



The City School
PAF Chapter

Geography

Intervention workbook

(1st Term)

Class – 7

Topic: weather and climate
Section A

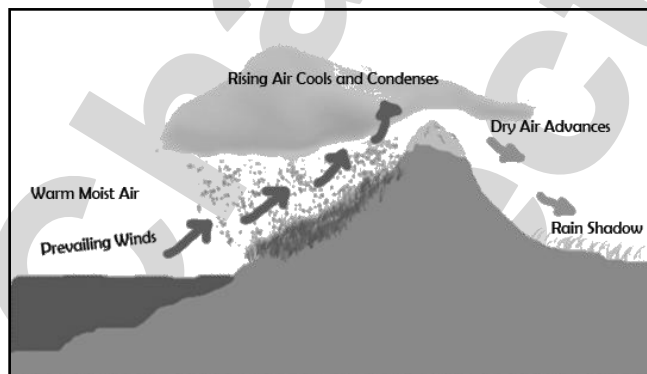
Q1. Fill in the blanks.

[/10]

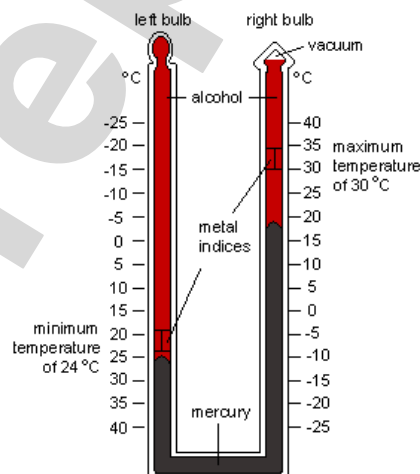
1. The world can be divided into three broad climatic zones based on _____.
2. The breeze blows when the pressure is higher at the sea. _____
3. Weather appears in the layer of atmosphere called the _____.
4. The atmosphere is composed of _____% of oxygen.
5. Six's thermometer is kept inside _____ screen.
6. _____ is used to measure the speed of the wind.
7. In the center of the cyclone is the _____ where air descends and it is calm.
8. _____ Climate will be found near the equator of the earth.
9. The change in _____ direction is the chief feature of monsoon climate.
10. The breeze moves when the land is cool. _____.

Q.2 Identify the following by looking at the pictures and fill the information in the box provided below.

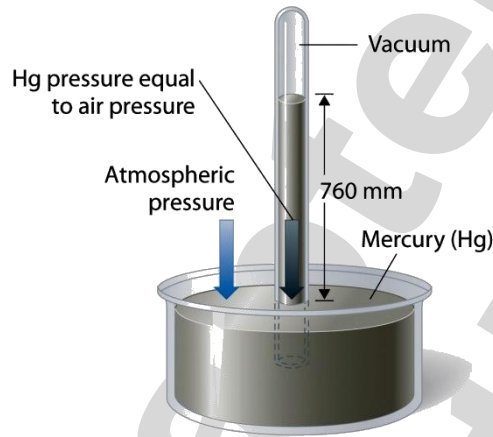
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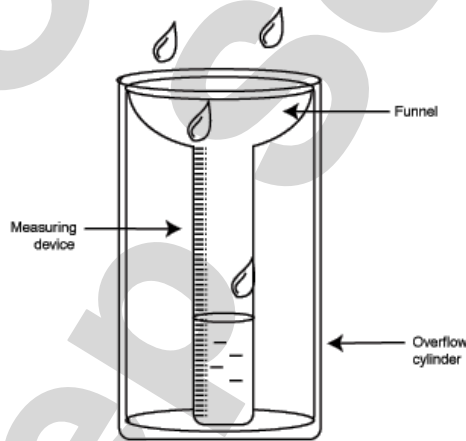
Name of the rainfall:	Definition:



NAME OF THE INSTRUMENT:	USE OF THE INSTRUMENT:
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NAME OF THE INSTRUMENT:	USE OF THE INSTRUMENT:
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NAME OF THE INSTRUMENT:	USE OF THE INSTRUMENT:
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Q.3 Match the names of instruments to their uses by writing the correct answer in Column

C.

[/05]

COLUMN A	COLUMN B	COLUMN C
a. Stevenson`s thermometer	It measures the rainfall.	
b. Anemometer	It shows the direction of the wind.	
c. Barometer	It measures the temperature of the atmosphere.	
d. Wind vane	It measures the speed of the wind.	
e. Rain gauge	It measures the air pressure.	

Section B

Q.4 Name any five elements of weather.

[/05]

Q.5 Define the following terms:

[/04]

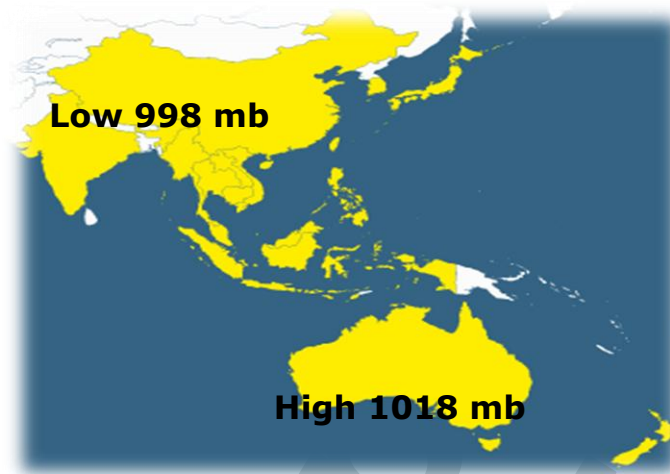
a. Radiation:

b. Evaporation:

c. Condensation:

d. Wind:

Q.6 Carefully observe the following map, which shows a specific time of the year with particular weather patterns on Asia Pacific region. Then answer the following: [/05]



- a) Draw the arrows to show the direction of winds as per the pressure conditions.
- b) What are the winds called?

- c) Which season is there in the area where the winds blow?

- d) Why these winds blow from one land to another? Give reason.

- e) Why these winds are wet?

Q7. Write the characteristics of equatorial climate. [/05]

Q8- Explain how air is cooled to form rainfall.

[/03]

Lined area for writing the answer to the question.

PAF Chapter
Prep Section

Topic: Fresh water
Section A

Q1. Fill in the blanks.

[/10]

1. Water is made up of tiny particles called _____.
2. The growth of population in a country means that more _____ is required.
3. The United Nations declared the year _____ to be the international year of fresh water.
4. Human beings can last only ___ days without drinking water.
5. According to environmentalists in next _____ years, some parts of world could begin to run out of fresh water.
6. About _____% of the world's population have no safe drinking water.
7. The Indus water treaty in _____ between Pakistan and India helped to solve the dispute over water shortage.
8. There are over _____ desalination plants in the world.
9. _____ is the country, which desalinates by far the largest quantity.
10. Only _____ and _____ are downstream of the Blue Nile in Ethiopia.

Q2 Choose the correct answer:

[/04]

- a. The only natural substance that exist in three states is _____
 - i. Light
 - ii. Air
 - iii. Water
- b. We can get fresh water from sea water by the process of _____
 - i. Dehydration
 - ii. Distillation
 - iii. Desalination
- c. In one molecule of water there are _____.
 - i. 3 atoms of hydrogen and 2 atoms of oxygen
 - ii. 2 atoms of hydrogen and 1 atom of oxygen
 - iii. 1 atom of hydrogen and 2 atoms of oxygen
- d. Seas and oceans contains _____% of salty water that we cannot drink.
 - i. 87%
 - ii. 67%
 - iii. 97%

Section B

Q3. Write three reasons that are causing water shortage in Pakistan. [/03]

Q4. Explain the problems associated with the desalination of seawater. [/03]

Q5. What are the results of shortage of fresh water? [/03]

Q6. Explain how shortage of water for irrigation affects the cotton growing farmers. [/05]

Topic: water
Section A

Q1. Fill in the blanks.

[/10]

1. Water is constantly cycled in a continuous cycle called the _____.
2. The water that is stored in the soil and rocks is called _____.
3. There is more evaporation from _____ oceans than anywhere else in the world.
4. _____ Currents are large masses of water that move in the regular patterns.
5. Smaller river or stream that flows into the main river is called a _____.
6. A river's work depends on the _____ of the river.
7. The river with the greatest flow of water in the world is river _____.
8. 19% of the world's electricity is _____.
9. The river _____ is one of the longest rivers in the world.
10. _____ is a triangular shaped island formed near the mouth due to deposition by the river.

Q2. Choose the correct answer:

[/04]

- a) On a sloping stepland a river gains high _____.
 - i. Volume
 - ii. Sediment
 - iii. Velocity
- b) Due to _____ the fragments of rocks grind the riverbed & its banks.
 - i. Corrasion
 - ii. Corrosion
 - iii. Saltation
- c) Erosion results in the formation of landform known as _____.
 - i. Waterfall
 - ii. Plain
 - iii. Meander
- d) According to the Indus Water Treaty India was given the water of _____.
 - i. Rivers Indus & Jhelum
 - ii. Rivers Chenab & Ravi
 - iii. Rivers Ravi & Sutlej

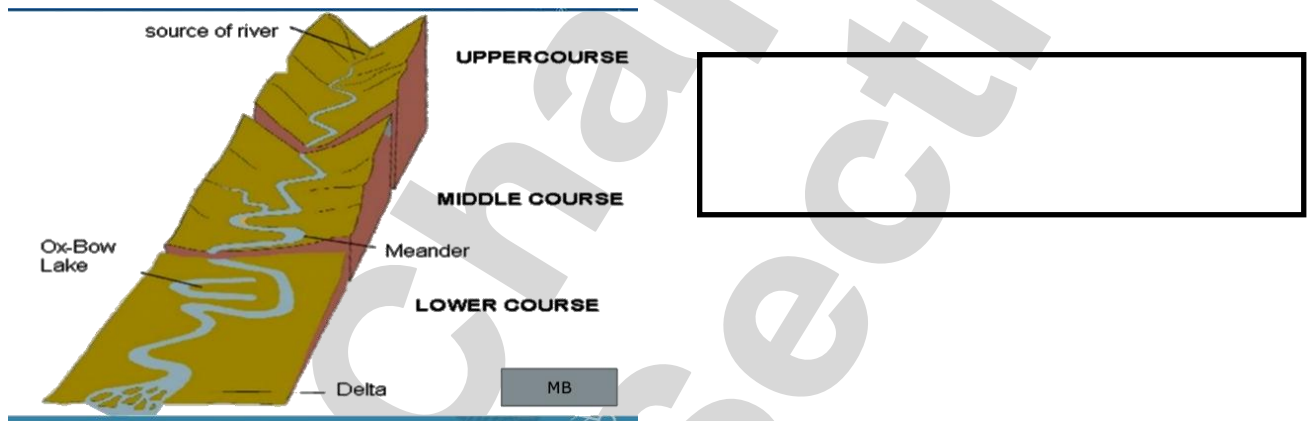
Q.3 True and False:

[/ 05]

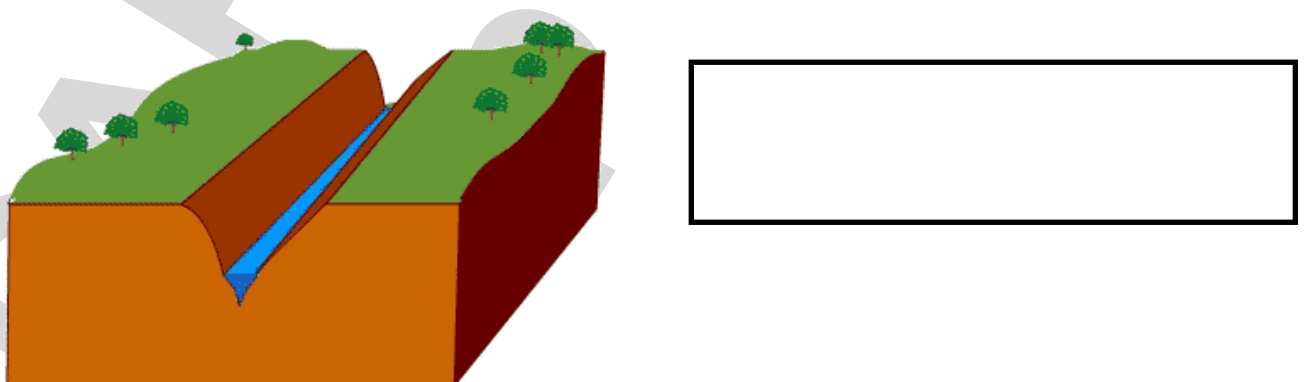
- a) IRSA reports to PID about the allocation of required volume of water for each province. _____
- b) The Aswan Dam is a multi-purpose dam to supply 40 % of Egypt's electricity. _____
- c) Distributaries carry the water towards the river. _____
- d) Permeable rocks cannot absorb water. _____
- e) When a river's velocity & volume is high it deposits its load. _____
- f) The breaking down of rocks is called erosion. _____
- g) KuroSiwo currents are the warm ocean currents. _____
- h) The Tarbela dam is built on river Indus _____

Q4. Identify the features made by a river in the following images

[/02]



The river gradually cuts down into the ground ...



Section B

Q5. Define the following

[/05]

a) Corrosion

b) Confluence

c) Ocean currents

d) Meanders

e) River basin

Q6. Draw a flow chart to show the work of a river?

[/05]

WORK OF A RIVER

EROSION

Hydraulic action

Corrasion

Suspension Corrosion

TRANSPORTATION

Traction

Saltation

Solution

DEPOSITION

Decrease in river`s velocity-

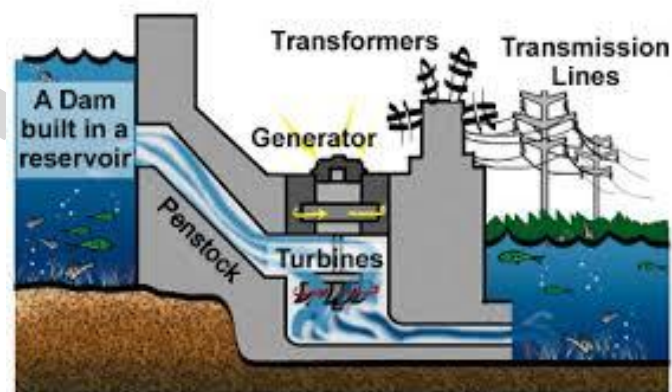
Decrease in river`s volume

Q7. Explain the influence of the oceans on the world's weather and climate. [/03]

Q8. Explain the main uses of river. [/03]

Q9. How does a river form a delta? [/05]

Q10. Explain the function and different parts of a hydroelectric power station. [/10]



Q11. Differentiate between lined and unlined canals. [/02]

Lined canals	Unlined canals

Q12. Differentiate between inundation and perennial canals. [/02]

Inundation canals	Perennial canals

Q13. Discuss different landforms which are formed by river deposition. [/03]

Q14. Tell the basic facts about Nile river and irrigation in Egypt.

[/03]

PAF Chapter
Prep Section

Agriculture Project

Introduction

More than two thirds of the population of Pakistan lives in rural areas, and about 68% are directly or indirectly engaged in agriculture. It constitutes the largest sector and is considered to be the backbone of Pakistan's economy. It accounts for 21% of the GDP and together with agro-based products fetches 80% of the country's total export earnings.

However, the recent trend in agriculture does not show a very good picture. After the steady growth of almost three decades, contributing substantially to poverty reduction during the 1970s and 1980s, agricultural income has shown a decline. The poverty level since 2000 is back to where it was at the beginning of the 1990s. This has happened despite favourable policies on prices and markets and a liberal environment. Though climatic hazards such as drought and floods have played an important role in the decline of the performance of this sector, there are other constraints as well which have hindered the sector's contribution to economic growth and poverty reduction.

Agricultural Export Products:

Pakistan's chief agricultural export products are textiles (fabric and yarn), apparel and clothing, and rice. Other exports are fruit, tobacco, sugarcane, cotton, grams and pulses, maize, barley and millet and wheat.

Trade Partners:

Pakistan's trade partners are USA, UAE, UK, Germany, China, Japan and India.

Pakistan's Agriculture in the International Market:

The economy of every state depends on three sectors i.e. agriculture, industry and commerce. These three are interrelated with each other as the progress of one sector effects the other two. Pakistan is an agricultural state thus agriculture gains are of greater importance than any other sector. The importance of this sector is manifold as it feeds people, provides raw material for industry and is a base for foreign trade. Foreign exchange earned from merchandise exports is 45% of the total exports of Pakistan. It contributes 26% of GDP and 52% of the total populace is getting its livelihood from it.

There are two growing seasons in Pakistan i.e. Rabi and Kharif.

Crop	Sowing Season	Harvesting Season
Kharif	April - June	October - December
Rabi	October - December	April - May

Major crops in Pakistan are wheat, rice, maize, cotton and sugar cane. Minor crops are canola, onions, mangoes and pulses.

Pakistan's exports are highly concentrated. Currently the majority of exports originate in the textiles and apparels sectors which earn the largest share of export income. The phenomenal increase in

global trade has created many new market opportunities for agricultural producers and processors worldwide.

Let us have a look at the major agricultural exports of Pakistan in the international market.

Textile and Textile Products:

For a long time, textile and clothing have played an important role in the economic development of the country. Its development has been the major economic objective in industrialised countries as well as the less developed countries (LDCs). Textiles and clothing, no doubt, is the largest industrial sector of Pakistan from the investment, employment and export point of view. It accounts for approximately 27 percent of total industrial output, absorbs about 38 percent of industrial labor force, and contributes around 60 percent to export earnings. However, despite its impressive contribution at the national level, the share in the world exports of textile and clothing is marginal. For clothing in particular, Pakistan's share is negligible. Apparel export is relatively new for Pakistan.

The major share of our textile exports goes to U.S.A., E.U., Canada and Japan. The U.S.A. is the largest market for our textile products. The exports to these economies are in the form of quotas (a proportional share of goods assigned to a group or to each member of a group). Japan is the only exception. In the textile industry much of the emphasis is on yarn spinning. The major portion of good quality yarn produced is exported instead of utilising large part of it for producing high value-added products like fabrics, or garments. This is an important structural weakness in our textile industry. Countries like Japan, South Korea and Hong Kong which do not grow cotton but have well-established textile industries, buy cotton yarn from Pakistan and convert it into high value added products and fetch much higher prices in the international market.

Another problem is lack of investment in this sector even though Pakistan has the advantage of a large labour force and very good quality local cotton. The shrinking weaving sector is another problem which is faced by the exporters. This is due to the fact that maximum efforts focus on spinning and we see almost no effort to develop or modernise the weaving sector. This is happening in the mill sector. The non-mill sector weaves cloth but we do not fetch good prices in the international market compared to other countries due to the lack of modern technology and a qualified work force.

Another area of attention of everyone is the need to fund research studies so that new genetically modified cotton seeds are introduced to meet the gap between consumption and production.

All around the world, MMF (man-made fibre) is mixed with cotton. This is due to the changing trends in the world market where the demand for synthetics is rising. Secondly, the cotton price has shot up by more than 115%, forcing mill owners to shift from producing pure cotton to synthetics. The ratio in Pakistan is far less than the standard ratio adopted world-wide. More investment is needed in this sector to compete in the international market.

All the above mentioned factors are hampering Pakistan's progress in the international market and for raising its share of export earnings from textiles in the GDP.

Rice

Pakistani basmati and non-basmati rice has good demand in the international market due to its quality. Currently China, The Gulf, Middle East and most African nations are buying rice from Pakistan. Rice is a high valued cash crop. However, there has been a general decline in its export. This decline has been experienced in both the basmati and non-basmati varieties. The major reason for this decline is the high price of Pakistani rice in the international market. Another reason for this decline is that investors usually hold back stocks of rice which means that exporters do not get them in time for exporting to the international market. Pakistan cannot export rice to Iran due to the international ban. This has deprived Pakistan of its traditional market. Another setback to rice export to international markets is that India has lifted a four year ban on the export of rice. This coupled with the lack of research facilities, certain restrictions and levies on rice export by the government and the high cost of input has led to the decline in rice exports. If the levies are eased by the Government of Pakistan, it cannot only provide rice to the traditional markets but also capture newer markets such as USA, Canada, UK and other European countries which are flooded with Indian basmati rice.

Every year the land area use for rice cultivation is shrinking because of these reasons.

Fruit and Vegetables:

Pakistan is blessed with diverse environment conducive to the production of nearly thirty types of fruits mainly citrus, mango, apple, guava, banana, dates and melons. Pakistani fruit and vegetables are being demanded all over the world. Presently Pakistan is exporting fruits and vegetables to the USA, the Europe, Middle East, Far East, India and Sri Lanka. Mango, kino, apple, dates, pine nuts, oranges and guava are a few well-exported fruit and among vegetables are potato, onion, mushroom, garlic, chilies etc.

Pakistan relies heavily on one market for each item. For example, Dubai is the biggest market for Pakistani Mango followed by England and Saudi Arabia. Sri Lanka is the biggest market for Pakistani apples. In such situations, the buyer dictates the terms. There is a need to explore new markets for Pakistani fruits and vegetables to gain good prices. The Export Promotion Bureau is striving hard to explore new markets and assist interested exporters to increase exports.

Kino is the most exportable fruit of Pakistan. More than 30% is exported only to the Middle East, followed by Indonesia, Philippines, Sri Lanka and the rest of the world.

Pakistan's ranking has declined in the export of mango and has declined to fourth position from second in the world. This is due to the fact that Mexico and China have both taken over much of the market share by increasing their production through plant protection and area expansion.

Pakistan must find more markets for its fruits and vegetables instead of relying on a few countries.

Wheat:

Wheat is the staple food of Pakistan. It is a food crop but is also exported when the production is good due to good climatic conditions. Wheat is exported to Afghanistan every year even if it is not exported to other countries. The Government of Pakistan is the primary buyer of wheat and controls the market by setting the procurement and issue prices. Government decisions are based on politics.

Pakistani wheat is struggling in the international market for a number of reasons. First of all the quality of wheat is inferior to the wheat sold in the international market. Secondly, the price of this low quality wheat is higher compared to other exporting countries. The exporters are not happy with the policies of the government. There is a lack of coordination between government agencies and farmers (growers) e.g. in the year 2011, the Government gave ambitious figures for procurement of wheat in spite of the claims from growers that they will plant less wheat. Low wheat plantation was a result of increased prices of input and water shortages both of which lead to low production. The Government increased the procurement prices but the farmers thought that they have not been increased enough.

Exporters are also facing logistic problems as trucks are not available for the haulage of wheat from the government silos to the ports in Karachi. The exporters have seen setbacks also in the world market after the government put a sudden ban on wheat exports after the exporters had signed deals with different buyers. As a result Pakistani exporters lost their credibility. The exporters demand that the Government should allow wheat export ahead of wheat crop every year. Due to inconsistent government policies, Pakistani wheat does not have a large international market. At present Pakistan is exporting wheat to Bangladesh, Singapore, Afghanistan, the Middle East and Africa.

Comparison of Pakistani commodities against international standards

Pakistani agricultural commodities have big competition in the international market against the same agricultural products of other developing countries and also with the developed countries. The fact is that Pakistan has an edge over developed countries in many agricultural products. However, Pakistan has not been able to maintain or expand its ability to meet the demands of the world trading system, not only in terms of competitive prices but also quality of products and safety standards. It is also a fact that Pakistan lacks in resources to comply with international standards and misses opportunities to capture new markets or retain the old ones.

Problems and Possible Solutions:

Problems	Suggested Solutions
No mechanism has been adopted to soil erosion and even after harvesting is done to improve or restore the soil energy. Therefore, the fertility of soil is year by year. The thickness of the fertile layer of soil in Pakistan is more than 6 inches but the average yield is lower than other countries where the fertile soil layer is only 4 inches.	More trees should be planted as a national campaign. Manure, compost residues should be used to regain the of the land after a harvest. Fertilisers should be used keeping in mind the type of soil.
Water wastage is very high in our country. The old fashioned method of flood irrigation still in practice across the wastes almost 50 to 60 percent of water.	A new irrigation system called drip irrigation system has been introduced in many parts of the world. This not only saves water but also gives appropriate quantities of water according to the needs of plants.
Owing to old methods of cultivation and harvesting, Pakistan has low yield per acre which means the average crop in Pakistan is just 1/4th of that of developed countries.	Nepal, India and Bangladesh are using modern scientific methods to increase their yield per acre. For this purpose, these states are using modern machines to improve their yield.
Small farmers are increasing in our country as the lands are dividing generation by generation. So, there are large numbers of farmers who own very small chunks of land. These small farmers do not get credit facilities to purchase seeds, pesticides, fertilizers etc. Additionally, a large area of land is owned by feudal landowners and the farmers, who work on their lands, are just tenants.	Land reforms should be introduced and implemented. Lands should be allotted to poor farmers who actually work on the farms. This will enhance the productivity and the per acre yield of all the crops in Pakistan. Also agricultural facilities should be provided to all farmers, irrespective of the size of land that they hold.
Water logging and salinity is increasing day by day. As the storage capacity of the dams is decreasing so the water availability per acre is also decreasing. Therefore, the farmers are installing more and more tube wells to irrigate their crops. This is why salinity is becoming the major issue in most parts of Punjab and Sindh.	More dams should be constructed on rivers. This will enhance the storage capacity of water and reduce the per acre cost of all the crops.
Most of the farmers are illiterate and poorly educated. They use loans mostly to repay for their debts or for their daughter's marriage. There is no agricultural use of this money.	Loan providers should monitor the use of loans given for agricultural purposes.
Farmers are not very familiar with new techniques of farming and usually rely on traditional methods.	Local TV and radio (using regional languages) should be utilised in rural areas for educating the farmers about new, more effective agricultural techniques.
There is a gap between the farmers and the modern agricultural experts.	The gap between the two can be bridged by engaging experts in government sector to make their consultation visits compulsory.

Conclusion:

Though the agricultural sector is facing problems in Pakistan, the major chunk of national income comes from this sector. It is important for the Government to find effective solutions to the problems so that our products can compete in international markets.