

## Activities

- **Collection:** Collection of agro-meteorological elements viz. air temperature, precipitation, wind speed, solar radiation, humidity, soil temperature etc. and information of collection site.
- **Analysis:** Analysis of agro-meteorological elements collected from observation sites and classify by day, 10-day, month, and season interval.
- **Production and dissemination:** Production of agro-meteorological information for agricultural applications (drought index, frost risk, growing degree day, potential evapo-transpiration, vegetative period, crop period, frostless period, etc.), generation of the frequency of agro-meteorological disasters (drought, heavy rain, heat wave, cold wave, etc.) and agro-climatic zonation. Rapid and efficient dissemination of information product through information and communication technologies.
- **Education:** For improvement of reliability of agro-meteorological basic data, raining of not only maintenance and management service but installation of agro-meteorological observation system will be given.

## Beneficiaries

Quantitative and qualitative information is the fundamental basis for understanding the impact of agro-meteorological information in agriculture sector. The information products will help the managers (farmers and decision makers) for tactical decision making in the farm operation to reduce the risk of weather and climate variability. The researchers and extension personal will be benefitted by improving understanding of the effects of weather and climate on soil, plants, animals, trees and related production in farming systems.



Automatic weather station at Khumaltar



**Published by:**

**Nepal Agricultural Research Council  
Agricultural Environment Research Division**

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## ASIAN FOOD AND AGICULTURE COOPERATION INITIATIVE (AFACI)

### Agro-meteorological Information and Services (AMIS) Project

#### Project Duration:

3 Years (Sep. 2012 – Aug. 2015)

#### Funding Agency:

Rural Development  
Administration, Republic of Korea



## Introduction

The Asian Food and Agriculture Cooperative Initiative (AFACI) established in November, 2009, is an inter-governmental and multilateral body aiming to contribute to consistent economic development in the Asian countries through the technological cooperation in agriculture and food sectors. The major activity plans involve international collaboration for development of sustainable agricultural and food technology to deal with changes of agricultural environment including global warming. The member countries include Bangladesh, Cambodia, Indonesia, Korea, PDR Laos, Mongolia, Nepal, the Philippines, Sri Lanka, Thailand and Vietnam spearheaded by the Republic of Korea.

Agricultural production still depends on local weather and climate despite the impressive advances in agricultural technology over the last 50 years. Moreover, agro-meteorological services have become essential because of the challenges provided to many forms of agricultural production by increasing climate variability and associated extreme events as well as climate change, all of which affecting the socio-economic conditions of marginalized resource poor farmers. Detailed observations/monitoring and real-time dissemination of agro-meteorological information, derived indices and operational services are important for tactical agro-meteorological decisions in short term planning of agricultural operations at different growth stages. A well organized, where possible automatic production and co-coordinated dissemination of useful information and related advisories and services are essential. Operational decisions include timing of cultural practices, such as ploughing, sowing/planting, mulching, weeding, thinning, pruning and harvesting, application of water, extensive chemicals

and the operation of costly crop protection measures. Regardless of the type of decision, an ever improving understanding of the effects of weather and climate on soil, plants, animals, trees and related production in farming systems, is necessary for decision makers (farmers and managers), to make timely and efficient use of meteorological and climatological information and of agro-meteorological services for agriculture.

In this context AFACI started PAN-ASIAN Project: Production and Service of Agro-meteorological Information for the Adaptation to Climate Change (AMIS) in all the member countries aiming to analyse, generate and disseminate agro-meteorological information to different stakeholders to reduce the climate risk in agriculture.

## Goal

The goal of this project is to collect and analysis local agro-meteorological data, change data into useful information and disseminate to end-users and stakeholders, and understand the maintenance and management service of agro-meteorological observation system to improve reliability of agro-meteorological data and reduce climate damage in the country.

## Objectives

- Collection of local agro-meteorological data such as air temperature, precipitation, and solar radiation, etc. in all collaborative countries
- Analysis of agro-meteorological variation and classification of agro-climatic zones according to crop

- Changing agro-meteorological basic data into useful information such as drought index, frost risk, and GDD (growing degree day), etc.
- Maintenance and management service of agro-meteorological observation system (i.e., automatic weather system) to improve reliability of agro-meteorological data

## Outputs

- Collection of agro-meteorological basic data and development of electronic data base.
- Development of the fast providing system of agro-meteorological information, including basic data.
- Production of agro-meteorological information for agricultural applications such as drought index, frost risk, hot and cold waves, growing degree day, etc.
- Classification of agro-climatic zone using collected agro-meteorological data.
- Improvement of capacity building for maintenance and management service of agro-meteorological observation system.
- Production of annual report and submission to AFACI secretariat at the end of each year.
- Dissemination agro-meteorological information product.