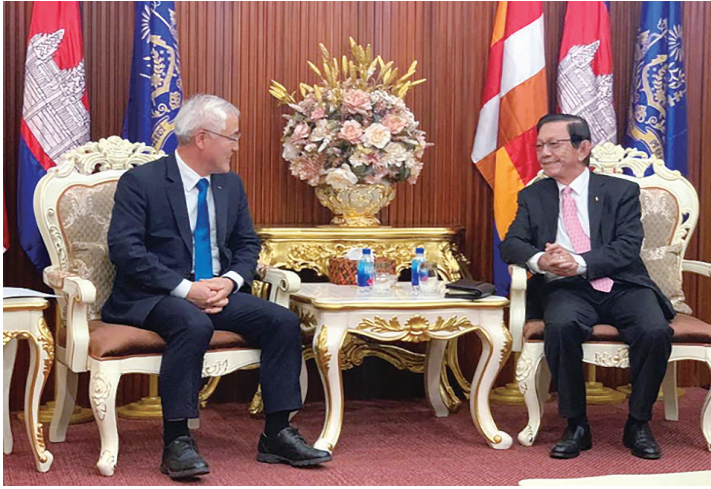# Installation of the Automated Weather Observation System for Forecasting and Warning of Natural Disaster in Cambodia

Project Background

Since almost all activities of the economy are closely linked to weather and climate, worsening impacts of meteorological phenomena and hazards caused by changing climate patterns have made various economic sectors begin to appreciate the value of weather forecasts. The extreme weather events in recent years are precursors of the impacts of seasonally, locally and globally changing climate. Between 1990 and 2016, nine major floods and four major droughts affected more than 20 million people in Cambodia. The impacts will be exacerbated and will continuously affect all sectors in the country. Hence, the Department of Meteorology (DOM) will expand its capacity through this project to meet the emerging needs of various economic sectors.

Project Objectives

The objectives of the project are to improve responses to natural disasters and reduce damage to residents by building a real-time meteorological observation system in Cambodia.

Key Activities

- Investigating the meteorological status and relevant infrastructure conditions in Cambodia
- Conducting field investigations on weather stations in Cambodia
- Installing Automatic Weather Observation System (AWS) at 27 weather stations in Cambodia
- Installing power systems (solar cells and rechargeable batteries) at the weather stations

Project Summary

Duration: 2019-2022 (4 years)

Management Agency:
Korea Meteorological Administration (KMA)

Implementing Agency:
Korea Meteorological Institute (KMI)

Beneficiary Agency:
Department of Meteorology (DOM), Ministry of Water Resources and Meteorology (MOWRAM)

Funding Source: KMA

Target Location: 27 weather stations in Cambodia

Project Budget: 3 M USD

Contact: KIM Dowan, Deputy project manager, camcam08@kmiti.or.kr

Korea Meteorological Administration

KMI Korea Meteorological Institute

- Developing a data receiving system at the Ministry of Water Resources and Meteorology (MOWRAM) in Phnom Penh
- Developing a data analysis and display system to support weather forecasting
- Supporting the operation of the system through training programs

Where we Work

The target sites of the project are 11 provinces and 27 weather stations in Cambodia

Site of 27 AWS under KMA Project
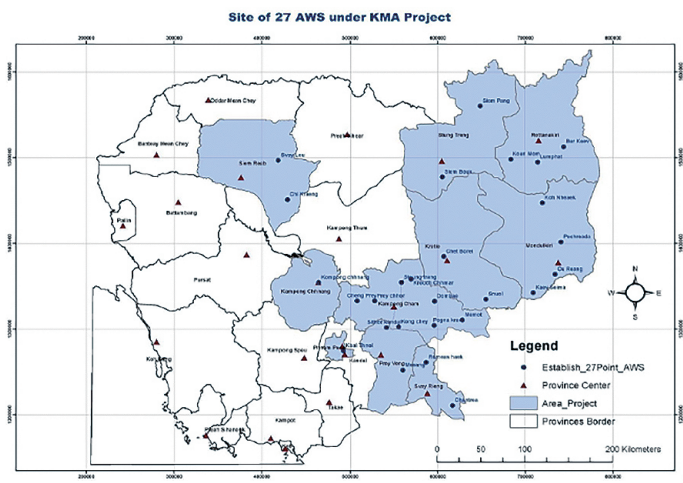
- 11 provinces:

Phnom Pen, Kompong Chhnang, KomPong Cham, Tboung Cham, Stung Treng, Kratie, Mondulkiri, Rottanakiri, Svay Reng, Prey Veng, Siem Reab

- 27 weather stations:

Kbal Thnol, Kompong Chhnang, Cheng Prey, Prey Chhor, Steung Trang, Memot, Krouch Chhmar, Dombae, Pogna Kraeh, Kong Chey, Siem Pang, Siem Bouk, Chet Borei, Snuol, Kaev Seima, Ou Reang, Peachreada, Koh Nheaek, Bar Kaev, Lemphat, Koun Mom, Chantrea, Romeas Haek, Sithor Kandal, Mesang, Chi Kraeng, Svay Le

Implementation Status

A preliminary technical survey was conducted at the 27 project sites in 2019. Based on the survey results, the Korea Meteorological Institute (KMI) is currently undertaking civil engineering works to construct the foundations for the 27 sites. A system installation company was selected in April 2020.

The Korea Meteorological Administration (KMA), KMI and DOM signed a MoU on December 9, 2019. Three capacity building programs were provided for both a working group and policy makers in MOWRAM in March and September 2019 and September 2020 to enhance capacity to operate meteorological observation system and advanced forecasting techniques. A total of 32 participants completed the training.

Expected Results

The project is expected to reduce economic and social damage caused by meteorological disasters by reducing collection time of observed data and improving accuracy.

▲ Capacity building training, 2019

▲ Civil works to construct a foundation, 2020

"Cambodia is currently operating 135 weather stations, 59 AWS and 1 radar. However, there are gaps between observation times. MOWRAM hopes to strengthen our weather observation capacity through this project."

- Lim Kean Hor, the minister of MOWRAM -

KMI Korea Meteorological Institute

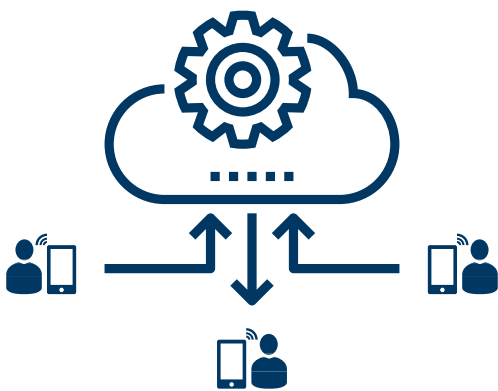# Automated Weather Observation System (AWS)

AWS

Observe weather every minute with AWS sensors (temperature, humidity, air pressure, wind direction/speed, precipitation, aspirator)

Department of Meteorology(DOM)

Transfer weather information to Department of Meteorology (DOM) in Cambodia

People in Cambodia

Provide weather forecast to public through Media, SNS etc.

Analysis/Display / Monitoring system