

Learning Outcomes:

The study of this chapter will enable the students to:

- discuss the importance of energy resources in development.
- discuss the production and consumption of different sources of energy.
- analyse international trade of Pakistan, its composition direction and changing balance.
- enumerate the causes and consequences of poverty in Pakistan! Point out the steps that can be taken to alleviate poverty.
- explain the importance of sea-ports of Pakistan.
- discuss the significance of dry ports of Pakistan.

1. Energy Resources

Energy resources play a vital role in economic development. A country with rich energy resources can develop faster. Allah has granted every country with various types of energy resources, but their mere existence cannot serve any purpose. Only those countries have achieved progress which exploited their energy resources properly, like USA, France, Britain, Germany etc. The countries which could not have used their energy resources properly are still backward, like Pakistan, India, and the African countries. The exploration of oil and gas in Saudi Arabia, Kuwait and the other countries of Middle-East has brought tremendous development to these countries. In Pakistan, the exploration of Sui-gas (natural gas) has helped save foreign exchange of worth billions of rupees. It means, the availability of energy resources and their judicious exploitation is very essential for economic progress of a country.

The energy resources found in Pakistan are being discussed hereunder:

i. Hydroelectricity

Hydroelectricity means the electricity produced by the kinetic force of flowing water. Due to easy use electricity is the most popular source of energy. In Pakistan hydroelectricity is generated more than the other types of electricity because we have many natural sites for it. To produce hydroelectricity, waterfalls

are needed to provide force to run the electricity generating machines called “turbines”. For that purpose, artificial waterfalls have been created on dams. At the foothills of the Northern and North-Western Mountains, there are several dams. In 1947, only 68 megawatt hydroelectricity was generated in the country, which increased to 6670 megawatt by 2014. The major consumers of hydroelectricity are domestic users and the industrial and agricultural sectors.

Following are important dams in Pakistan in terms of their hydroelectricity generation capacity:

a. Tarbela Dam

This is the world's largest earth-filled dam built on River Indus at the site of Tarbela. Its construction started in 1968 and completed in 1976. Its current capacity of electricity generation is 3478 megawatt (MW). It is also used for irrigation purposes.



Tarbela Dam

b. Mangla Dam

This is the second largest source of hydroelectricity in Pakistan. It is on River Jhelum at Mangla. It was completed in 1967 and presently has the production capacity of 1,000 MW.



Mangla Dam

c. Warsak Dam

It is built on River Kabul at Warsak. Its construction started in 1952 with the financial and technical assistance of Canada and reached its completion between 1960 to 1981 in several phases. It generates 240MW of hydroelectricity and also irrigates about 20 thousand acres of land.

d. Ghazi Barotha Dam

It is constructed on River Indus at Ghazi Barotha. Since June, 2004, it has been producing electricity. It has the capacity of producing 1450MW hydroelectricity.

ii. Thermal Electricity

In thermal electricity plants (also called thermal power plants) water is boiled by burning coal, oil or gas to produce steam. With the pressure of steam the electricity generators are run through special mechanization. These plants are constructed to meet the needs of big cities as alternative to hydroelectricity. In case of interruption in supply of hydroelectricity, or if there is persistent deficiency, the thermal power stations can substitute it to provide us electricity. In Sindh Province, the Karachi Electric Supply Corporation (KESCO) has constructed many thermal power plants to provide electricity to Karachi. WAPDA has also constructed thermal power plants in Hyderabad, Sukkar, Jamshoro and Guddu in Sindh Province. In Punjab, similar plants are working in Rawalpindi, Lahore, Faisalabad, Kot Addu, Muzafargarh and Multan. In Balochistan, thermal power plants have been installed at Quetta, Pasni and Hub.

iii. Nuclear Electricity

Pakistan started generating nuclear energy in 1971 after installing its first nuclear power plant at Karachi with the cooperation of Canada. Its power generation capacity is 137MW. The second nuclear power plant has been installed at Chashma near Mianwali, which has the capacity of generating 300MW.

Production of electricity in Pakistan [Gigawatt Hour (Gwh)]						
Year	Hydroelectricity	Thermal Electricity	Nuclear Electricity	Total Indigenous Production	Imported Electricity	Total Supply
2008-09	20,526	39,159	918	60,598	195	60,793
2009-10	21,671	39,342	2,521	63,534	185	63,178
2010-11	23,817	42,664	2,260	68,741	229	68,970
2011-12	22,044	39,940	4,146	66,130	-	66,130
2012-13	20,536	43,125	3,301	66,962	-	66,962
2013-14	23,953	44,847	4,331	73,131	304	73,435
2014-15	23,478	43,611	4,273	71,362	350	71,712
2015-16	24,544	45,252	3,078	72,874	335	73,209

Source: Hydrocarbon Development Institute of Pakistan

iv. Natural Gas

It is also called fuel gas. Next to electricity, it is the largest source of energy. It is a clean and environment friendly source of energy and is easy to use. In Pakistan the natural gas was first explored at Sui area of Balochistan Province in the year 1952. Hence, it is commonly called “Sui Gas” in the country. One-third of our energy needs are met with natural gas. It is mainly used in houses as fuel. The industry, especially the fertilizer industry, heavily depends on natural gas. Now-a-days it is being used in vehicles as a fuel, known as CNG (Compressed Natural Gas).

Gas reserves have been explored in all the four provinces. In Balochistan, the areas of Sui, Pirkoh, Zin and Uch have huge reserves of natural gas. In Punjab, Dharnal, Toot, Dhulian, Mial and Dhodak; and in Sindh, Sari, Mari, Kandkot, Khanpur, Hundi and Mazarani areas are providing natural gas. In Khyber Pakhtunkhwa, huge reserves have been explored in Kohat and Karak Districts.

v. Coal

The coal found in Pakistan is of low quality. It is mainly used in houses as fuel and brick kilns. Coal mining started in 1887 in our country and now it is being produced in all the four provinces:

- 1- In Punjab coal is found at Makarwal, Dandot, Pidh and Kalabagh.
- 2- In Balochistan it is found at Sorange, Khost, Shahreg, Harnai, Chamalang, Degari, Dukki and Mach. Quality wise this coal is relatively better than the other area's coal. That is why it is also used in Pakistan Steel Mills, Karachi.
- 3- Almost 90% of the country's coal production comes from Sindh where the Lakhra, Jhempir, Meting and Thar areas have huge deposits. The coal mines of Thar were explored in 1992 and currently projects are underway to use it for generating electricity.
- 4- In Khyber Pakhtunkhwa, coal is mined at Kohat and Darra Adam Khel—a famous place in Orakzai Agency.

vi. Mineral Oil

Mineral oil (petroleum) is one of the most important sources of energy. It is mainly used in aeroplanes and vehicles, but used in some industries as well. Petroleum is considered as precious as gold, even called as “liquid gold”. Its importance can be judged by considering the fact that the current world politics is revolving around two main factors, first to prove superior to other nations in terms of ideology and second, to ensure access to the world's oil reserves. In Pakistan, the biggest petroleum producing region is Potohar Plateau. At Dhulian, Khore, Mial, Balkasar, Joyameer, Sarang and other areas of this region, petroleum is being extracted for several decades. Petroleum reserves have been explored at Dhodak area of D.G.Khan and Khaskheli area of District Badin. But the indigenous reserves are insufficient to meet our needs, hence we import petroleum.

There are two oil refineries at Karachi, namely “Pakistan Oil Refinery” and “National Oil Refinery”. A refinery has been set up at Mahmood Kot where crude oil from Dhodak area is refined.

vii. Non-Conventional Energy Resources

Energy is quite essential for progress in urban and rural life, agriculture, industry and arts. That is why all competent nations are striving to get hold of maximum energy resources. We know that the conventional energy resources will not last long; hence non-conventional resources of energy are being explored. Such resources exist in the form of bio-gas, solar energy, wind energy and tidal energy etc. Some of them are already being used on small scale.

Among the non-conventional energy resources, the solar energy is very useful and comparatively cheap. It is generated from the heat of sun. Solar power plants have been set up at different areas in Pakistan, which produce 135KW electricity. Bio-gas is also used like Sui-gas. It is generated by decomposing animals' dung in special plants. In coastal areas, strong winds blow constantly in one direction. Therefore, in the coastal areas of Balochistan and Sindh, people, with the assistance of government, have installed grains grinding mills and water pumps, which are run by wind power.

2. Foreign Trade

The activity of selling and buying goods is called “trade”. If it is conducted with other countries, it is called “foreign or international trade”. Following are the important factors that influence international trade:

i. Foreign Policy

Friendly relations promote trade links. For instance, we have strong trade relations with Muslim Arab countries, because of our strong spiritual and political affiliations with them. Contrary to it, we have never enjoyed good relations with India; therefore, despite being close neighbours, we could not promote trade relations with her.

ii. Means of Transportation

In order to have smooth foreign trade, a country must have reliable means of transportation. Fortunately, Pakistan has land, sea and air links with all important countries of the world. We are not dependent on any other country for the means of transportation required for our international trade.

iii. Tariff

The volume of trade between any two countries depends on their tariff rates. Friendly countries levy low tariff on imports and exports of one another. As a result, their goods become cheaper and able to compete in the market.

iv. Political Stability

Political stability and investment go hand in hand. If a country undergoes political instability, then not only the foreign investors but also the local investors hesitate to invest there.

3. Imports and Exports

International trade comprises two types: imports and exports.

I. Imports

The items brought from other countries are called “imports”. Pakistan is a developing country. We have enough natural resources but industrially we are backward. Today, technology is being used in every field of life. Therefore, in order to boost up economic activities in various fields, we need to import

required machinery. Moreover, we are also not self-sufficient in certain minerals and agricultural crops. The list of Pakistan's imports is quite long; the major are being discussed below:

i. Industrial Machinery

Pakistan's economy is shifting from agricultural to industrial. But still we have only those industries in which agricultural raw material is converted into finished products. We don't have technology that could make machinery for industries. Thus, industrial machinery is imported from the countries of European and Northern America, Australia, Japan and China. We also import scientific equipments from these countries.

ii. Transport Machinery

As population grows, the demand for vehicles to transport goods and passengers also increases. The means of transportation, which include aeroplanes, ships, trains, buses, trucks, cars and motor cycles etc., are imported from the same countries from where we import industrial machinery.

iii. Defense Equipment

Pakistan has its own ordnance factories, yet we have to buy sophisticated weapons from the foreign markets. Our need is fulfilled by China, USA, Russia, and European countries.

iv. Iron and Steel

Iron and steel are used in making of spare parts of machinery. Our local production of iron and steel is insufficient; therefore, we import these from USA, Japan, Germany and UK, etc.

v. Medicines and Chemical compounds

We import medicines from Germany, France, Italy, USA and Japan. The chemical compounds used in the local industry are also imported from these countries.

vi. Agricultural Products

There is scarcity of edible oil and tea in Pakistan. Sometimes, we also face wheat shortage. We import soybean oil from USA, palm oil from Malaysia, tea from Kenya, Bangladesh and Sri Lanka, and wheat from USA and Australia.

Besides these commodities, we also import items like paper, electronics, cosmetics, sports goods, etc. from various countries.

II. Exports

The goods produced in home country and sold to foreign countries are called “Exports”. Export base of Pakistan is narrow. The items included in our exports are food cereals, cotton, wool, leather, some minerals and few other simple products.

i. Cotton Products

Pakistan produces cotton in surplus to its domestic needs. We export raw cotton, cotton yarn, cotton cloth and readymade garments to Hong Kong, Japan, Bangladesh, Middle-East countries, USA, China, Germany, Indonesia, Malaysia and Singapore etc.

ii. Animal's Skin (Hide), Leather and Wool

Animal husbandry is among the major occupations in Pakistan. Besides meat and milk, we use the hide and wool of animals. Leather is the finished product of animal skin and their wool has several uses. We export these goods both in raw form and as finished products to Iran, Russia, Spain, Italy and Japan.

iii. Handicrafts

These products include embroidered garments, decoration pieces made of marble, fascinating metallic utensils and sports goods etc. Lot of foreign exchange is earned through these products.

iv. Carpets and Mats

Pakistani carpets are liked throughout the world for their beauty and durability. These products are exported to rich Arab countries, Germany and America.

v. Rice and Fish

We produce rice and fish in surplus. Our basmati rice is of high quality and is exported to Middle-East, European and some African countries. Our fish catch is mostly exported to Middle-East.

Apart from these above mentioned products, we also export readymade garments, surgical tools, fruits, vegetables, tobacco and unrefined sugar (gurh) etc.

4. Balance of Trade

Balance of trade means the proportion between the volume of imports and exports. If the volumes are not equal, the trade is called “imbalanced trade”. If expenditure on imports is more than the profit earned from exports is called “trade deficit”.

Pakistan's economy is based on production and export of raw material. We import expensive finished products. We have trade links with European countries, like UK, Germany, France, Norway, Sweden and Belgium etc. The balance of this trade is negative for us, because we earn less foreign exchange from our exports but pay more for imports. Our other trade partners are East European countries, Greece, Hungary, Poland and Romania, etc. Our trade balance with them is positive because we export them more goods than we import from them.

We have trade relations with Middle-East countries as well. We import petroleum and dates from them and export agricultural commodities, arms, garments, carpets etc. to them. Here the balance of trade is in our favour. It means, our exports value is more than the imports value from those countries. We also have trade relations with Asian countries, like China, Russia, Indonesia, Malaysia, Singapore, Sri Lanka, Bangladesh, and the North American countries, like USA and Canada. Here we face trade deficit.

Our overall foreign trade is imbalanced. Every year we have trade deficit in our budget. In order to bridge this gap, taxes are increased and foreign loans are obtained. Remittances from the overseas Pakistanis also help a lot in compensating our foreign trade deficit. It means, in the export trade of Pakistan the share of manpower export is significant.

5. Sea-Ports

A place where ships are anchored and heavy goods are loaded or unloaded is called sea-port. A few years back ships were mostly used for passenger

movement, like Hajj travels, but now due to increase in air traffic, voyages by ships have almost come to an end. Yet in rich countries luxurious fairies are used for excursion trips.

Pakistan has three major sea-ports:

i. Kimari (Karachi)

Kimari is a natural sea-port of Karachi. All the required facilities for anchoring all types of ships are present here. During 1947-48, this port tackled imports and exports of three and a half million tonnes. This quantity increased to 26 million tonnes in 2017-18.



Port Kimari (Karachi)

ii. Port Bin Qasim

The place on sea shore where sea water is projected long into land in the form of a narrow strip is called “Creek”. Port Bin Qasim is constructed on “Gharo Creek” about 20km in the southeast of Karachi. This was constructed in 1980 with the main objective of meeting the needs of Pakistan Steel Mills, Karachi. To exploit the full potential of Port Bin Qasim, an industrial estate has been established nearby where a great number of factories of textile, chemicals, cement, leather and leather goods have been set up.



Port Bin Qasim

iii. Gawadar

This port is constructed at Gawadar on Balochistan coast. It holds immense importance due to its strategic location. Its construction was started in 2001 with the collaboration of China and has been in operation since 2009. According to its master plan, its total area would finally reach to 2,500 acres.



Gwadar Port

On 20th April, 2015, the Chinese President, during his visit to Islamabad, announced the China-Pakistan Economic Corridor (CPEC) Project and signed several agreements of investment of worth 46.5 billion dollars. According to the CPEC Project, the Chinese city of Kashghar will be linked to Gwadar by a highway and railway till the year 2030. This project will make Pakistan one of the world's important and prosperous countries in the fields of economy, defense, and as a trade route.

6. Dry Ports

There are six dry ports in Pakistan, which are run by Pakistan Railway. The first dry port of the country was established in 1973 at Mughalpura Railway Station, Lahore. After that, other dry ports were established at Karachi, Quetta, Peshawar, Multan and Rawalpindi.

Import goods from foreign countries are received at the Karachi Port. From there these are picked up by Pakistan railway and transported to the dry ports. From the dry ports, the importers collect their respective shipments.

The dry ports serve a great facility to the import-export businessmen of the country. Prior to their establishment, they would deliver export items to the Karachi Port and collect the imports from the same. Now, they can handle their imports and exports through dry ports located in any of the above mentioned cities.

7. Ratio and Causes of Poverty

Poverty means the lack of production and per capita income in a country, which results in the lack of saving and investment and keeps the living standard of people at low level.

About one-fourth (25%) of the people of Pakistan are living below the Poverty Line. In order to determine the ratio of poverty, the term "Poverty Line" is used. It refers to the minimum income level below two US dollars daily which a person cannot meet the basic needs of life. In Pakistan, majority of the people earn less than two US dollars a day, which reflects the dire situation of poverty in the country. Following are the major causes of poverty in Pakistan:

- i. Our population is growing at much faster rate than the growth of resources and production.

- ii. Over 63% of our population lives in rural areas and is dependent on agriculture. In present time, lucrative agriculture depends on machines, pesticides, improved seeds and chemical fertilizers. These items are quite expensive because they are imported from other countries. Despite heavy cost of farming, the farmers most often fail in getting good prices for their yields. It is the reason that despite being hard working, our farmers suffer from acute poverty.
- iii. Per Inheritance Laws, the agricultural land has been fragmented into smaller pieces. The small farmers can't meet their living cost with farming occupation only, hence they are attracted towards side jobs neglecting farming. This results in reduction of per acre yield.
- iv. The development in all sectors of economy depends on a strong industrial base. Our country is backward in this field. This is the reason that there are fewer job opportunities in industrial sector; other sectors of economy are also at low ebb.
- v. Corruption, smuggling, hoarding, bribery and tax evasion is common in our society. These menaces have affected all fields of our life.
- vi. Political instability, discontinuous economic policies and law and order issues have made the foreign investors hesitant to invest in our country. Due to these factors capital is draining out of our country, which is a big cause of unemployment and poverty in Pakistan.
- vii. Feudalism in rural areas has also played a role in increasing the ratio of poverty. The feudals are depriving the poor farmers of their due share in different ways. They don't pay them a reasonable toil, hence the farmers don't work with devotion and dedication.

Consequences of Poverty and Preventive Measures

An economically bleak society usually undergoes political instability; thus, faces internal and external threats as well. Poverty and crimes often go hand in hand. A country having poor masses is fated to have law and order issues. The majority of our people are deprived of balanced food and medical facilities because of poverty. In these circumstances, how can a poor man provide

education to his children? This is why our people are generally illiterate, unskilled, physically sick and discouraged.

The present and past governments have been attempting to prevent and eradicate poverty by encouraging foreign investment and increase Job opportunities. In this regard, the Food Support Programme, Khushhal Pakistan Programme, Pakistan Rural Support Programme and Benazir Income Support Programme etc. are important measures, however, these have helped little in poverty alleviation. For curbing the issue of poverty, birth control, proper planning, equitable resource distribution, provision of standard educational facilities, increase in the use of modern technology and private sector development all are essential steps.

Exercise

Q.1. Fill in the blanks.

- i. The goods brought from other countries into home country are called
- ii. The goods produced in home country and sold to foreign countries are called.....
- iii. Among the non-conventional sources of energy,..... energy is the most useful and cheapest.
- iv. Buying and selling of goods is called

Q.2. Give short answers to the following questions.

- i. Define Poverty Line.
- ii. Write a note on the use of non-conventional energy resources in Pakistan.
- iii. What are the determining factors in foreign trade?
- iv. Write a note on Gwadar Port.
- v. How is the Poverty Line determined?

Q.3. Give detailed answers to the following questions.

- i. Discuss Pakistan's foreign trade in the terms of imports, exports and partner countries.

- ii. Define the "balance of trade" and discuss the status of the balance of payment of Pakistan.
- iii. Write essay on the causes and consequences of poverty in Pakistan.
- iv. Explain the importance and production of petroleum and gas among the power resources of Pakistan.

ACTIVITIES

- i) Take the students on a study trip to the nearby dam or grid station.
- ii) Arrange a debate among the students on causes and effects of poverty in Pakistan.