

Loknete Dr. Balasaheb Vikhe Patil

(Padmbhushan Awardees')

Pravara Rural Education Society's

Arts, Commerce, Science and Computer

Science College, Ashwi Kd.

Affiliated to Savitribai Phule Pune University, Pune

BEST PRACTICE - I

*Creation of atmosphere in the
institution where social
commitment becomes challenge for
students through experiential
learning which further helps the
rural area peoples*

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Creation of atmosphere in the institution where social commitment becomes challenge for students through experiential learning which further helps the rural area peoples

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Introduction

Farmers require update knowledge to stay aware of fast-moving developments in technology, science, business management, and an array of other skills and fields that affect agricultural operations, Colleges initiatives increase farmers' knowledge in these areas and help them adopt practices that are profitable, environmentally sound, and contribute to quality of life. Many farmers in rural areas do not have the most up-to-date information on how to grow food efficiently and economically. Improving their knowledge of new techniques and technologies and providing them with any physical resources necessary for implementation, can dramatically increase the farmers level of productivity. Recognizing the need for a sustainable approach to agriculture, our solution emphasizes farmer education in methods and technologies that do not have an overly negative effect on soil, water, and air quality.

Aims and Objectives

- To generate among the students as well as faculties an intensively entrenched urge which to be informed and involved in farmers issues and causes.
- To enable the students of the institution to understand the basic causes about the negative issues addressed by the farmers from rural area during Farmers meet.
- To foster staff of the institution to carry out informative sessions to rural area villagers and farmers in the institution.
- To promote students to do practical work ensuring the management of natural resources and protection of eco-sensitive area by adopting the sustainable development, hence to improve the basic knowledge and presentation skill of students.

- The practice above mentioned is termed as **Farmers Education** in our institute. In these practices seven departments along with students of institute is working intensively in different topics revealed as below.
 1. Physics-Solar energy and electricity consumption awareness
 2. Chemistry-Soil and water analysis
 3. Zoology-Pest control management and practices
 4. Botany-Cropping pattern
 5. Commerce-Farmer Accounting
 6. Economics- Financial Literacy about Central Budget
 7. Geography-Weather prediction and water management
- For this practice, individual department wise co-coordinator is assigned at the Beginning of each academic year. These coordinators decide the scope and methodology regarding the practice. These coordinators later choose the interested students and make their list. Moreover, a student advisor is designated who coordinates the program and counsel the other student also.
- Meanwhile student of the institute interacts with the farmers and does the survey regarding the format given to the student which takes some information from them.
- After the survey of this information, student as well as staff of respective departments does the analysis of the filled information. Later the staff along with some team of the student visited the needy villages regarding some informative and experiential training to the farmers. Area for the projects was chosen on the basis of priority needs.
- With this practice staffs first have to give training to the students regarding the concept of the practice to be run. Then after the students will learn the basic knowledge of what actual practice is to be done.

Farmers Education committee

Following staff are appointed as a coordinator for the academic year 2022-23

Department	Practice	Coordinator/Member
Physics	Solar energy and Electricity consumption awareness	Mr. Chaudhari V. P.
Chemistry	Soil and water analysis	Dr. Bhumkar S.D. Ms. Talekar Y.R.
Zoology	Pest control management and practices	Mr. Lokhande D.V. Dr. Gholap A.B
Botany	Cropping pattern	Mr. Varpe S. S.
Commerce	Farmer Accounting	Dr. Gholap A R. Dr. Unde S.A
Economics	Financial Literacy about Central Budget	Mr. Shelke G. R. Dr. Rohamare S. S.
Geography	Weather prediction	Mr. Dabhade D.D. Mr. Shinde A.B.

You are requested to coordinate the Best Practices activities for the academic Year 2022-23

Department of Physics

Solar energy and Electricity

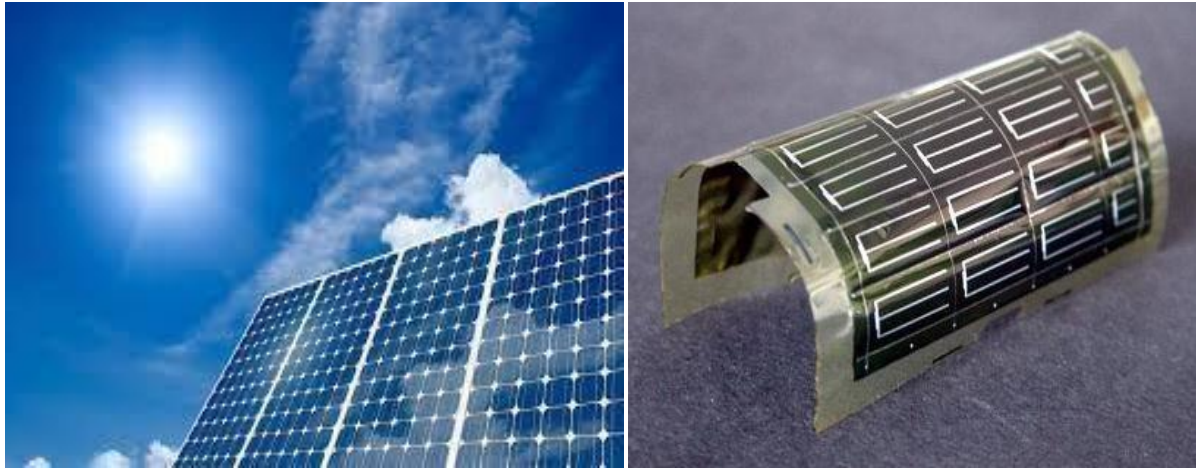
consumption awareness

Academic year 2022-23

***Solar Energy and electricity consumption
awareness***

By

Department of Physics



Solar Energy and electricity consumption awareness

Brief note:



Nowadays, energy has been seen as a basic need of human life. Scientist has divided energy into several kinds of it but mainly is renewable and non-renewable energy sources. Non-renewable energy sources are the one like fossil fuels which require long time to regenerate, however the renewable energy sources are always available in a huge amount. The renewable energy resources such as oil, gas and coal are limited globally due to the overconsumption and expected to be increased continuously in future. As a result, the renewable energy resource becomes the fastest growing power generation sources. The predicted energy consumption in 2050 will be as much as 50 TW. Therefore the question is how to supply energy for all this; certainly the answer is not fossil fuels due to the limited storage. Even if the available fossil fuel is infinite, the damage of burning fuel causes environmental pollution. To overcome all these issue one has to focus on renewable energy resources. Researchers are now trying to harvest solar, biogas, water and air reserves. Solar energy is one of the most promising sources who have the brightest future. In addition, solar energy is the abundantly available and economically compactable energy source on earth. The earth receives 5×10^{21} KJ per year from sun. This energy is 15000 times larger than annual energy demand of the world. Therefore, more attention has been paid to solar energy and its wide application.

There are various generations of solar cells depending upon the development based on the reduction of cost is briefed below.

The first generation is based on the Si-wafer technology which is a commonly dominant since the material is abundant on the earth's crust. These solar cells are highly stable with very good performance till date. Silicon solar cells are made up from either single or polycrystalline wafers. Till date, the best efficiency for silicon solar cell in research laboratory is demonstrated %. However, to achieve such record efficiency, high purity silicon along with the sophisticated instruments is needed. As silica is abundant but the cost requires to obtain pure silicon is huge which makes the final produce very expensive. The second generation of solar cell is based on the thin film solar cells (TFSC). Basically thin films are the layers of material ranging from nm to several micrometers. In TFSC, the materials used as absorber of thickness less than 5 μm which is sufficient to absorb the sunlight. The third generation solar cells are the emerging technologies and could become commercial in future either by achieving low cost and high efficiency. The examples for third generation solar cells include dye sensitized solar cells, organic solar cells and perovskites solar cell.

The basic structure for thin film solar cells are composed of different layers of materials.

- a. Buffer layer:
- b. Absorber layer:
- c. Window layer:
- d. Antireflection coating:
- e. Metal contact:

The effective way to use the solar energy in the form of electricity is to create solar cells. Solar devices are the one which can generate voltage upon the exposure of light. It works on the principle of photovoltaic effect which was discovered by Becquerel in 1839. Quantitatively the power delivered from solar cells is termed into power conversion efficiency which is nothing but the power extracted per incident solar energy.

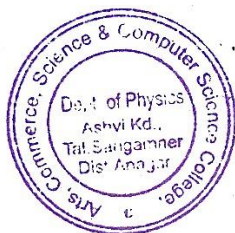
Social Commitments


- **Awareness Regarding Energy Crisis, Pollution & Environmental Friendly Energy Sources**
- **Popularization of Renewable Energy Sources through lectures and demonstrations**
- **People are encouraged to install hot water system, use of Solar cooker, solar lantern etc.**
- **Creating health & environmental awareness among the rural women**
- **Imparting training to rural women specially use of solar cooker & solar lantern**
- **Guidance to farmers for installing gobar gas plants as well as maintenance and repair.**



List of F.Y.B. Sc. Students who took part in the practice

Sr. No	Student Name
1	Bele Sakshi Shivaji
2	Bhusal Diksha Ajendra
3	Bhusal Rajashri Ashok
4	Chavhan Diksha J.
5	Dahale Vidya Ganesh
6	Datir Samruddhi S.
7	Dokhe Pratiksha G.
8	Gadekar Samrudhi S.
9	Gaikwad Vaibhavraj M.
10	Gholap Gauri Satish
11	Ghuge Gauri Sandip
12	Gite Pankaj Pandurang
13	Gite Yash Sandip
14	Ingale Sneha Kiran
15	Jedgule Rutuja Subhash
16	Jundhare Sakshi Ganesh
17	Kadnar Navdip D.
18	Khule Pramod Dattatray
19	Labade Sudarshan Anil
20	Lakare Uday Bharat
21	Limbore Siddharth S.
22	Mali Komal Bhausaheb
23	Nagare Sakshi Rambhau
24	Pandit Adesh Balasaheb
25	Patel Tabassum Ansar
26	Patole Shraddha N.
27	Sangale Aashutosh R.
28	Sangale Rupali R.
29	Sangale Vishal Anil
30	Vadak Varsha Anil




Head
Department of Physics
ACS & Comp.Sci. College, Ashvi Kd.

Energy Survey of village – Outcome of the practice

No. of farmers Families Covered - 100

Sr. No.	Particular	No. of Users (Family) at the end of academic year 2022-23	No. of Users (Family) at the end of academic year 2022-23
1.	CFL/LED bulbs	76	100
2.	Solar Hot Water System	18	20
3.	Solar Photovoltaic System	6	8
4.	Solar Cooker	5	6

Conclusion

It is well known that the fossil fuels are expected to be consumed entirely within next 100-200 years. In order to address the future energy needs of the world, a renewable energy source is needed. Among all, the most abundant source of energy is solar radiation. The further development of solar cell will be required the reduction of the cost.

Department of Chemistry

Soil Water Analysis

DEPARTMENT OF CHEMISTRY

REPORT ON SOIL AND WATER ANALYSIS AWARENESS PROGRAMME 2022-23

Introduction:



Pravara Rural Education Society's Art, Commerce, Science and Computer Science College, Ashvi kd, Tal- Sangamner, District -Ahmednagar which provides education in science stream at under graduate level to educationally, economically, socially backward students of this area. Soil testing is an efficient tool for determination of soil fertility status and to assess the Nutrient requirement of the crops. It is practical application of soil science to crop Production (Goswami, 1986). Liebig's law of minimum states that the growth of plant is limited by the plant nutrient element present in the smallest amount, all others being inadequate quantities. From this it follows that the given amount of soil nutrients is sufficient for any yield of given parentage nutrient composition.

Ramamurtiet. al (1967) established the theoretical basis and experimental proofs for the fact that Liebig's law of the minimum operates equally for N, P, and K. This forms the basis for fertilizer application for targeted yield, first advocated by Troug (1960). Among the various methods of fertilizer recommendations the one based on yield targeting is unique in the sense that this method not only indicates soil test based fertilizer dose but also the level of yield the farmer can hope to achieve it.

The balance fertilization is the key of targeted yield equations thereby increase efficiency of applied fertilizers. The fertilizer application based on soil test and yield target help to save 10-15 % of fertilizer cost in each season.

Water is a universal solvent. It contains variable quantities of dissolved solids and gases. Sometimes, suspended and colloidal, organic and inorganic material occurs as well.

Waters are usually classified as hard and soft according to the concentration of calcium and magnesium ions. These ions when present in high concentration such waters are termed as hard waters. The irrigation water which contains calcium and magnesium ions is hard and not suitable for domestic use but makes the agricultural land soft. On the other hand water which contains sodium ions is soft for

domestic use but makes the agricultural land hard.

As the college is situated in rural area and most of the students are from farmer background hence to aware them about soil and water parameters.

OBJECTIVES

- To develop basic understanding regarding soil testing in the Farmers.
- To introduce them with macro and micro nutrients for soil.
- To enhance their skills about water analysis.
- To improve soil fertility
- To reduce the environmental pollution and maintain the soil health.
- To determine ecological effect of agricultural production

Outcomes of Soil and Water analysis

- Awareness regarding soil properties among farmers has increased.
- Awareness regarding water properties among farmers has increased.

**AWARENESS PROGRAMME ON SOIL &
WATER ANALYSIS FARMER'S LIST-
2022-23**

Sr. No	Name	Address	PhoneNo.
1.	Jadhav Anil Ranganath	At:Panodi,Tal: SangamnerDist:A.Nagar	9579015861
2.	Jadhav Shankar Kesu	At:Panodi,Tal: SangamnerDist:A.Nagar	9921360948
3.	Pabal Ram Tukaram	At:Panodi,Tal: SangamnerDist:A.Nagar	-
4.	Jadhav SachinMaruti	At:Panodi,Tal: SangamnerDist:A.Nagar	9763531370
5.	Ghodekar Anil	At:Panodi,Tal: SangamnerDist:A.Nagar	9850872951
6.	Ghodekar Sunil	At:Panodi,Tal: SangamnerDist:A.Nagar	9860099649
7.	HajareMahesh	At:Panodi,Tal: SangamnerDist:A.Nagar	8551870348
8.	Deshmukh Bhausahab	At:Panodi,Tal: SangamnerDist:A.Nagar	-
9.	PabalKeshav	At:Panodi,Tal: SangamnerDist:A.Nagar	9702465972
10.	Jadhav Ganesh Sampat	At:Panodi,Tal: SangamnerDist:A.Nagar	9518557667
11.	PabalShyamTukaram	At:Panodi,Tal: SangamnerDist:A.Nagar	9881930083
12.	Wadekar Sandip Bhausahab	At:Panodi,Tal: SangamnerDist:A.Nagar	9923306307
13.	Talekar KarbhariMaruti	At:Panodi,Tal: SangamnerDist:A.Nagar	9623904952
14.	Khedkar Amol	At:Panodi,Tal: SangamnerDist:A.Nagar	9422680892
15.	Jadhav Chaitanya Ramesh	At:Panodi,Tal: SangamnerDist:A.Nagar	8007859804
16.	Sangale Ganesh Nanasaheb	At:Panodi,Tal: SangamnerDist:A.Nagar	9834957507
17.	Jadhav Ganesh Prabhakar	At:Panodi,Tal: SangamnerDist:A.Nagar	9923282748
18.	PabalShantanuVenunath	At:Panodi,Tal: SangamnerDist:A.Nagar	8007455031
19.	Jadhav AnkushSopan	At:Panodi,Tal: SangamnerDist:A.Nagar	9763294377

DEPARTMENT OF CHEMISTRY

REPORT ON SOIL AND WATER ANALYSIS AWARENESS PROGRAM MME 2022-23

By considering today's scenario about the awareness of Soil and Water Analysis, Department of chemistry of Arts, Commerce, Science and Computer science college, Ashvi kd., conduct the soil and water analysis awareness program. In this program, the chemistry teachers provide the information of importance of soil and water analysis. Department organizes various events, for the farmers in Ashvi area where they can update their knowledge in cropping pattern analysis it helps to maintain soil fertility

Details of the Soil and Water Analysis Awareness Programme 2022-23

Sr. No.	Year	Day and Date	Place	Guidance given to farmers	Number of Farmers present
1	2022-23	Monday 11-12-2022	At: Panodi, Tal: Sangamner Dist.: A. Nagar	<ul style="list-style-type: none">• Area of village• Environment of village• Soil and water analysis System.• .Benefits of Soil and water analysis System• Importance of Soil and water analysis System• People are encouraged to analyze soil and water sample in laboratory in their farm.	19



Soil and Water Analysis Awareness Program carried by Department of Chemistry



Ravi
Head
Department of Chemistry
ACS & Comp. Sci. College, Ashvi Kd.

Department of Zoology

Pest Control Management and

Practices

Loknete Dr. Balasaheb Vikhe Patil (Padmbhushan awardee)
Pravara Rural Education Society's
**Arts, Commerce, Science and Computer Science
College, Ashvi Kd,**
Tal. Sangamner, Dist. Ahmednagar

Department of Zoology

Best Practices- 2022-2023

Pest control management and practices



Brief Note on Pest control management and practices

Pest control is the regulation or management of a species defined as a pest, a member of the animal kingdom whose impacts adversely on human activities. The human response depends on the importance of the damage done, and will range from tolerance, through deterrence and management, to attempts to completely eradicate the pest. Pest control measures may be performed as part of an integrated pest management strategy

Pesticides are used to control pest populations, and are generally named for the type of organism they control. Pesticides are important tools for homeowners, growers, land managers, public health officials and beekeepers to control insect pests, disease vectors (such as mosquitoes), disease-causing organisms (bacteria, fungi), weeds, and invasive species that threaten the balance of our natural ecosystems.

In agriculture, pests are kept at bay by cultural, chemical and biological means. Ploughing and cultivation of the soil before sowing reduces the pest burden and there is a modern trend to limit the use of pesticides as far as possible. This can be achieved by monitoring the crop, only applying insecticides when necessary, and by growing varieties and crops which are resistant to pests. Where possible, biological means are used, encouraging the natural enemies of the pests and introducing suitable predators or parasites. IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non target organisms, and the environment.

Aims and Objectives

- Focuses on pest prevention.
- Uses pesticides only as need
- Determine the best preventive measures.
- Reduce the unnecessary use of pesticides
- Increase farmer income
- Increase sustainability of agricultural practices
- to improve production and marketing methods
- Maximize crop production with minimum input costs.
- Minimize environmental pollution in soil, water and air due to pesticides.
- Minimize occupational health hazards due to chemical pesticides.
- Conserve ecosystem and maintain ecological equilibrium.
- Judicious use of chemical pesticides for reducing pesticide residues

Activities

- Surveillance & Monitoring of insect-pest & diseases.
- Augmentation and Conservation of Natural enemies.
- Production and release of bio-control agents.
- Farmers' Field orientation programme

Survey and Surveillance

- To keep a close watch over a desired period of time in an identified cropped area on build up of pests (insects, vertebrates, diseases, nematodes & weeds etc.) and their natural enemy population so that a prior care can be adopted to control the target pests.
- The basic objective of pest surveillance is to detect the early sign of existing and emerging pest and their natural enemies
- Survey, monitoring, field scouting are the major activities of the pest surveillance.
- Rapid Roving Pest Surveys are conducted by the teams of student on a predetermined survey routes.

ORGANIC FARMING

Organic farming relies on methods which combine scientific knowledge of ecology and modern technology with traditional farming practices based on naturally occurring biological processes. It is a farming system that sustains the health of soils, ecosystems and people. The principal methods of organic farming include crop rotation, green manure and compost, mechanical cultivation and biological pest control.

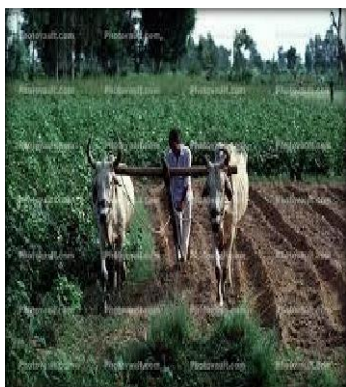
Farmers are faced with myriad of production challenges where the most common problems are pests, which include insects, diseases, and weeds. They integrate cultural, biological, mechanical, physical and chemical practices to manage pests.



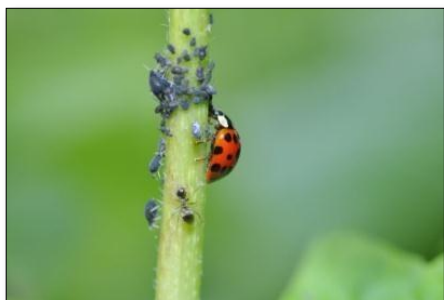
Cultural practices – Means making the environment unsuitable or unfavorable, unacceptable to pests by interfering with their oviposition preferences, host plant discrimination or location by both adults and immatures. Those can be achieved with practices such as crop isolation, mixed cropping, and crop rotation. The timing of sowing and planting can be used to allow young plants to establish to a tolerant stage before an attack occurs and to reduce the susceptible period of attack. Management of trap and nursery crops and surrounding environment is also included to divert insect attack away from the crop.



Mechanical and physical control – include tillage, mowing, cutting, mulching and organic soil coverage and barriers. Tillage turning the soil between crops to incorporate crop residues and soil amendments. It also destroys weeds and disrupts pest life cycle.



Biological control – biological control in organic plant protection is a method of controlling insect pests and diseases using other organisms which rely on predation, parasitism and herbivore, or some other natural mechanisms with active farmer's management interaction. Natural enemies of insect pests, known as biological control agents, are predators, parasitoids and pathogens. For weeds biological control, agents are seed predators, herbivores and plant pathogens, while for plant diseases biological agents are antagonists. In organic farming, biological agents can be imported to locations where they don't naturally occur, or farmers can make a supplemental release of natural enemies, boosting the naturally occurring population.



Chemical control - organic standards are designed to allow the use of naturally occurring substances such as pyrethrin and rotenone. Farmers avoid the use of broad-spectrum synthetic pesticides, which severely disrupt natural control and promote the occurrence of secondary pests such as spider mites, brown planthoppers and Rhizoctonia. There are also few synthetic substances allowed in organic farming, such as fixed coppers (copper hydroxide, copper oxide, copper oxychloride, copper sulfate), hydrated lime, hydrogen peroxide, lime sulfur, and potassium bicarbonate.



To design and implement best practices of pest management in organic farming, it is also necessary to have accurate knowledge of crop and pest biology, ecology, phenology and of pest-crop interactions, while following strictly regulated rules of organic farming. In many counties around the world, it's regulated by an inspection, certification and labeling scheme. Although organic farming has many regulations and restrictions, farmers still need to track their activities on fields. To facilitate them record keeping and to have all in one place, Agrivi farm management software helps farmers track organic materials, work hours and finances spent on their farm. It also helps farmers fight with complex organic farming regulations and reports. With over 20 different reports of all farm activities, from planting, protecting, maintaining to harvesting, Agrivi enables farmers to track spent amounts of organic pesticides and fertilizers per fields and crops, their finances and farm productivity and to print it out. Everything that farmer enters into the system; it's automatically filled in reports.

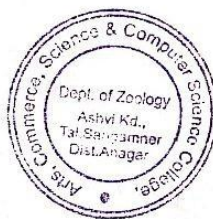
Prevent Crop Loss with Proper Harvest Management

When the time comes to harvest, it's important to choose a suitable method to maximize the yield and minimize losses. Many farmers have difficulties at harvesting and handling their crops. They have to know the exact time for harvest, because Harvey

**Best Practices: Pest control management
and practices Best Practices: for the
academic year 2022-23**

List of Students Department of Zoology

Sr. No	Name	Designation
1	Mr. Lokhande D.V./ Gholap A. B.	Teacher
2	Chaudhar Sahyadri Bhivraj	Student
3	Dahale Uday Arun	Student
4	Datir Geeta Bhimraj	Student
5	Datir Sonali Revannath	Student
6	Gite Kirti Sambhaji	Student
7	Gite Nikhil Suresh	Student
8	Gite Suraj Rajendra	Student
9	Hodgar Sakshi Rajendra	Student
10	Moghe Achal Baban	Student
11	Mundhe Akanksha Ganesh	Student



Ashvi
Head
Department of Zoology
ACS & Comp.Sci. College, Ashvi Kd.

Arts, Commerce, Science and Computer Science College,
Department of Zoology
Best Practices: Pest control management and practices
Best Practices: Visit Report- 2022-2023


In our college Department of Zoology conducted the best in Pest control management and practices from academic year from 2022-2023. In these best practice 10 students from class S.Y.B.Sc are enrolled, these students first bring the survey of nearby villages surrounding to the ashvi collage. They studied the area of these village, environment Of village, land of village soil type, types of crop, cropping pattern, irrigation system, and fertilization method and harvesting pattern. The students bring the group discussion in the farmers. Students aware the farmers about environment Of village, land of village, soil type, types of crop, cropping pattern, irrigation system, fertilization method and harvesting pattern With bringing a field visit



Outcome of this practice in this academic year farmer benefited as follow:

Name of village	Guidance given to farmers	Name of Framer participated
Ashvi Kd, Tal- Sagamner, Dist.- Ahmednagar	<ul style="list-style-type: none"> • Area of village • Environment of village • Cropping pattern. • Types of pest. • Types of pest control practices • Importance of irrigation and fertilization management • Importance of different pest control practices. • Importance of time of harvesting of crop 	<ol style="list-style-type: none"> 1. Shri.Tambe Sadashiv Ram 2. Shri. Tajane Ramdas Haribhu 3. Shri. Gaikwad Sunil Murlidhar 4. Shri. Sonavane Changdev Vithal 5. Shri. Gite Dinkar Ganpat 6. Shri. Datir Namdeo Damodhar 7. Shri. Mandhare Sonyabapu Gabaji 8. Shri. Bhavar Bapusaheb Madhav 9. Shri. Ghuge Sopan Madhukar




 Head
 Department of Zoology
 ACS & Comp. Sci. College, Ashvi Kd.


 1st Principal
 Pravara Rural Education Society's
 Arts, Commerce, Science & Computer
 Science College, Ashvi Kd.
 Tal. Sangamner, Dist. A. Nagar, Pin- 413738

Loknete Dr. Balasaheb Vikhe Patil (Padmabhushan Awardee)
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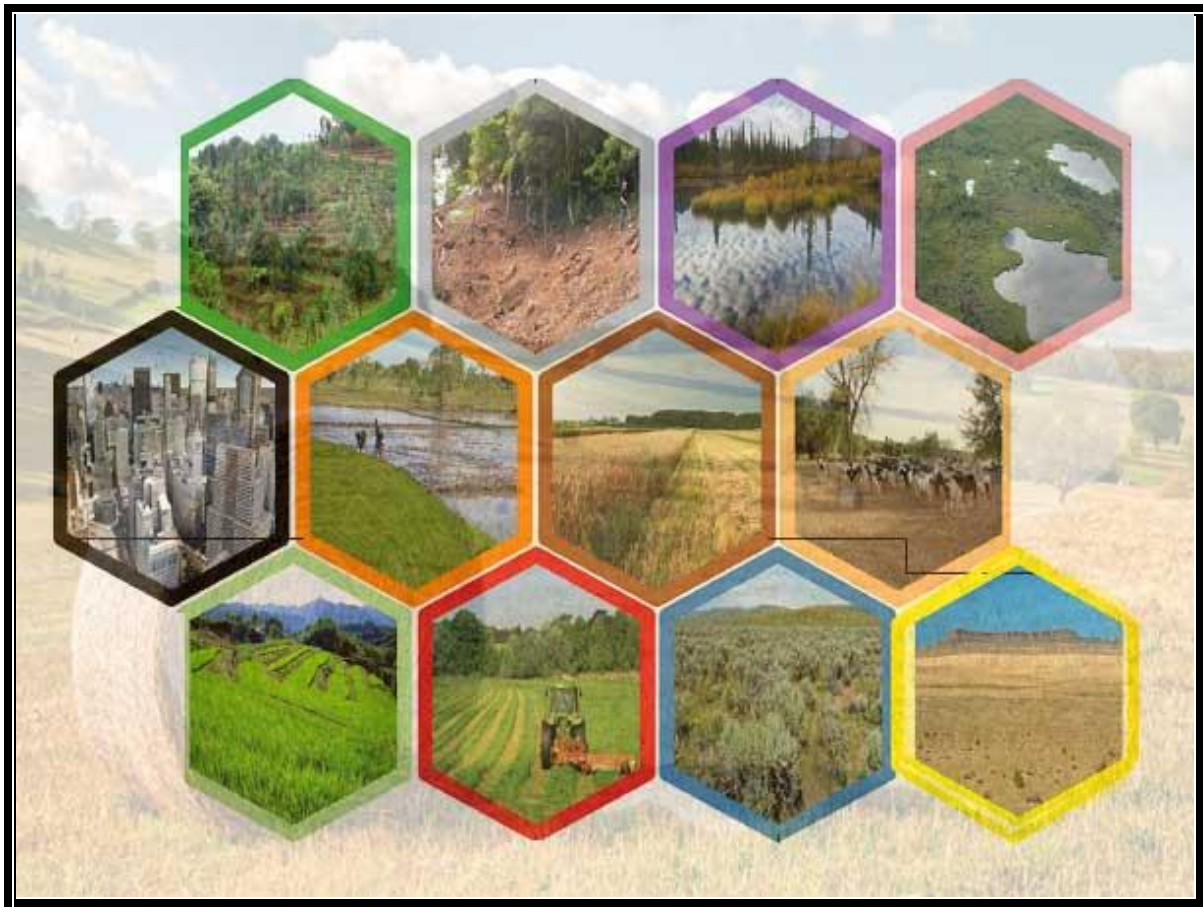
DEPARTMENT OF BOTANY

Academic year 2022-23

Cropping Pattern

By

Department of Botany



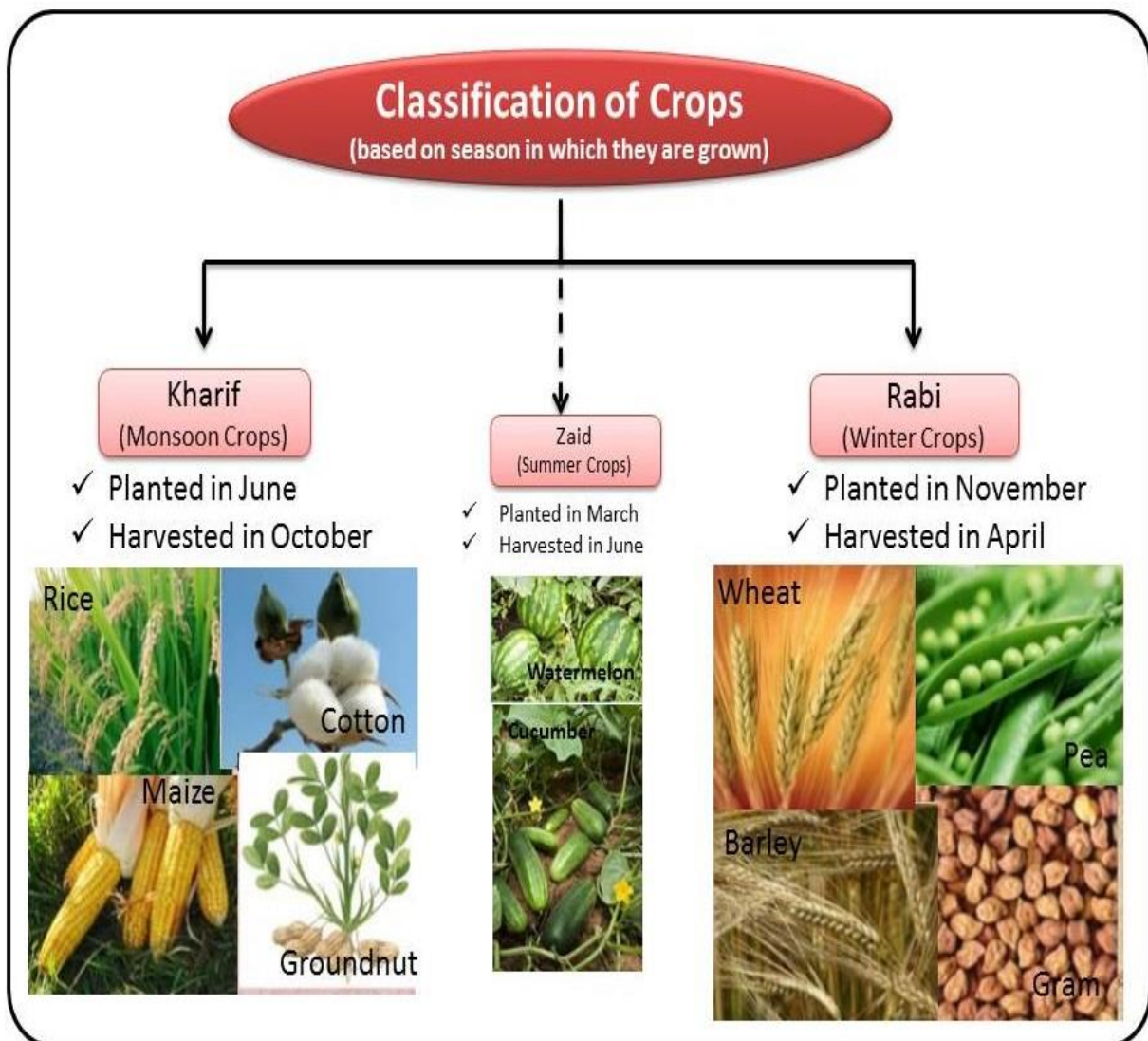
Title of the Practice – Cropping Pattern

Introduction-

Cropping pattern refers to the proportion of land under cultivation of different crops at different points of time. This indicates the time and arrangement of crops in a particular land area. Any change in the cropping pattern would cause:

- change in the proportion of land under different crops
- change in space sequence and time of crops

In India, the cropping pattern is determined by rainfall, temperature, climate, and technology and soil type.



The major cropping patterns include the following:

Mono cropping

Mono cropping reduces soil fertility and destroys the structure of the soil. Chemical fertilizers are required to upgrade production. This practice allows the spread of pests and diseases.

Mixed Cropping

When two or more crops are grown on the same land simultaneously, it is known as mixed cropping. For e.g., growing wheat and gram on the same land at the same time is mixed cropping. This practice minimizes the risk of failure of one of the crops and insures against crop failure due to abnormal weather conditions.

The crops to be grown together should have a different maturation time and different water requirements. One tall and one dwarf crop should be grown together. The nutrients required by one crop should be less than those required by the other. One crop should have deep roots, others should be shallow. All these criteria lead to a successful mixed cropping pattern.

Advantages of Mixed Cropping

- The crop yield increases.
- The pest infestation is minimized.
- Reduction in the risk of crop failure.
- The soil is utilized properly.
- More than one variety of crops can be harvested at the same time.

Intercropping

Intercropping is the practice of growing more than one crop on the same field at the same time in a definite row pattern. After one row of the main crop, three rows of intercrops can be grown. This increases productivity per unit area.

Intercropping can be of different types:

Row Intercropping

When the component crops are arranged in alternate rows it is known as row intercropping. It helps in optimum utilization of land space and suppression of weeds during the early stages of the main crop.

Strip Intercropping

When two or more crops are grown in wide strips so that the two crops can be managed separately, it is known as strip cropping. However, the crops are close enough to interact.

Relay Intercropping

In this type of intercropping, a second crop is planted when the existed crop has flowered but not harvested. For e.g., Rice-Cauliflower-Onion-Summer gourds.

Advantages of Intercropping

- The fertility of the soil is maintained.
- The spread of diseases and pests is controlled.
- Optimum utilization of resources.
- The space and time of growing more than one crop are saved.
- Maximum utilization of nutrients present in the soil.

Maize and soybean, bajra are some of the crops grown as intercrops.

Crop Rotation

In this pattern, different crops are grown on the same land in preplanned succession. The crops are classified as one-year rotation, two-year rotation, and three-year rotation, depending upon their duration.

Legumes are included in the crop rotation programme to increase soil fertility. The crops which require high fertility level (wheat) can be grown after the legumes. The crops which require low inputs can be grown after the crops that require high inputs.

How are the crops selected for Rotation?

While selecting the crops for rotation, the following criteria should be adopted:

- Enough moisture should be available.
- Availability of fertilizers, man-power, and machine-power.
- Marketing and processing facilities.
- Availability of nutrients in the soil.
- The crop duration- short or long.

Advantages of Crop Rotation

- The soil fertility is maintained for a prolonged period.
- The growth of weeds and pests is prevented.
- A lot of chemical fertilizers are not required.
- The physical and chemical nature of the soil remains unaltered.

Factors Affecting Cropping Patterns

- The cropping patterns determine the level of agricultural production. This reflects the agricultural economy of any region.
- The cropping patterns are affected by changes in agrarian policy, availability of agricultural inputs, and improvement in technology.
- Thus, the cropping patterns are beneficial in improving the fertility of the soil, thereby, increasing the yield of the crops. It ensures crop protection and availability of nutrients to the crops.

Objectives and Benefit of Practice

❖ Objectives of Cropping Pattern-

- Efficient utilization of all resources viz. Land, Water and solar radiation maintaining stability in production and obtaining higher net returns.
- The efficiency is measured by the quantity of produce obtained per unit resource in a unit time.

❖ Benefit of Cropping Pattern-

- Maintain and enhance soil fertility
- Enhance crop growth
- Minimize spread of disease
- Control weeds
- Inhibit insect and pest growth
- Increase soil cover
- Reduce risk for crop failure



Photo Gallery



Best Practices: Cropping Pattern

Best Practice: for the academic year 2022-23

List of Students

Sr. No	Name	Designation
1.	Mr.Varpe S.S.	Teacher
2.	Mundhe Sonali Ramesh	Student
3.	PabalRushikesh Ram	Student
4.	SangaleAyushiShivaji	Student
5.	ShendkarDipaliAnnasaheb	Student
6.	Tambe Pratik Annasahe	Student
7.	BhavarPratikshaBhagirath	Student
8.	BidgarAmolTukaram	Student
9.	DahaleUdayArun	Student
10.	DatirGeetaBhimraj	Student
11.	GiteKajal Shankar	Student



A. Varpe
Head
Department of Botany
ACS & Comp. Sci. College, Ashvi Kd.

Loknete Dr. Balasaheb Vikhe Patil (Padmabhushan Awardee)
Pravara Rural Education Society's
Arts, Commerce, Science and Computer Science College,
Ashvi Kd, Tal. Sangamner, Dist. Ahmednagar

DEPARTMENT OF BOTANY

Best Practices: Cropping Pattern

Best Practices: Visit Report- 2022-2023


Department of Botany conducted the best practice in Cropping Pattern from academic year **2022-2023**. In these best practice 10 students from class S.Y.B.Sc was enrolled, these students first bring the survey of nearby villages surrounding to the ashvi collage. They studied the area of this village, environment of village, types of crop, cropping pattern, irrigation system, and fertilization method and harvesting pattern. The students bring the group discussion with the farmers. Students aware the farmers about types of crop, cropping pattern, irrigation system, fertilization method and harvesting pattern with bringing a fieldvisit.



Outcome of this practice in this academic year farmer benefited as follow:

Name of village	Guidance given to farmers	Name of Framer participated
Ashvi Kd, Tal- Sangamner, Dist.- Ahmednagar	<ul style="list-style-type: none">• Area ofvillage• Environment ofvillage• Croppingpattern System.• Types ofcropping pattern.• Benefits ofcropping pattern.• Importance of time of harvesting ofcrop	1. Datir RameshDhondiba
		2. ShindePopatLaxman
		3. Gaikwad Ramesh Lahanu
		4. Walhekar Mayur Sampat
		5. Tajane Mahesh Gangadhar




Head
Department of Botany
ACS & Comp.Sci. College, Ashvi Kd.

Loknete Dr.Balasaheb Vikhe Patil (Padmabhushan Awardee)

Pravara Rural Education Society's

Arts, Commerce, Science and Computer Science College, Ashwi Kd.

Department of Commerce

Title- Farmer Accounting

Introduction:

Economy of India has been recording rapid industrial progress yet still it is based principally on agriculture and more than 72 per cent population of the country is directly or indirectly engaged in this profession. There are more than 500,000 villages in the country which are engaged in agriculture allied activities. Major share of the national income of the country is contributed by agriculture. In spite of these, productivity in the agricultural sector has not been increase as growth witnessed in other sector of economy. Many factors are responsible for the low productivity of agriculture but one point that can mainly be attributed to it is the "farm management" which has received far less attention than the industrial and business management. In spite of the fact that agriculture plays the most significant role in our economy, no comprehensive, detailed and systematic accounting methods, costing system and management techniques has been developed for this sector.

With no written records, farmers have to depend on their memory while making decisions regarding their farm practices. Record keeping is a necessary element of all types of farming practices especially in livestock business management. There are several useful records such as production and financial transactions in the dairy enterprise. Mahatma Gandhi said that the soul of India is living in villages. Lack of infrastructure and ill managed manpower making the farming uncertain in India. Hence the farmers are still poor in India. There is a large gap regarding economics and other aspects in rich and poor farmers. Majority of farmers are marginalized in India possess very small piece of land. Average landholding is less than 2.5 acres. Therefore, it is very necessary to make farm accounting as a daily practice. It will then increase accountability in farming. The surrounding of the college is of Agriculture. Almost all

students are from farming backgrounds. The high labour employment is also provided by the farming. It is essential to maintain accounts of agriculture farm. Farmers also need to be financial managers; that means keeping accurate farm records and establishing and maintaining a proven record keeping system. Farmers need an accurate farm records system, bookkeeping, and financial planning system to track all of the farms business activities. Agriculture income is tax free in India, subject to certain stipulation.

Aims and Objectives:

- ❖ To provide Accounting Knowledge to the farmers
- ❖ To help for accurate farm records system, bookkeeping, and financial planning system to track all of the farms business activities.
- ❖ To involve students in the practice, for practical knowledge.
- ❖ To strive for positive change in Agriculture sector
- ❖ To bring about the all-round development of Farmers

The Practice –

To fulfill aim and objectives of the farm accounting 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 form is circulated and collected. The form collects the information regarding landholding, type of land, Irrigation facilities, Livestock details, new techniques used and other economic related details. After studying the details of all the forms, 20 farmers are selected on the basis of their economic and social background. 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 20 selected farmers. All the details regarding farm accounting and other details are then communicated to farmers. Students are then asked to take follow-up of the activity. In this process farmers get acquainted with the new techniques of farm accounting as well as students learns directly from practical knowledge.



A handwritten signature in blue ink, appearing to be "S. Singh".

— Head —
Department of Commerce
ACS & Comp.Sci. College, Ashvi Kd.

List Participated Student 2022-23

Sr. No	Name Of The Students
1.	Andhale Amol Bhaskar
2.	Bondre Prajyot Balasaheb
3.	Borde Chetan Gorakh
4.	Daradi Vilas Ashok
5.	Datir Prachi Bapu
6.	Divate Shital Gitaram
7.	Hajare Nilesh Sopan
8.	Jadhav Drushti Anil
9.	Jadhav Onkar Sambhaji
10.	Muntode Gaurav Agasti
11.	Muntode Suvarna Santosh
12.	Pabal Avinash Manik
13.	Pathan Khalid Raju
14.	Sangale Swati Raosaheb
15.	Shinde Shraddha Rajendra
16.	Sose Saurabh Popat
17.	Tajane Nikita Vijay
18.	Talekar Aboli Sanjay
19.	Tambe Shalini Babasaheb
20.	Varpe Vinayak Dattatray



Head
Department of Commerce
ACS & Comp.Sci. College, Ashvi Kd.



Farmer Accounting - various activity run by Department of Commerce

Outcomes of the Practice

Farmers typically do not prepare various financial statements, because current accounting rules do not adapt well to the particularities of agriculture. Farmers consider that the benefits of accounting reports do not outweigh the cost and effort of preparing them, or learning how to prepare them. A big farmer's wealth is as good as small scale industries. But he has not maintaining his accounting system. If a good developed farm accounting is use then the present scenario of agriculture will change. For this purpose, we are implementing a new initiative for the farmers of Ashvi village on behalf of the Commerce Department with student.


Success story - 1

“**Bondre Balasaheb**” has been in farming sector from years but never kept any financial record of his income and expenditure. His son **Prajyot Bondre** our student of T.Y.B.Com. gave impetus to keep the farming record and started to keep all entries in a notebook. After a year notebook was analyzed in various aspects. Now it is his daily routine to keep a record which is yielding great benefits to him

Success story 2

“**Sose Sourabh Popat**” Has been practicing farming activities form years. He is been practicing mixed farming. His family income is largely through animal rearing and allied activities. A dairy business is the major activity providing sustainable income and manure to the farm. In recent years due to various diseases in animals, the income from dairy business has dropped but he never got a clear view of loss. After keeping a record he was able to specify the sector of loss. When he started to keep all the record of his dairy business and all farm activities he was able to curtail some unnecessary expenditure




— Head —
Department of Commerce
ACS & Comp.Sci. College, Ashvi Kd.

Loknete Dr. Balasaheb Vikhe Patil(Padmabhushan Awardee)
Pravara Rural Education Society's
Arts, Commerce, Science and Computer Science College,
Ashvi (KD). Tal: Sangamner, Dist: Ahmednagar, Pin: 413738

Academic year
2022-23

Financial Literacy of Central Budget to the Farmer
PM-KISAN YOJANA

By
Department of Economics



Self Declaration:	Yes/ No
I am an institutional farmer	<input type="checkbox"/> <input type="checkbox"/>
Any family member ever held or holding a constitutional post	<input type="checkbox"/> <input type="checkbox"/>
Any family member ever held or holding the post of MLAMP/Mayor/ Chairman Zila Parishad	<input type="checkbox"/> <input type="checkbox"/>
Any family member is/was serving or retired employees of central / state government (excluding class 4 employees)	<input type="checkbox"/> <input type="checkbox"/>
Any family member is a Retd. Pensioner having a pension more than 10,000/- per month (excluding class 4 employees)	<input type="checkbox"/> <input type="checkbox"/>
Any family member has paid Income Tax for assessment year 2018-19	<input type="checkbox"/> <input type="checkbox"/>
Any family member is a registered Doctor/Lawyer/CA/Engineer/Architects practicing privately	<input type="checkbox"/> <input type="checkbox"/>

Introduction-

The Pradhan Mantri Kisan Sanman Nidhi Yojana was launched by the Central Government in December 2018, under which small and marginal farmers with less than 2 hectares of land are given three installments of Rs. 2,000 per annum each. The money is credited to the farmers' account in three installments of Rs 2,000 each. Modi Government has increased Rs 3000 core for PM Kisan Samman Nidhi Yojana in the General Budget 2022-23.

The Ministry has been allocated Rs 1, 50,762crore in 2022-23 Allocation to the Ministry accounts for 5% of the central government's budget. This allocation is 30% higher than the revised estimate for 2021-22, primarily due to a higher allocation of Rs 75,000 core to PM-KISAN (income support scheme for farmers) for 2022-23.as well, the scheme was allocated Rs 75,000 core at the budgeted stage. The money is credited to the farmers' account in three installments of Rs 2,000 each. Awareness about Pradhan Mantri Kisan Sanman Yojana was spread among the farmers of Ashwi Khurd villages through the Department of Economics. Beneficiary farmers were registered through the Department of Economics. All the beneficiary farmers who were registered benefited from the Prime Minister's Kisan Sanman Nidhi Yojana. Farmers in Ashvi Khurd villages are guided by the Department of Economics to avail the benefits of the Prime Minister's Kisan Sanman Nidhi Yojana and the benefits are given to the concerned beneficiary farmers. So far more than 30 beneficiary farmers have been given the benefit of Pradhan Kisan Samman Nidhi Yojana ,

According to Constitution of India, there is three-tier system of government, namely. Central (or Union) government. State government and Local government (like Municipal Corporation, Municipal Committee, Zila Parishad, etc.). Accordingly, these governments prepare their own respective budgets (called Union Budget, State Budget and Municipal Budget) containing estimates of expected revenue and proposed expenditure. The basic structure of government budget is almost the same at all levels of government but items of expenditure and sources of revenue differ from budget to budget. Again, there is no clash with regard to sources of revenue because functions of Central, State and local government have been clearly demarcated and laid down in the Indian Constitution.

Objectives-1) To Provide Information about Government Agricultural schemes to the farmers.

- 2) To Participated Farmers in the Practice.
- 3) To involved students in the practice for practical knowledge.
- 4) Providing information on agricultural schemes to students.
- 5) Providing information on central government schemes to farmers.
- 6) Providing technical advice trying to get farmers to benefits from the prime

Ministers Agriculture development schemes.

Eligibility criteria-PM KISAN YOJANA

1. In the database, the land owner's name, gender,- The land owner must have name in the government database
2. Social Classification (Scheduled Tribes / Scheduled Tribes) - Caste Certificate
3. Aadhaar number, bank account number and mobile number (Contact Details), etc.
4. Land record details.
5. Jan Dhan Bank Account Number, Aadhaar and Mobile Number will help in identifying eligible beneficiaries and incompetent claimants.

6. The scheme is sponsored by the Central Government. Therefore, the farmers have to be citizens of the country.
7. All farmers irrespective of landholding are eligible.
8. Landholding should be in farmers name in order to become eligible under the scheme.
9. Location of land does not evaluate if land is being used for agriculture purpose.
10. Micro landholdings are also made eligible.

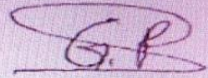
Major Outcomes of the Practices- (Conclusion)

Awareness about Pradhan Mantri Kisan Sanman Yojana was spread among the farmers of Ashwi Khurd villages through the Department of Economics. Beneficiary farmers were registered through the Department of Economics. All the beneficiary farmers who were registered benefited from the Prime Minister's Kisan Sanman Nidhi Yojana. Farmers in Ashvi Khurd villages are guided by the Department of Economics to avail the benefits of the Prime Minister's Kisan Sanman Nidhi Yojana and the benefits are given to the concerned beneficiary farmers. 25 beneficiary farmers have been given the benefit of Pradhan Kisan Samman Nidhi Yojana.

25 beneficiary farmers successfully registered through Bharat Krishi Apps and got agricultural solutions from experts. Agree Farm ,Bharat Agree app, Agro Star Apps tried to reach the farmers with the information of agricultural market through apps. Through this app, the prices of agricultural commodities in the market across the country are being made available to the farmers at the click of a button. Market information is available to the farmers at the click of a button in the market. As a result, the Department of Economics is raising awareness among the farmers about the apps that provide information on such commodity market to stop the economic exploitation of the traders. Thus the Financial Literacy Campaign was good implemented by the department of economics and received a good response.

Success story:

Due to financial literacy Campaign, more than 25 farmers and more than 30 students went to the Grampanchayat and to get the information about the PM Kisan Yojana. 25 Farmers enrolled in Pradhan Mantri Kisan Yojana from Ashvi Block ,due to financial literacy campaign of Ashvi College.



Head
Department of Economics
ACS & Comp.Sci. College, Ashvi Kd.

Department of Geography
Weather Prediction

Title: 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 these sudden changes and lose their crops or the quality of crops gets hampered. Many a time's postponing or preopening 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 vegetables as 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 the Practice

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 Arabian Sea 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 with the help of students. Moreover the prediction with the help of cloud pattern and low pressure belts in seas

are in practice.

Local Geographical Situation

River Pravara (tributary of Godavari) flows in between the two villages' viz. Ashvi Budruk (Older Village) and Ashvi Khurd (New Settlement). Ashvi Budruk is on the North bank of Pravara River and Ashvi Khurd is on the south bank. The rainfall is scanty since it comes in rain shadow zone of Maharashtra. The College is located in Ashvi Khurd (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 rain fed 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 Ahmednagar district and utilized 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 practiced.

Rain fed Region

This is rain fed zone and hence cropping pattern has vast difference than that of irrigated parts. 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 form 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 economic 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 2022-23

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 practices. Interested 5 students were selected. Various websites addressing the issues were communicated to the students.

Meeting No. 2

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

Prepared form was circulated among the farmers.

Villages were selected

Selected students were acquainted with the concept

Meeting No. 3

Selected farmers were called for the meeting.

The concept of best practices was also communicated with them.

Meeting No. 4

Overall outcomes were discussed

IMD warning and other predication date wise - Year 2022-23

Sr. No.	Climatic Phenomena and season./ period	Details
1	Cloudy Weather	Prediction on 25 June 2022
	Rain Gaps	2 July 2022 ,
2	Rainy Days	Prediction on 22 June 2022 Prediction on 5 July 2022 (Rain from 6,11,20 July 2022 Prediction on 20 July (rain of 21 st 28th) Prediction on 1 st August 2022 (Rain on 4 th August 2021)
3	Low Pressure Belts / Cyclones	Low Pressure Belt over Arabian Sea, Afterwards developed as a super Cyclonic Storm –Biparjoy (06/06/2022 to 19/06/2022)
4	Hailstorm Warning and splash rain	Prediction on 10 June 2022
5	Cold Wave	Warning on 4 January 2023

Sr. No	Name of the Students	Class	Village
1	Mundhe Priti Baban	TYBA	Khali
2	Sanap Sonali Sanjay	TYBA	Khali
3	Nagare Kiran Dinakar	TYBA	Khali
4	Wagh Arati Ambadas	TYBA	Pimpri Lauki
5	Wadekar Sujata Nandu	TYBA	Kharshinde

Success Stories

Year 2022-23

Shri Popat Wadekar has a variety of crops in his farm. Year 2022-23 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 Practice

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 practice. Students are learning to read reports and can communicate with farmers easily.

Dasle
Head
Department of Geography
ACS & Comp.Sci. College, Ashu.

Photo Gallery



Discussion with Farmers on Current and Predicted Weather Conditions



Visit to Farming Expo - Shirdi

Ashe
Head
Department of Geography
ACS & Comp.Sci. College, Ashi.