

2



CULTIVATION - CROPS

2.1. Observe the picture and say



- What people in the picture doing? Name the crop shown in the above picture.
- State the different stages in growing this crop?
- Whose services are needed in cultivation of this crop?
- From where the seedlings were brought? How is it processed for swing?
- What is cultivation? What is required for cultivation?

You may be aware that the process of growing crops is called cultivation. There are different stages involved in cultivation, right from preparation of the land to the final yielding of crop. We have to till the land, arrange for water sources and services of different people. We also need to use different farm equipments in different stages of cultivation.

Group work



- ◆ What would happen if farmers stop cultivation?
- ◆ Who are the people dependent on agriculture? How?
- ◆ What are the different crops grown in your village local area?
- ◆ Do your village people consume all the crops they produce?
- ◆ What do the farmers do with their yield?

We are getting food because of farmers. All the people living in cities are dependent on the farmers from villages. Urban people are buying agricultural products from the market, which are produced by farmers. People in urban areas won't get good items if farmers stop selling their produce. There are many people involved in the production of the food we eat. If you want to know about the hard work of farmers, visit a nearby farm observe and get the details.

Collect and discuss...



- ◆ Visit nearby farm and get the following details.
 1. Name of the farmer :
 2. Name of the crop he/she is cultivating :
 3. What is the source of water?
 4. What are the different equipments they use?
 5. Where did they get the seedlings from?
 6. Name the different fertilisers they use.
 7. What do they do with their crop?
 8. How many acres are being cultivated and what would be the net income?
 9. Women role in crop production.
- ◆ On the basis of the information collected discuss in groups and display the information on charts.

2.2. Agricultural equipment

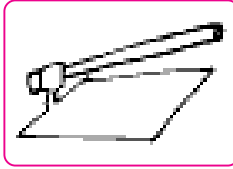
Equipment plays an important role in cultivation. Look at the pictures of some equipments and machinery given below.



Plough



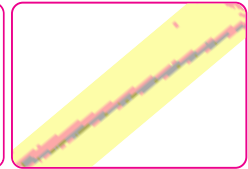
Harrow



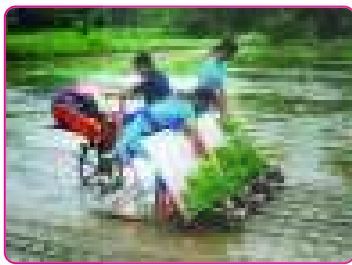
Spade



Sickle



Crowbar



Plantation Machine



Harvesting Machine



Paddy Cutting Machine

People use plough to till the land. Now, tractors are being used in land tilling. Nowadays farm machinery is available for land preparation, planting the seedlings, weeding and harvesting. The use of machinery has helped the farmers in reducing manual labour and speed up the process of cultivation.

Group work



- ◆ Is it good or bad to use machinery for cultivation? Give reasons.
- ◆ Draw the pictures of other equipments that farmers use in cultivation.
- ◆ List out the equipments that the farmers used in the past and those used in the present.

Name of the agricultural activity	Equipment	
	In the past	In the present
Ploughing the field	Plough	Tractor
Levelling the ground		
Sowing the seeds / planting the seedlings		
Drawing water from borewell / well		
Removing the weeds / yielding the crops		

2.3. Seed

Ramulu is a farmer, he went to the market to buy cotton seeds. He saw people standing in queue in front of the shops to buy seeds. He also joined the queue and bought them. He sowed the seeds in his land. The crop was good but the yeild was not good.



Group work



- ◆ What would be the reason for Ramulu being unable to get the yeild?
- ◆ What is the reason for the crowd in the picture? Why it happens?
- ◆ Why is there a shortage of seeds during crop seasons? What are the other problems that the farmers face?
- ◆ What is the source of the seeds in the past?
- ◆ Where do farmer of your village get seeds from?

Some of the seed companies are deceiving farmers by selling sub standard seeds which do not germinate or some times won't give proper yeild.

In olden days farmers used to keep certain portion of their crop to be used as seed. Farmers even borrowed seeds from their neighbours. Today people are dependent on market for high yeilding varieties and have discarded their traditional seed preservation practices. When all the farmers depend on the market forces they are unable to get the required quantity of seeds. Sometimes farmers are being cheated with sub standard seeds which gives low yield.

Do you know?

For centuries we had 5400 rice varities, 740 mangao varities and 3500 varities of brinjal cultivated in our country. The market forces have raised the cost of seeds, as farmers dis-carded the traditonal way of seed preservation. Now, most of the traditonal seeds have disappered.

In our country "the National Bureau of plant Genetics" is collecting and con-serving the genes of differ-ent plants.

Think and say...

- ◆ What can the farmers do to avoid dependence on the government or market for seeds?
- ◆ Name some rice varieties you know?
- ◆ Name the famous mango varieties?

2.4. Sustainable farming / sustainability in farming

Mallesh is cultivating his 10 acres of land. He is cultivating mulberry in 5 acres, maize in half acre and crops like ginger, turmeric in the rest. He is growing green fodder in 2 acres. He is also cultivating vegetables like brinjal, tomato and



Dairy Farm

flower varieties like, Jasmine, marigold and roses. In order to increase the soil fertility he is preparing a vermicompost. He is also preparing insecticides from neem oil and other such products. He has raised his crop production by using organic fertilisers and organic insecticides. Further he has a dairy farm and also rears silk worms in his farm.

In his poultry farm he has been building layers for eggs and broiler for meat. There is a pond for the dairy farm animals to rear. He is also raising ducks and country chickens in his farm. Mallesh's income has increased due to the cultivation of different crops in addition to dairy and poultry. Mallesh says, that if we cultivate monocrop the soil fertility will reduce and farmers may lose financially. Due to his different practices he could earn more money, and also could provide employment for others.



Poultry Farm

Group work



- ◆ How could Mallesh produce more in his farm?
- ◆ What did he do to protect the crops from insects?
- ◆ Why did he cultivate ginger, turmeric etc., in his farm? Why did he raise ducks, poultry and cows in his farm?
- ◆ According to Mallesh cultivation is good or bad profession? Why?
- ◆ What is your opinion on Mallesh's agricultural practices?

2.5. A success story of a woman farmer



Do you know about Gangawar Manemma? She has been practicing agriculture a job which generally men alone do. Now, read what she has said about her farming.

My name is Gangawar Manemma. I belong to Gangawar village in Nyalkal Mandal of Medak district. We have 3 acres of land. It has red soil and is a barren

land. We could not grow any crop in that land. When it rained we could grow jowar and millet. My life changed since I joined as a member in Deccan development society (DDS).

We faced lot of problems in buying seeds, doing cultivation and in selling our farm products in the market. We could not understand anything in the process. We always bore the losse by growing one crop or the other. When we joined the society we could procure the required seeds for our crop. We minimised the expenditure in cultivation, prepared the manure required for our crops and yeilded good quantity. Now we are following conventional methods in cultivation. With limited water resources, we could grow redgram, jowar, millets, greengram, horsegram, foxtail millet, mustard, sorghum, pigeonpea, cowpea, lablab and hibiscus. These crops do not consume much water. We are preparing bio fertilisers by using cowdung, neem leaves and neem bask available at our fields. Due to these biofertilisers we could reduce diseases and increase the soil fertility. We could produce the food grains required for our family in addition to preserving the seeds for the next crop. We are following traditional methods in selection of seeds. We conserve the seeds by adding ash and neem leaves, so that they can be protected from insects. We are following mixed crop cultivation so that we can produce more and earn more. We exchange seeds with one another and treat our land as mother god. We spend most of our time in our farms rather than at home.

Many people are following traditional way of farming like Manemma by preserving their own seeds. Deccan development society is supporting poor farmers in practising sustainable cultivation in the surroundings of Zerheerabad in Medak district. They could revive a variety of traditional crops by following conventional practices. These practices reflect the biodiversity in this region.

Group work



- ◆ What practices did Manemma follow?
- ◆ Who helped Mannema? How did they help her?
- ◆ Should we appreciate Mannemma? If so why?

2.6. Pesticides

Vasantha daughter of Ramulu is in Class-V. She went to the market along with her grandmother to buy fruits. Grandmother bought grapes for Vasantha. Vasantha started eating the grapes as soon as grandmother gave it to her. Grandma warned Vasantha not to eat any fruit without washing.

Think and say...

- ◆ Why should we wash fruits? What are the other items we should wash before we eat them? Why?

Farmers spray pesticides to protect crops from insects and to get good yield. Due to the over use of pesticides, the insects are becoming resistant to such pesticides. This also leads to food poisoning. Eating the food items which are exposed to excess pesticides causes cancer and other diseases.

Instead of using chemical pesticides it would be better to use biopesticides which are made of different organic materials. Like green chilli, garlic and neem oil, solution of tobacco and other locally available materials.



Use of chemical pesticides may increase crop productions but it harms the insects which are useful to us and also harmful to human being and other animals.

Think and say...

- ◆ What are the other disadvantages of using chemical pesticides?
- ◆ What are bio-pesticides? Why should we use them?
- ◆ Why should we wash vegetables & fruits before we eat or cook?

2.7. Kinds of crops

We grow different varieties of crops in our state. Rice, wheat, jowar, maize, pulses, oilseeds, vegetables and fruits are some of the crops we grow. We call them 'food crops'. We also grow cotton, jute and mirchi which are called commercial or cash crops.

Group work



- ◆ Prepare a list of crops that grow in your village.
- ◆ What are the food items that your village people get from other places? Why such items are not available in your village? Write and say the reasons.
- ◆ What is the time duration various crops to grow and yield?

We can see the same crop in different varieties. In Jowar we can see yellow and white variety. Similarly there are many varieties in rice, chilli and redgram. Read the following table.

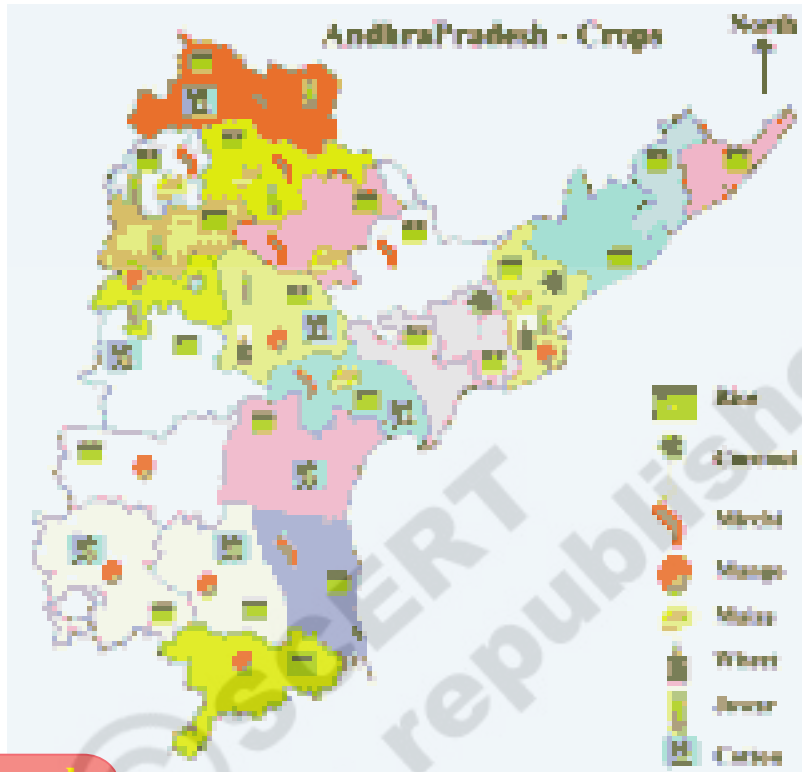
Sl.No.	Crop	Varieties
1	Paddy	IRZO, Hawsa, Swarna, Masoori, Bangarutheega, Samba
2	Redgram	Redgram, Balkgram, Asha, Nadipi

Every crop needs a different environment to grow. The duration also differs from crop to crop. In some cases it takes two or three months, in others it takes 6 months. Rice, Jowar, groundnut take 4 month. Rice needs more water, where as jowar and groundnut need less water. Jowar and groundnut are rain fed crops. Crop period for redgram is 6 months which is also a rainfed crop. What are the different crops grown in your village. Collect the details and fill the following table.

Sl.No.	Name of the Crop	Crop Period	Required water Rainfed crops has requiring more water

2.8. Places where different crops grow in Andhra Pradesh

You have read about the different crops are being grown in our state. The details of the different crops grown in different districts has been given below.



Group work



- ◆ List out the district wise crops on the basis of the above map.

Sl.No.	Crops	District that grows this
1.	Rice	
2.	Jowar	
3.	Cotton	
4.	Mirchi	
5.	Mango	
6.	Coconut	
7.	Wheat	
8.	Maize	

Keywords

Agriculture	Seeds	Poultry farm
Stages in cultivation	Shortage of seeds	Dairy farm
Farm equipment	Crop production	Agricultural practices
Water source	Sustainable agriculture	Pesticides



1. Conceptual understanding

- What is cultivation?
- What are the modern equipments that are being used in cultivation?
- What are the rainfed crops?
- It's not good to use chemical fertilisers. Why?
- What are bio-fertilisers? Why should we use them?
- What are the advantages of preserving our seeds?

2. Questioning and hypothesis

- What questions would you ask a farmer in your village to know about a crop.
- Frame few questions on the usage of machinery in cultivation.

3. Experiments - field observations

- Buy some fruits from the market. Wash the fruits in a bowl and observe the water. Say what you have observed.
- Sow the seeds of jowar, millets, red gram and ground nut in a broken pot / flowerpot. Observe the growth of the plants. Find out the height of each plant and write in your notebook.

4. Information skills, projects

- Meet the farmer in your locality and collect the following information and fill the table

Sl.No.	Name of the farmer	Growing crops	Fertiliser they use	Pesticide they use	Farm equipment they use	Farmers opinion

- What are the crops they grow more?
 - What are the fertiliser they use more?
 - Name the equipment that are more in use.
 - Name the equipment that are less in use.
 - Name the pesticides that was used by a few people?
- b) Meet the farmers in your locality and prepare a report on the issues they are facing.

5. Communication through mapping skills, drawing pictures and making models

Answer the following questions on crops with referene to the AP map.

- What are the crops mentioned in the map.
- Name the crop which is being cultivated in more districts.
- In which district more number of crops are being cultivated? What are they?
- Name the districts in which we find less crops.
- Identify the crops which grow in your district.

6. Appreciation, values and creating awareness towards bio-diversity

- a) The farmer's labour is hidden in the food that we eat. What is your opinion.
- b) How do you feel when you look at the green fields?
- c) Where do you want to spend more time - at school; at home; or the green fields. Why?
- d) What would be your contribution in keeping the earth green.

Can I do this?

- | | |
|---|----------|
| 1. I can explain the different stages in cultivation, required form equipment, pesticides and seeds in cultivation. | Yes / No |
| 2. I can explain what is ideal cultivation. | Yes / No |
| 3. I can collect the information related to cultivation and write down it in the tables. | Yes / No |
| 4. I can explain about the details of the crops grown i A.P. with the help of state crop chart. | Yes / No |
| 5. I appreciate the hard work of the farmer in cultivation especially women. | Yes / No |