# Weather Prediction to Farmers

## Introduction

Maharashtra is an agrarian state. Majority of population extract their livelihood through farming and allied activities.Recent climatic changes posing great threats to hard earned harvested crops. Farmers are unaware to theses sudden changes and lose their crops or the quality of crops gets hampered. Many a time's postponing or preponing a farming activity saves a crop and thereby saves huge economic loss. The Course, Principles of Climatology and Oceanography of the Second Year B.A teach students basics of climatology and related things and TYBA Practical has a topic of daily weather charts (Published by Indian Meteorological Department). Some of the concepts of which can be used in our day to day life. The idea was formulated by Geography Department whether we can apply this knowledge directly to the farmers in the vicinity. The involvement of students in this venture was a great idea because students now can learn hard concepts in a simple way and can relate their college study to their real life. The Parents (Farmers) now can understand the importance of college study. The slight change in farm activity or a single spray on pomegranate or vegetablesas per the warning can save farmer from major loss. Geography Department decided to use all this this knowledge for a better Agricultural business

## Scope of Practise

Maharashtra being located in central parts of peninsula of India, it has a varied weather. The Monsoonal rain is the source of water. The winter season is dry and cold. The summer season temperature touches up to 40 degree Celsius. In the recent times the climatic variations including **cloudy weather, Cold waves, Heat waves, high rainfall days, Draughts, hailstorms, occurrence of low pressure in ArabianSea and Bay of Bengal and related cyclones poses a great threat to crops and livestock**. Increasing occurrence of low pressure belts in Arabian Sea and Bay Bengal has negative impacts on the local weather. Global warming has accelerated these phenomena. It has been observed that Indian Meteorological Department gives early warnings in this regard but this warning is not get percolate effectively among the farmers. Since majority of farmers are not well acquainted with newer technology and not

connected with media due to time and other issues. Language is also an issue. Geography Department decided to communicate all these major reports to selected farmers withthe help of students. Moreover the prediction with the help of cloud pattern and low pressure belts in seas are in practise.

**Local Geographical Situation**

River Pravara (tributary of Godavari) flows in between the two villages' viz. AshviBudruk (Older Village) and AshviKhurd (New Settlement).AshviBudruk is on the North bank of Pravara River and AshviKhurd is on the south bank. The rainfall is scanty since it comes in rain shadow zone of Maharashtra. The College is located in AshviKhurd (Southern Bank of the Pravara). Due to presence of river and Canal irrigation the overall region can be divided into two parts, one is the irrigated region and other being a rain fed zone. Majority of rainfed region is directly or indirectly depends on rainfall and have wells and tube wells irrigation.Physical setting too is uneven where southern parts of Ashvi is undulated and rise in height compared to northern parts. Due to diversity in physical and cultural settings, cropping pattern too has a diversity where the irrigated parts have totally different cropping pattern then the rain fed zone.

**Cropping Pattern**

Irrigated Region

In this Region River Pravara and Pravara Right Canal provides water. The water is stored in Bhandardara Dam in Akole Tehsil of Ahmedngar district and utilised as per need and demands of farmers since the British era. Availability of water directly impacts the cropping pattern and hence cash crop of **Sugarcane**can be observed in this part.Other than Sugarcane,other crops including**Cotton, Vegetables and Fodder for Animals**. This part has a mixed farming approach and dairy business is practised.

Rain fed Region

This is rain fed zone and hence cropping pattern has vast difference than that of irrigatedparts. The major and seasonal crops i.e. **Onions, various vegetables, Bajra and horticulture** which include pomegranates and lemons.

The Student in the department comes from this diverse area and has different economic background. But the problems faced by the climatic changes are same. All students are from farming backgrounds and know the importance to these problems.

**Aims and Objectives:**

❖ To Provide Weather Prediction to the farmers

❖ To help farmers to avoid major loss to their hard earned harvested crops.

❖ To involve students in the practice.

❖ To show the relationship between class study and real life

**The Practice**

To fulfill aim and objectives of the weather prediction and to involve students into this practice the meeting is held with students. In the first meeting of the year students were acquainted with the practice along with other discussion. Interested students are then enrolled under this practice. In the initial stage, enrolled students and farmers from nearby community were called for a meeting and the details were communicated to farmers. Specially designed from is circulated and collected. The form collects the information regarding landholding, type of land, Irrigation facilities, and Livestock details. After studying the details of all the forms, 10 farmers are selected on the basis of their locality. Precaution is taken while selecting farmers making sure not include farmers from same economical and social background.

After completing this initial stage, students are then involved in this activity. Face to face visits plays important role. Personal visits are arranged for these 10 selected farmers. All the details regarding weather changes and other details are then communicated to farmers. Students are then asked to take follow-up of the activity. In this process students and farmers get acquainted with the changing weather pattern and some basic concepts of climatology.

# Report of the Year 2018-19

<u>Meeting No. 1</u>

Meeting was called for the concept clearance of the best practises. Geography special Second Year B.A and Third year B.A students were called for the meeting. Interested 5 students were selected. The IMD website and other sources of information were communicated to them.

<u>Meeting No. 2</u>

10 farmers where selected, majority being the parents of selected students.

Prepared from was circulated among the farmers.

Villages where selected

Selected students where acquainted with the concept

<u>Meeting No. 3</u>

Selected farmers were called for the meeting.

The concept of best practises was also communicated with them.

<u>Meeting No. 4</u>

Overall outcomes were discussed

IMD warning and other predication date wise - **Year 2018-19**

| Sr No. | Climatic Phenomena and season./ period | Details |
|---|---|---|
| 1 | Cloudy Weather | Warning was given on 12 October 2018 |
| 2 | Rainy Days | Warning on 10 June 2018 |
| 3 | Low Pressure Belts | - |
| 4 | Hailstorm Warning | - |
| 5 | Cold Wave | - |
| 6 | Unseasonal Rain | Prediction on 2nd November 2018 Rain during Diwali Festival |

| Sr. No | Name of the Students | Class | Village |
|---|---|---|---|
| 1 | Kahar Shubhnagi Somnath | TYBA | Ashvi Kd |
| 2 | Ghuge Santosh Baban | TYBA | Malunje |
| 3 | Khilari Rahul Balasaheb | TYBA | Ozar Kd |
| 4 | Kolekar Anil Devram | TYBA | Hajarwadi, Panodi |
| 5 | Sabale Vikas Suresh | TYBA | Ashvi KD |

| Sr. No | Name of the Farmer | Village | |
|---|---|---|---|
| 1 | Somnath Kahar | Ashvi Kd | |
| 2 | Baban Ghuge | Malunje | |
| 3 | Balasaheb Khilari | Ashvi Kd | |
| 4 | Devram Kolekar | Malunje | |
| 5 | Suresh Sabale | Shedgaon | |

**Report of the Year 2019-20**

Meeting No. 1

   Geography special Second Year B.A and Third year B.A students were called for the meeting. Meeting was called for the concept clearance of the best practises. Interested 5 students were selected. Various websites addressing the issues where communicated to the students.

Meeting No. 2

10 farmers where selected, the parents of selected students was selected among the 10 farmers for better communication.

 Prepared from was circulated among the farmers.

Villages where selected

Selected students where acquainted with the concept

Meeting No. 3

Selected farmers were called for the meeting.

The concept of best practises was also communicated with them.

**Meeting No. 4**

Overall outcomes were discussed

IMD warning and other predication date wise - **Year 2019-20**

| S r N o . | Climatic Phenomena and season./ period | Details |
|---|---|---|
| 1 | Cloudy Weather | Prediction on 25 June 2019 |
| | Rain Gaps | 1 July 2019 , |
| 2 | Rainy Days | Prediction on 22 June 2019 |
| | | Prediction on 5 July 2019 (Rain from 6,11,20 july2019 |
| | | Prediction on 20 July (rain of 21$^{st}$28th) |
| | | Prediction on 1$^{st}$ August 2019 (Rain on 4$^{th}$ August 2019) |
| 3 | Low Pressure Belts / Cyclones | Low Pressure Belt over Arabian Sea, Afterwards developed as a super Cyclonic Storm –Kyarr (24/10/2019 to 30/10/2019) |
| | | Low Pressure Belt over Arabian Sea, Afterwards developed as a super Cyclonic Storm – Nisarga(01/06/2020 to 04/06/2020) |
| 4 | Hailstorm Warning and splash rain | Prediction on 10 June 2019 |
| 5 | Cold Wave | Warning on 4 January 2020 |

| Sr. No | Name of the Students | Class | Village |
|--------|----------------------|-------|---------|
| 1 | Joshi Shubhangi Thamaji | TYBA | Ashvi Kd |
| 2 | Muntode Nandini Babasaheb | TYBA | Malunje |
| 3 | Burkul Poonam Sanjay | TYBA | Ashvi Kd |
| 4 | Wakchaure Ganesh Madhukar | TYBA | Malunje |
| 5 | Sangale Shubham Narayan | TYBA | Shedgaon |

| Sr. No | Name of the Farmer | Village |
|--------|--------------------|---------|
| 1 | Thamaji Joshi | Ashvi Kd |
| 2 | BabasahebMuntode | Malunje |
| 3 | Sanjay Burkul | Ashvi Kd |
| 4 | MadhukarWakchaure | Malunje |
| 5 | Narayan Sangale | Shedgaon |

## Success Stories

**Year 2018-19**

Shri BalasahebKhilari cultivated a tomato crop in his farm. This crop is vulnerable to minute changes in weather. Following our predictions he was able to choose an appropriate spray which saved his valuablecrop and money.

**Year 2019-20**

Shri Sanjay Burkul has a variety of crops in his farm. Year 2019-20 faced strong fluctuations in weather. Our timely predictions saved his harvested fodder, which will be used for rest of year when there is no source of other fodder for cows.

**Outcome of the Practise**

The Success stories given above are only the few examples. Many farmers have started following the warning given by IMD and other means of communication. Student role and is important aspect of this practise. Students are learning to read reports and can communicate with farmers easily.

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