

## Weather Service To Farmers

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### Introduction

Agriculture in India is a gambling with monsoon. Under such circumstances, the farmers are unaware of the future behaviour of monsoon for making decisions in their day to day agricultural operations. Weather and climatic information plays a major role before and during the cropping season and if the information on weather is provided in advance can be helpful in inspiring the farmer to organize and activate their own resources in order to reap the benefits. The National Centre for Medium Range Weather Forecasting (NCMRWF) Department (IMD), Indian Council of Agricultural Research and State Agricultural Universities had been providing Agrometeorological Advisory Services (AAS) at the scale of agro climatic zone to the farming community based on location-specific medium-range weather forecast (MRWF) The objective of the weather forecasting is to advice the farmers on the actual and expected weather and its impact on the various day-to-day farming operations i.e. sowing, weeding, time of pesticides spray, irrigation scheduling, fertilizer application etc. and overall crop management. Weather forecast helps to increase agriculture production, reduce losses, risks, reduce costs of inputs, improve quality of yield, increase efficiency in the use of water, labour and energy and reduce pollution with judicious use of agricultural chemicals.

Weather forecasting is the application of science and technology to predict the conditions of the atmosphere for a given location and time. Weather forecasting includes predictions of changes on Earth's surface caused by atmospheric conditions. Weather forecasts are important because they are issued to protect life and property, to save crops and to tell us what to expect in our atmospheric environment.

### Types of weather forecast

Types of weather forecast	Forecasted weather elements	Lead time	Farm decision to be taken
Now casting	Thunder storm, dust storm, cold and heat waves	Valid for less than 12 hours	It is not much used in Agricultural purpose
Short range weather forecast	Cloud spread, rainfall, temperature, cyclone warning, wind speed	Valid for 36 hours	Harvest, water management, plant protection etc.,
Medium range weather forecast	Rainfall, temperature, RH, windspeed, wind direction	Valid for 3-10days	Land preparation, sowing, plant protection,
Long range weather forecast	Seasonal rainfall	Valid for >10days	Area to be cultivated, Crop planning etc.,

### Method of weather forecasting

#### 1) Synoptic weather forecasting

Meteorological Variables are measured simultaneously at various locations after that prepare charts then we compare the past and present weather we will predict the upcoming weather for a short period

#### 2) Numerical Weather prediction

Using the laws of physics equation are created which governs the behavior of atmospheric variables it is used for short and medium range weather forecast

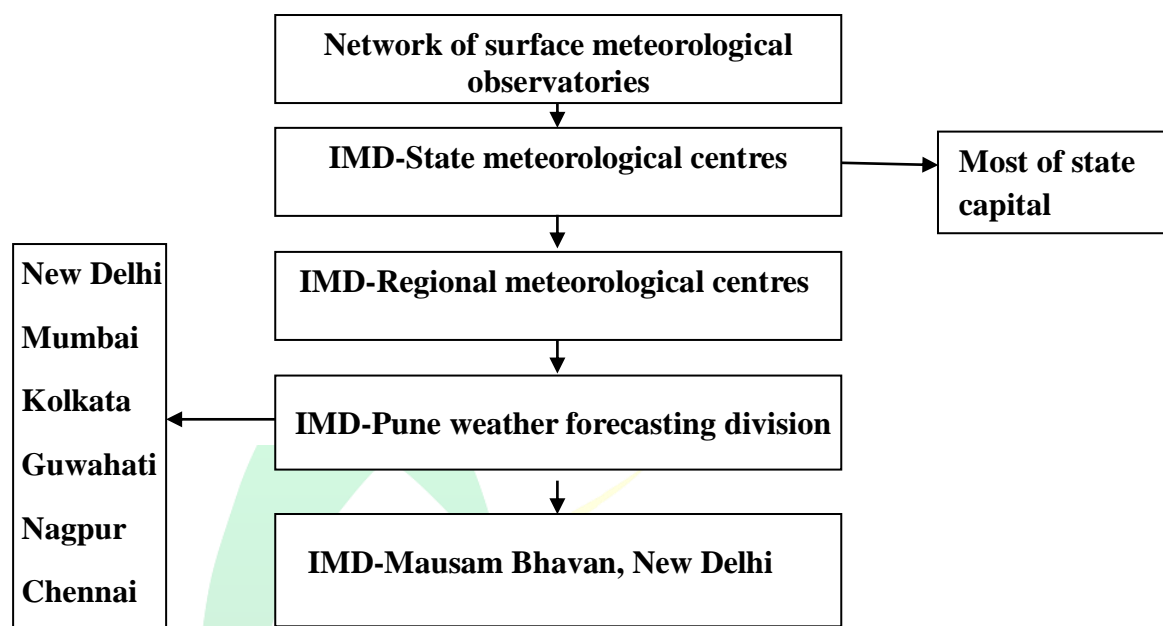
#### 3) Statistical method of weather forecasting

It uses statistical models to create regression equation to predict future weather It uses statistical models to create regression equation to predict future weather.

### What is Agromet-advisory..?

Farm decisions taken in response to changing weather. Farm decisions include agronomical, pest and disease, water and input managements. This agro-met advisory taken in response to past, current and future weather change.

### Creation of weather forecast



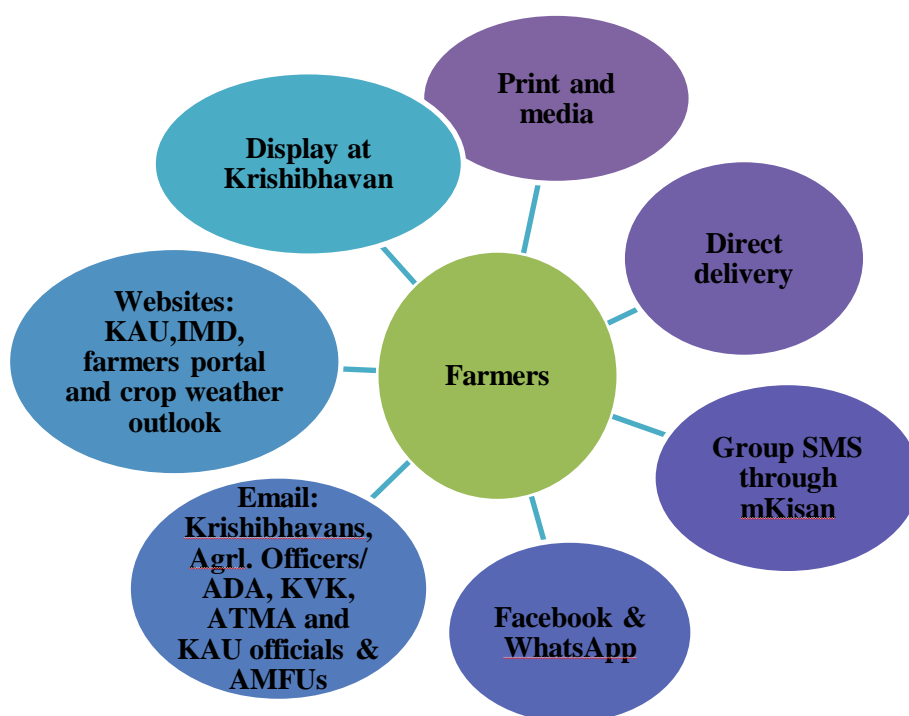
### Broad Activities of Agro met Advisories

- Sowing/ transplanting of Kharif crops based on onset of monsoon
- Sowing of Rabi crops using residual soil moisture
- Fertilizer application based on wind condition
- Delay in fertilizer application based on intensity of rain
- Prediction of occurrence of pest and disease based on weather
- Propylactic measures at appropriate time to eradicate pest and diseases
- Weeding/ thinning at regular interval
- Irrigation at critical stage of a crop
- Quantity & timing of irrigation based on meteorological threshold.
- Advisories for timely harvest of crops
- Advisories are delivered to the end users without any delay
- Interactive tuning of advisories with the farmers / managers as frequently as possible

- It is disseminated in English and local languages
- It is also planned to provide AAS link to Village Knowledge Centers at Taluka level
- (Started)
- IMD is exploring to tie up with different public and private organizations to use
- Interactive voice response (IVR) and Short Message Service (SMS) technology (Started) Mass communication mode of agro advisories and their effectiveness

The information regarding forecasted weather and the farm management practices to take in advance are providing in the form of Agromet advisory service (AAS) to the farmers through Agrometeorological Field Units (AMFUs). AMFUs undergoing *via* a chain of processes *viz.* field visits, observing the stage and state of crop, problem identification, receiving weather forecast from IMD and discussion with Agromet advisory board. Then, agro advisory bulletins are prepared based on medium range forecast and crop stages; and are disseminated to the farming community through different channels

#### Dissemination of agromet advisory bulletin



## Conclusion

Agromet advisory service is an effective communication media for transfer of technology for climate change as well as forecasted information. Agromet advisory bulletin is economically useful to farmers for avoiding the losses of crop yield due to abnormal weather condition. It has also helped in encouraging the adoption and use of modern agricultural production technologies and practices, in promoting weather-based irrigation management, pest and disease management. *etc.* Along with greater use of post-harvest technologies and commercial marketing of commodities.

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