various trainings and modules of the Enhanced Farmers Field School (EnFFS) manual. Trainings on installation and troubleshooting of AWS, Effective data collection, Disaster Risk Reduction and Management, and Training of Trainors on Climate Field Schools were held under this component.

3. Development of agroecological cell/zone (AEZ) Soil survey within the immediate influence area of the agromet station was conducted and soil samples were analyzed to update the existing agroecological zones. Soil maps were updated and digitized as part of this project component.

4. Advocacy and Policy: Regional briefings were conducted to gain the support of the local chief executives on the project.

5. Project management, Monitoring, and Evaluation: A visualization website allows users to view the data measured by the AWS. It is also equipped with a warning system that sounds an alarm and notify once the recorded rainfall exceeds the threshold values. This is advantageous specially to low lying areas which are prone to flooding.