

## UNIT 7

# AGRICULTURE AND LIVESTOCK.

Pakistan's principal natural resources are arable land and water. About 25% of Pakistan's total land area is under cultivation and is watered by one of the largest irrigation systems in the world. Pakistan irrigates three times more acres than Russia. Agriculture accounts for about **23%** of GDP and employs about **44%** of the labor force. Pakistan is one of the world's largest producers and suppliers of the following according to the 2014 Food and Agriculture Organization of The United Nations given here with ranking:

- Apricot (4th)
- **Cotton** (4th)
- **Sugarcane** (4th)
- Milk (5th)
- Onion (5th)
- Date Palm (6th)
- Mango (7th)
- Oranges (8th)
- **Rice** (8th)
- **Wheat** (9th)

Pakistan ranks **fifth** in the Muslim world and **twentieth** worldwide in farm output.

### **Crops**

The most important crops are wheat, sugarcane, cotton, and rice, which together account for more than 75% of the value of total crop output.

Pakistan is a net food exporter, except in occasional years when its harvest is adversely affected by droughts. Pakistan exports rice, cotton, fish, fruits (especially Oranges and Mangoes), and vegetables and imports vegetable oil, wheat, cotton, pulses and consumer foods. The country is Asia's largest camel market, second-largest apricot and ghee market and third-largest cotton, onion and milk market.

### **Livestock**

According to the *Economic Survey of Pakistan*, the livestock sector contributes nearly 11 per cent of Pakistan's GDP.

## **KEY POINTS:**

### **What is agriculture?**

- Agriculture is a **primary** industry concerned with obtaining raw material from the ground for immediate consumption or for further processing.

- All types of agriculture can be viewed as a system with **inputs, processes** and **outputs**.
- The inputs determine the type of processes on the farms. The result of what the farmer does is the output.
- The **inputs** fall into two groups.

**(i) NATURAL (Physical)**

- The factors of nature that affect the possibilities for different crops and animals .e.g. Land, Soil, climate, water.

**(ii) HUMAN (economic)**

- The involvement of the human beings through capital, machines, fertilizers, labor, knowledge, land ownership, traditions, irrigation, pesticides.

**Types of farming:**

**(a) Small scale subsistence farming:**

**(b) Cash Crop Farming:**

**Cropping seasons in Pakistan:**

- There are two cropping seasons.
- The crops that are sown at beginning of the winter season, from *October* to *November* and harvested in early summer from *April* to *May* are known as **Rabi** crops.
- The crops that are sown in summer *April* to *June* and harvested in early winter from *October* to *November* are known as **Kharif** crops. They are rice, sugar cane, millets, maize and cotton.

**MAIN CROPS:**

**I: wheat:**

- It is a staple food used in manufacture of bread and a variety of baked products.
- Low grades of wheat and by products of the flour are used as feed for livestock.
- The canal irrigated areas of Punjab and Sindh meet most of the requirements for wheat.
- Waterlogged areas of the Indus plain are not suitable for the cultivation of wheat.
- Wheat is grown in few areas of KPK and Baluchistan.

**Cultivation of wheat:**

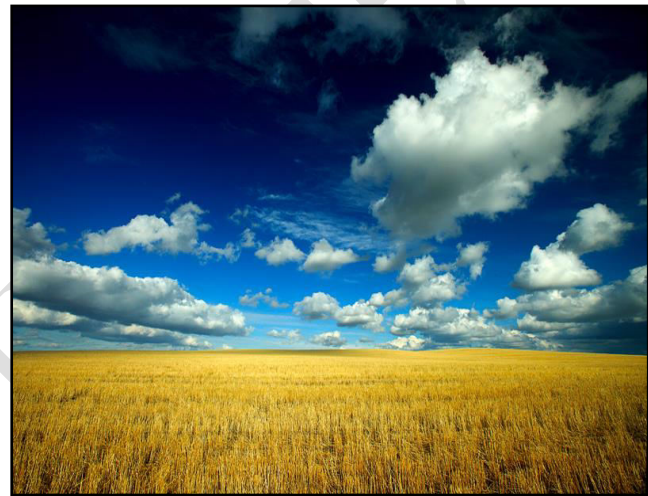
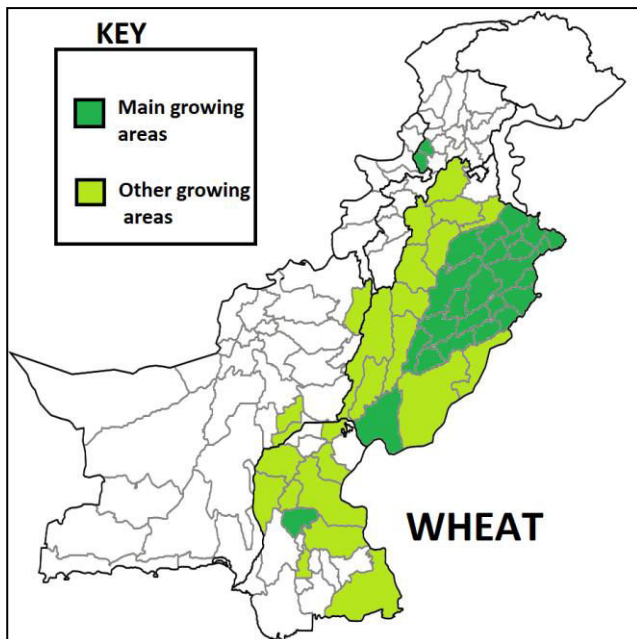
- In **Oct. – December**, after plowing the field, wheat seeds are sown directly into the ground.
- Wheat does not need a lot of water.

- Farmers irrigate the land twice, the first irrigation is done one month after sowing and the second is done one irrigation takes place one month before harvesting.
- Wheat is harvested after three months.
- **Chaff** is separated from the grain; the grain is then stored by the farmer for the use of his family or transported to the market.



### Growing wheat production:

- The yield of wheat has gradually increased in Pakistan with the introduction of **new wheat varieties** and improved farming methods.
- There is improvement in the water management system to cut down water losses from the **canals** to the fields.
- Chemical **fertilizers** are becoming more widely used.
- Government is providing **loans** on easy installments to purchase tractors etc.
- But Pakistan is rarely self-sufficient in wheat because of ever increasing population and gradual decrease in cultivable area due to water logging and salinity.
- **Maxi pak** is one of the most widely used varieties in Pakistan.

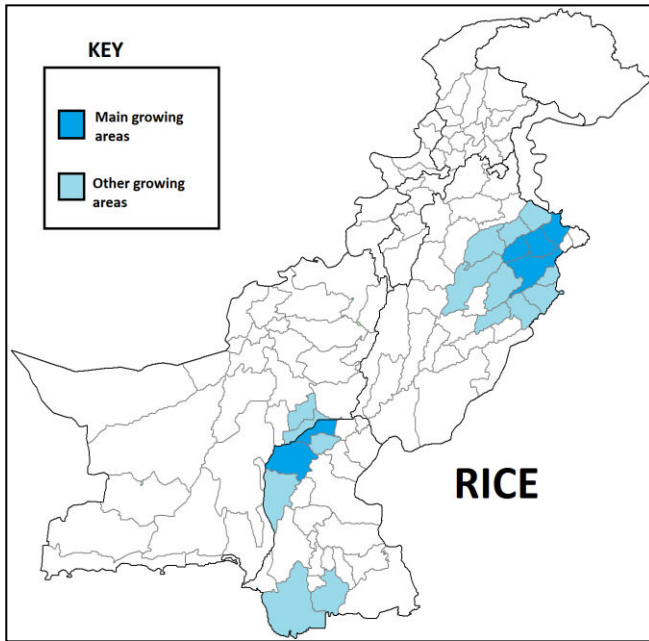


### 2: RICE:

- Rice is grown on a large scale for commercial purposes in Punjab and Sindh.
- In the northern hilly regions small scale subsistence rice farming is practiced.
- Rice seeds are **initially sown into beds or nurseries**.
- When the plant is about **9** inches high, it is transplanted into the prepared fields which have flooded to a depth of 30 -37 cm.
- The rice fields are kept full of water until the rice is ripe.
- Threshing of rice is either done by draft animals or by a mechanical thresher.
- After threshing, rice is taken to the rice mills for polishing and packing.



- Rice **husks** are used for making cardboard or covering roofs of houses after mixing it with mud and water.



- Use of **Irri Pak** variety has doubled the production of rice.
- Export of *basmati Rice* has increased over the years.



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### **3: COTTON:**

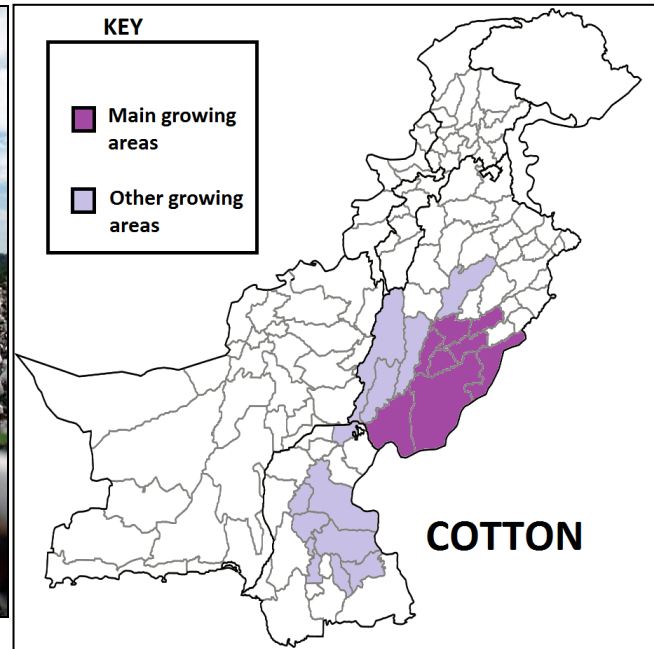
- Cotton the king of fiber is the most widely used textile fiber.
- Used in making cloths, furnishing fabrics, bed linen.
- It is a kharif crop.
- Cotton seeds are sown at a distance apart of 30 cm to 45 cm in April – May.
- One month later the fields are irrigated.
- A second irrigation takes place after a further two months.
- Cotton bolls ripen in the dry months of October and November.
- The plant reaches a height of up to 135cm to 150 cm.
- After picking cotton bolls are loaded onto trucks immediately and transported to ginning mill where the seeds are separated from the **lint** (fluffy mass of fibers inside the cotton boll).
- Cotton seeds are used as animal feed and for the extraction of oil.
- Cotton lint is tied up in bales.





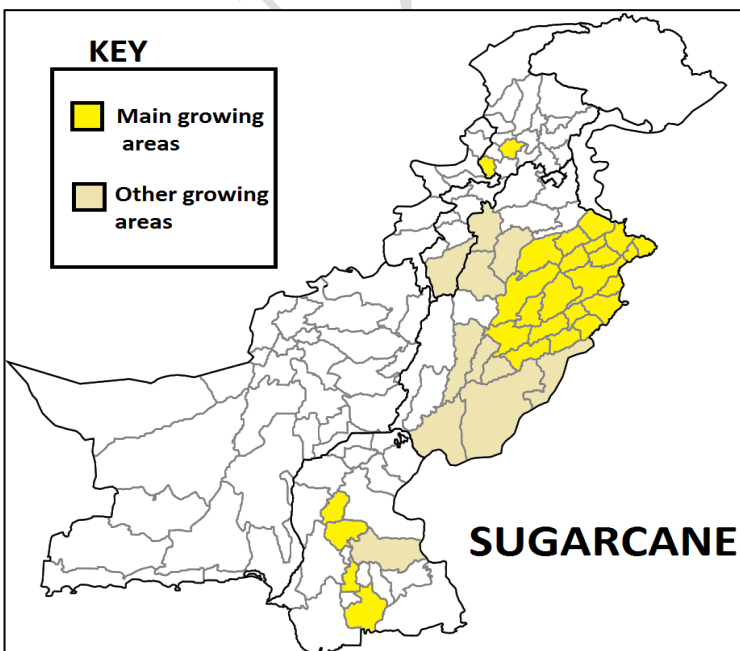
**Varieties of cotton:**

- Old varieties like Pak. Upland and Desi.
- High yielding varieties like Nayyab 78, B-557, 149 – F



#### **4: SUGAR CANE:**

- Sugar, brown sugar and Gur are made.
- Sugar cane stalks 30 cm high are planted in April to May.
- A distance of 30 cm is kept between each stalk.
- The quality and height of sugar cane depends upon proper irrigation and fertilizers (potash).
- The height reaches to 6 to 7.3 feet and the crop can be **rattooned** and so harvested for 2-3 years.
- After the sugar cane is harvested it sends up new shoots called rations and these left to grow so that they can be harvested in the following years.
- Cutting sugar cane requires manual labor.
- At the sugar mill the cane is scrubbed to remove the smell and dirt.
- After extracting the juice by crushing the cane through heavy rollers, the juice is further processed to produce white sugar.
- **Bagasse ans molasses** are two major by products.







### **5: MAIZE:**

- It's a kharif crop.
- It's a food grain as well as a raw material for edible oil production.
- It is used in the manufacture of corn flour, custard powder and other processed foods.
- It's an also used as fodder for animals and poultry.

### **6: PULSES:**

- Pulses are rich in proteins and are popular in the local diet.
- Pulses fix nitrogen in the soil therefore helping to fertilize the crop that follows.
- Pulses are considered as low value crops because the cash returns are low and consequently inputs are minimal.
- Important pulses are Mung, Mash, Grams, Masoor.

### **7: MILLETS:**

- Jowar and bajra are two millets produced.
- They are fodder for animals, poultry.

### **8: OIL SEEDS:**

- Oil seeds like sunflower, soya bean, rape seed, mustard, sarson, rai, linseed are used to extract edible oil.
- The production of oilseeds is not sufficient to cater for the needs of the growing population.
- 68 % edible oil is being imported.

### **9: TOBACCO:**

- Tobacco is grown mainly in NWFP (mardan peshwar), which accounts for about 65 % of the total production.

Crop	Rainfall (mm)
Wheat	450 – 600
Rice	1200 – 2000
Sugarcane	1500 – 2000
Cotton	750 – 1300
Tobacco	400 – 600
Citrus	1000 – 1200

### **LIVESTOCK FARMING IN PAKISTAN:**

- Rearing animals is one of the oldest and most common occupations of Pakistan.
- **Shamilat** are the grazing fields of the villages.
- Farmers who own bullocks, cattle, buffaloes, or sheep are considered as respectable people.
- There are two types of farming, subsistence farming and commercial farming.
- There are three types of subsistence livestock farming.

#### **(i) Nomadic:**

- Nomadic people in Baluchistan and the desert areas of Punjab and sindh practice subsistence farming
- They move from place to place along with their animals in search of food and water.
- They rear sheep, goats, and camels.
- Sheep and goats provide them with food in the form of milk and meat and camels carry their loads for long distances.

#### **(ii) Transhumance:**

- Transhumance is the system of livestock farming in which the animals are kept on pastures high up in the mountains in summer and brought down to lower pastures in winter.
- This system is common in the northern and the western mountains.
- Meat, dairy products and wool are the main outputs.
- **(iii) Settled:**

- Subsistence livestock farming is also practiced in the villages of Punjab and Sindh.
- Cows and hens are kept for milk and eggs to be continued by the family.
- Excess milk is processed to make butter or ghee.

### **Subsistence livestock farming as a system:**

#### **INPUTS:**

- Natural grazing fields for fodder
- Water from ponds and lakes
- Open land
- Labor women and children of the family.

#### **PROCESS:**

- Natural breeding
- Feeding
- Milking manually
- Slaughtering
- Shearing wool from sheep.

#### **OUTPUTS:**

- Milk
- Meat
- Wool
- eggs

### **LIVESTOCK FARMING ON A COMMERCIAL FARM:**

- Commercial Livestock Farming is practiced either on a small scale by private owners or on a large scale by government owned or military farms.
- Scientific methods are not necessarily to be used.
- Such dairy farms often lacking appropriate drainage or water supplies and a land use incompatible with modern hygienic city life.
- Fodder has to be brought on from the nearest crop growing area, often by heavily overloaded Lorries.
- Cattle dung is collected and dried in circular cakes plastered on any convenient wall and sold to the market to be used as manure or domestic fuel.
- There are some notable exceptions such as Australian designed dairy farms for Islamabad and Karachi, the Govt. dairy farm for Quetta etc.
- To boost livestock production scientific breeding methods and better nutritional diets are in use on many of the government farms.
- Veterinary facilities are also being provided.





### **Main Livestock Resources:**

#### **(i) Cattle**

- Bullock
- Cow
- Camels
- Mules

#### **(ii) Buffaloes**

- Nili bar
- Kundi
- Ravi

#### **(iii) Sheep and goats:**

#### **(iv) Poultry**

- Chicken (egg)

### **Factors affecting farming:**

#### **(i) Natural (physical)**

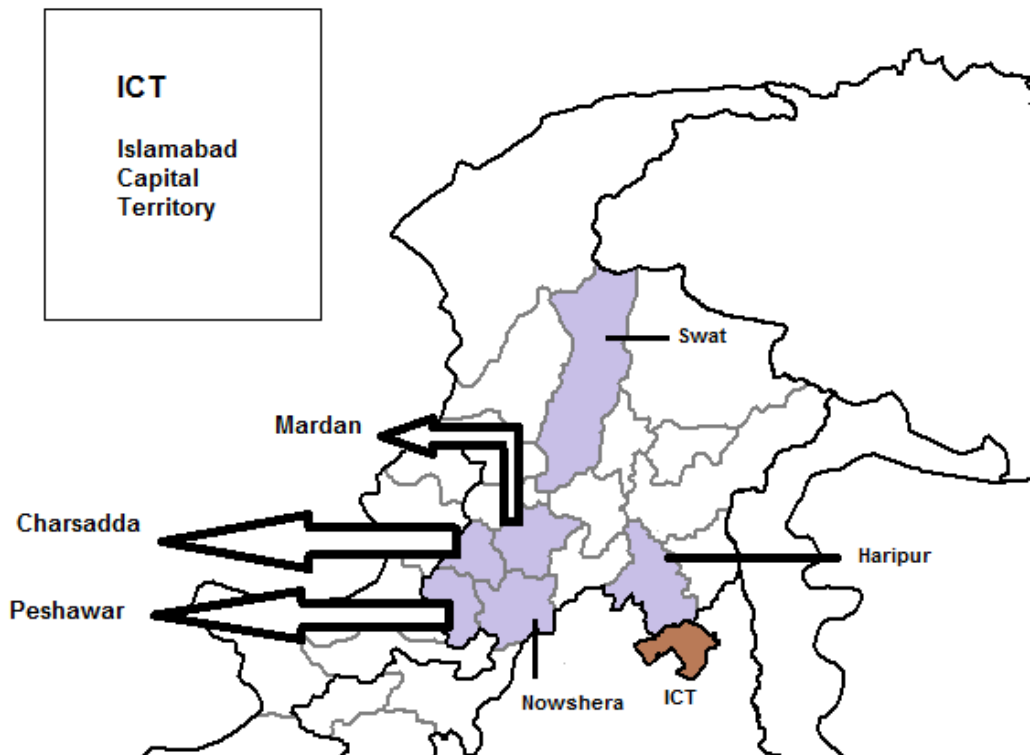
- Topography
- Soil
- Water including rainfall
- Temperature
- Pests and diseases.

#### **(ii) Human (economic)**

- Irrigation
- Marketing
- Size of farm
- High yielding varieties
- Mechanization
- Fertilizers
- Plant protection programmes

### How the use of chemicals affect the environment:

- Farmer adds a nitrate fertilizer to increase crop yields.it is expensive to buy.
- Pesticides also drain into river water and cause pollution.
- Nitrates in rivers encourage growth of algae and large plants. They use up oxygen.
- Fish die out due to lack of oxygen.
- Water used for domestic supply affects human health.



■ No need to learn more of these

