



Green Schools Network

ACTIVITY SHEET

July 2012

Why talk about the farming?



Because major population of our country is involved in farming for feeding 1.2 billion mouths. In India, about 65 to 70 per cent population dependent on agriculture as major source for livelihood. It is projected that by 2030 India will overtake China as the world's most populous nation.

It means that with same size of land we have to double our production of agricultural goods. Great pressure is being placed on land and water to provide an adequate supply of food as the population of our country continues to grow geometrically. The farmers as also expected to maintain the integrity of our ecosystem along with producing food for the masses.

Name.....
School Name
Class..... Date

Gobar Gyan

Have you ever had a chance to compare the way your grandfather does his office work and the way your father does his now? If so did you notice any difference in the way they work? Is it a difference in style of work, approach or is it the resources used while working? Yes, you are right. There is indeed a noticeable difference between the working styles of two different generations. The former may still prefer to use a notepad to make important points during a meeting while the latter may prefer making a memo on his cell phone. Or the former may prefer manual banking as it involves making payments personally by cheque contrary to the latter preferring to make online transactions which save time and paper.



Similar to this scenario is the way traditional farmers and modern day farmers work. The traditional farmers would still prefer to manually plough the land, irrigate it with monsoon and sell the produce in the nearby local markets. He would be satisfied with his produce and the amount of yield he gets. He does not do farming with a wholly commercial purpose; he does it for the livelihood of his family and of course to earn a living.

To the contrary, modern day farmers are 'business men'. They cultivate land with the sole motive of selling the produce and making a profit. They use tractors and mechanical ploughs, High Yield Variety (HYV) seeds, insecticides, pesticides and other vitamins and minerals to help the crops grow. The yields these farmers get are massive, they export their produce to other countries, sell it in the nearby towns. They earn profits which they re-invest in their agriculture business.

But do they realise if they're causing any harm to the environment and to the people living in it? Let's explore the pros and cons of modern day farming and traditional farming. Is this advancement in technology, techniques and processes benefiting our society?



Hi! I am Pandit Gobar Ganesh. You will find me in Gobar Times—a magazine that tells you how your everyday life is linked to the world around you. Hooked, huh? If you want to know more about me and Gobartimes visit us at: www.gobartimes.org

BASIS	TRADITIONAL FARMING	MODERN FARMING
Duration of yield	A crop grown by traditional means will relatively need more time as compared to modern farming techniques as it depends on rainfall over which they have no control.	A crop grown by modern farming techniques grows relatively faster by modern means as they are well irrigated from other water sources.
Investment in pesticides and running capital	Traditional farming is definitely more economical. This is because the base cost incurred by the farmer is low. He does not use any tractor, harvester or thresher which is expensive equipments. He does not spray pesticides and insecticides on his crops which also saves him an input cost.	Modern farming is expensive. The farmer has to use HYV seeds, ploughs, harvesters, threshers and vitamins and minerals for the growth of his crops. These costs are ultimately borne by the consumers of these crops.
Yield from the cultivation	The yield is relatively lesser to that of modern day crops. This is because in traditional farms some of the harvest gets ruined due to insects and pests on the farms. Some crops go rotten and hence the harvest of the crop is lessened.	The yield of these crops is high. This is because of the HYV seeds they use, pesticides and insecticides sprayed and resistant seeds which are used. A very low percentage of the crop goes rotten.
Safe to consume	These crops are completely safe to consume by humans. This is because these crops are grown organically grown. No chemical or artificial colours are added to these crops. They do not have any impure adulterants within them.	The safety of these kind of crops are questioned often. They are sprayed with chemicals, injected with colour and growth boosters. These crops are considered unfit for consumption without thorough washing in water.

Activity 1: Have you ever wondered about the cereals and pulses in your kitchen – like where were they grown or how they were grown? Have you ever been to a farm before? Have you ever interacted with a farmer? Do you know his daily jobs? Let's try to find it today. Why don't you organise a meeting or a talk of a farmer in your school. Before organising a talk you can start with a survey. Firstly you can split into groups of two members and each interview one farmer. But you will have to choose two respondents (farmers) very carefully. Remember you want to differentiate between farming done with traditional means and modern means. So, one of the farmers should be practising traditional farming and the other modern farming. You can ask them the following questions. Compare your results with each other and fill in the questionnaire given below. You can add more questions to make this activity more interesting and for better clarification. So let's begin.

Question 1: Since how many years are you doing farming? _____

Question 2: You started farming or your ancestors were also involved in this? _____

Question 3: From where did you learn the techniques and methods of farming? _____

Question 4: What kind of seeds do you use and what are your sources? _____

Question 5: Do you use fertilizers?

What are the benefits of using fertilizers Yes

What are the benefits of not using fertilizers No

Question 6: Do you use pesticides?

If yes then what kind of pesticides do you use? Yes

Why don't you use pesticides? No

Question 7: Which irrigation methods do you use? _____

Question 8: Does your harvest enable you to earn a comfortable living for you and your family? _____

Question 9: Does the profit you earn easily cover your input costs which you incur while cultivating crops? _____

Question 10: Does the government subsidise the price of raw materials? If yes, are you eligible to avail this subsidy? _____

Question 11: Do you practice labour intensive or capital intensive farming? _____

Question 12: Do you feel Green Revolution has proved to be a benefit to the agricultural sector? _____

Gobar Gyan

For over 5,000 years farmers have cultivated cotton in their fields, growing enough to spin and weave into cloth. The fluffy bolls of the plant are the basic ingredient of the soft, breathable fabric used to make much of our clothing.

We all know what brinjal is, but do you know what BT Brinjal could be?

BT Brinjal is a genetically modified variety of brinjal (also called eggplant or aubergine). This transgenic version of a brinjal has been created by inserting a crystal protein gene (Cry1Ac) from the soil bacterium *Bacillus thuringiensis* into the genome of various brinjal cultivators. The insertion of the gene, along with other genetic elements like promoters, terminators and resistance gene into the brinjal

plant is accomplished using Agrobacterium- mediated genetic transformation. The BT brinjal has been developed to give resistance against lepidopteron insects. The resultant seed ensures 25-75% more produce as compared to the normal variety. Also , it requires only two sprays of pesticides as compared to eight which is required by the normal variety.

This new variety of brinjal will prove to be a boon to India as it is considered as a staple vegetable in India. Do you feel that the “supposedly” 100% organic vegetables and fruits which we purchase may have food colouring or other chemicals added to it?

Is this not the case with all food products as well? It may be food grains, textiles, milk, eggs, oil or pulses. Do you think it is our fault that we buy these products without checking its purity and trust our shopkeepers or do you feel we are being taken for granted as consumers?

Activity 2: Food Adultery to satisfy population demand

Do you know what food adultery could mean? Yes , it means addition of impurities to food products to improve its physical appearance, taste, shelf life or most importantly its quantity. Lets do a survey in the nearby market to see if we can deduce what food adultery is. Go to your nearby local market and a few food grains and spices. You can buy two different qualities of the same vegetable/ rice/wheat/pulses or milk. Note down the cooking time, colour of the item, any crudities like small stones or mud (in the grains and pulses), colour of milk, shelf life of the product, fragrance of the spice, cooking time etc . After that we will try to find out to what extent can food be adulterated.. So let’s begin!

You will need: 2 varieties of vegetables (Apples,Oranges,Watermelon); 2 varieties of any pulse (Tata I Shakti etc); 2 varieties of milk (Mother Dairy/Amul or any other); Any spices like turmeric, chillies etc

Let’s Compare the two varieties for each of the above:

Product	Colour	Cooking time	Impurities in it	Taste	Shelf life	Fragrance
RICE						
PULSES						
MILK						
TURMERIC						

What does our experiment show us? Are we also a victim of food adultery?

Activity 3: Lets explore into the corporate world !! Firstly split up into groups of three and each group can choose a popular MNC in India and answer the following questionnaire. Do a thorough research regarding the land on which their industry is situated, competitors, whether their growth hampers small time traders and farmers, what cost they purchase raw materials at and their profit margins.

Question 1: What percentage stake do they hold of their company?

Question 2: Is the Indian Government a dominant share holder?

Question 3: What sector of the economy is their business related to?

Question 4: : Do they have any competition from Indian businesses (it could be from farmers, manufacturers or industrialists)? Do Indian business pose a threat to them?

Question 5: Have they employed local labour force for carrying out of their operations?

Question 6: Is their business situated in an area in which they do not have to bear high transportation and input costs?

Question 7: Have they benefited by our FDI policy?

Question 8: What percentage of their production do they sell in India?

Question 9: Are they a socially responsible business unit?

Question 10: Have they compensated the workforce which was displaced due to their business establishment (if they have)? Is the workforce satisfied with this compensation?

If you have any further interesting data regarding FDI, Green Revolution or food adulteration, you can send us your views. We would love to hear from you!

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