



Current Environmental Issues, Agriculture Sector and Industrial Sector

Land and People of Pakistan

Climate and Weather of Pakistan

There is a difference between climate and weather. Climate is the record of the weather of an area over the period of 30 years while the weather is the day-to-day changes in the temperature, rainfall, humidity and sunshine hours. Climate influences the lifestyle, economic activities and temperament of people to great extent. Pakistan has a diversity of climate due to difference in physical landscapes. Following is the climate division of Pakistan.

➤ **Highlands**

There are northern mountains, which have the extremely cold climate, and there are other lower mountains found in KPK and Balochistan, which do not experience extreme cold climate. It has severely cold winters and to warm summers characterized the climate in northern and northwestern areas of highland zone. During winters, the temperature reaches to freezing point. Like now in winters northern and western areas of Pakistan are experiencing severe coldness. It has temperature ranging between -2 to -10 and in summers temperature ranges between 15-20 Celsius.¹

➤ **Lowlands**

It consists of upper Indus plain and Lower Indus plain. The land usually is low lying and near to the river. It is divided in Punjab and Sindh. It has long summers and mild to cool winters and in summer temperature ranges between 30-40 Celsius.

➤ **Coastal Areas**

Coastal zone is divided in two parts; the Makran coast and Karachi coast. Karachi coast climate is very moderate because of the influence of sea. Trade takes place throughout the year because sea does not freeze. Makran coast climate is dry and hot.

➤ **Arid**

The deserts of Pakistan, which have hot summers with minimum rainfall and mild winter are included in arid zone. This zone occurs in two parts: the southeastern deserts and Kharan desert. There is Karez system (underground water canals) commonly practiced irrigating the agriculture field.

Current Environmental Issues

Pakistan is facing many environmental challenges, which pose serious threats to human health and life. First, climate change is a non-traditional threat for Pakistan. Pakistan has been declared among top ten countries most affected by climate change. Climate change is

negatively affecting health, agriculture and overall economy of the country. The main reasons are carbon emission, deforestation, population explosion and lack of finances to mitigate and adapt to climate change effects.²

➤ **Water Scarcity**

Water scarcity and clean drinking water is the talk of the town these days. Pakistan is a water scarce country. The main causes are climate change, lack of enough reservoirs to store water, water issues with India, and old irrigation system and water wastages in domestic consumption and lack of awareness. Air pollution, poor waste management and population bomb are major hurdles behind the availability of clean drinking water for everyone in Pakistan.

➤ **Deforestation**

Similarly, one of the biggest issues is the increasing deforestation in the country. Pakistan could not achieve the UN's set target of 25 percent of forest cover on its total area, besides two plantations drives annually. The reason behind deforestation is energy crises, commercial benefits and domestic use. Though certain plans have been launched to increase forest cover, which includes Green Pakistan Program, Billion Tree Tsunami and REDD Plus, but it will take some years for these plants to grow and replace already cut big trees.

➤ **Air Pollution**

Another important issue that is devastating for our environment is air pollution. The release of toxic gases from factories, brick kilns and carbon emission from transport vehicles are main reasons for day-by-day air pollution. Pakistan has all the environmental laws, but the government and citizens lack the will to implement and follow those laws completely. This also undermines the superiority of laws. The Pakistani nation needs to adopt trend of using public transport in daily life. Another reason for air pollution is increasing deforestation in the country. The air pollution causes respiratory diseases and skin and eye infections as well.

➤ **Water Pollution**

Water pollution is another dangerous factor that is causing of environmental problems not only for Pakistan but also for other countries. Water is need of every living thing on the earth in other words it is not possible to live without water. Most of Pakistani people are compelled to drink the polluted water and this water is causing deaths of people and causes seriously dangerous diseases. The sewerage system in Pakistan is substandard due to this the sewerage water is mixed with drinking water and people drink this water.³

➤ **Population Explosion**

The population of Pakistan is increasing rapidly with the passage of time. If the population of Pakistan was one million at the time of independence most probably it would be around 300 million at the end of 21 century, which will be more than American population. Floods will be common that would be harmful for Pakistan moreover the first surface of earth would be flown with flood and land will be barren and water under the earth will be polluted. Pakistan

has limited sources but still it has to resolve the pollution or environmental problems at priority bases.

➤ **Solutions of Environmental Problems in Pakistan**

The people and as well as the government of Pakistan will has to take some serious interests to control the environmental problems in Pakistan for living better and healthy lives. The government should take responsibility of making environment good for its people by making such laws that prohibited the environmental problems and pollutions. Print media and as well as electronic media of Pakistan should create awareness among the people about harms of environmental problems.

➤ **Natural Hazards**

Natural hazards also fall into the environmental problems of Pakistan. These mainly include the following.

- **Frequent Earthquakes**

Active faults and their resultant earthquakes in northern Pakistan and adjacent parts of India and Afghanistan are the direct result of convergence between the South Asian and Eurasia plates. This collision causes an uplift that produces the highest mountain peaks in the world like the Himalayas, the Karakoram, the Pamir and the Hindu Kush ranges. The May 30, 1935, 7.6 magnitude Quetta earthquake, which occurred in the Suleiman Range in Pakistan, killed between 30,000 and 60,000 people. The country is still rocked by the rather disastrous earthquake. The last calamitous earthquake in the same region was on October 8, 2005. About 80,000 people died and 3.5 million people were rendered homeless.

- **Flooding**

Pakistan raised serious concerns over the increased frequency of massive floods and urged the government to reduce the impacts of environmental hazards through better management of floodplains. Encroachments on floodplains for agricultural purposes and housing settlements are regarded as the main reasons for the increasing devastation caused by heavy rains and floods.

Agriculture Sector of Pakistan

The agriculture sector is the backbone of our economy. However, the growth of agriculture in Pakistan is facing many problems. Due to various causes, per acre yield is very low in Pakistan as compare to other developed countries.

➤ **Problems of Agriculture Sector**

Problems of the agriculture sector are categorized into techno-economic problems, natural problems, socio-economic problems and financial problems. Each one is discussed in detail below.

➤ **Techno-Economic Problems**

- **Limited Cultivable Area**

The total area of Pakistan is about 79.6 million hectares, out of which only 23.7 million hectares (28%) area is used for agricultural purposes. About 8 million hectares area is idle and un-utilized. There are vast sub-division and fragmentation of land holdings, as a result, modern technology cannot be applied in the agriculture sector.

- **Water Logging and Salinity**

Water logging and salinity are twin problems of the agriculture sector. Due to salinity, deposits of salt have appeared on the surface of land and they have adversely affected the performance of the agriculture sector. Water logging and salinity affect about 0.10 million acres of land every year. It is not only a waste of land but also a reduction in productivity.

- **Slow Growth of Allied Products**

Allied products refer to those productions, which are not agricultural but indirectly, help the farmer to improve his living standard. Pakistan is insufficient in the production of fruits, milk, poultry, fisheries, livestock, and forestry. As a result, not only our food quality is poor but also industries such as furniture, textiles, and dairy cannot be developed.

- **Low per Hectare Yield**

The most important problem of agriculture is its low yield per hectare for almost every major crop. 45.0% of the labor force is engaged in this sector in Pakistan while it is less than 5% in developed countries. However, other countries of the world are getting a higher yield per hectare due to the use of modern technology and trained labor.

- **Inadequate Infrastructure**

Rural infrastructure like roads, storage facilities, transport, electricity, education, sanitation, and health facilities etc. is inadequate to meet the requirement of growth of agriculture. The total length of farm-to-market road is not only shorter but their condition is also poor. Many villages have no metal-led road at all. Electricity is available to only 3/4 rural populations.

- **Uneconomic Land Holdings**

Due to increasing population and division of land under the law of inheritance, landholdings are subdivided repeatedly. The result is that a very large number of farmers have less than 2 hectares of area. Moreover, holdings are scattered. It is difficult to use modern machinery on small pieces of land.

- **Old Methods of Production**

No doubt, mechanization of agriculture is increasing in Pakistan, but in most of the areas, the old implements are still being used for agricultural production. Old and orthodox techniques of production cannot increase the production according to international levels.

- **Inadequate Supply of Agricultural Inputs**

The supply of modern inputs like high yielding variety (HYV) seeds, chemical fertilizers, pesticides, mechanized machinery etc. is not only costly but also inadequate and irregular in Pakistan. Numbers of fertilizer producing units are just 10 in Pakistan.

- **Lack of Irrigation Facilities**

Shortage of irrigation facilities causes a serious limitation in the expansion of crop area in Pakistan. The lower water supplies lose from watercourse in the fields is the serious problems of the farm sector. Actual surface water availability is 91.8 million acre-feet.

- **Inadequate Agricultural Research**

The average crop yield in Pakistan is very low as compared to the production levels of the advanced countries of the world. In order to raise the potential of agricultural production, there should be continuous improvement in the research for agricultural growth. Total agricultural universities and colleges are only 16 in Pakistan.

- **The Problem of Land Reforms**

Land reforms have been implemented against the will of people. There is an urgent need to conduct a proper land reform for improving agricultural growth. Due to this problem, agricultural production cannot increase to the desired level.

- **Defective Land Tenure System**

Defective land tenure system is also responsible for low yield per acre in the agriculture sector. Property owners and feudal-lords live in posh urban areas while tenants and peasants have no or less incentive for their hard work. So, the productivity in the agriculture sector remains low.

- **Subsistence Farming**

Our farmer is attached with subsistence farming; a huge portion of production is consumed at a farmer's own house to support a large family. Hence, less portion of the production is available for market supply. It causes low income of the farmers. Farming is not conducted at the commercial level in Pakistan.

- **Low Cropping Intensity**

Cropping intensity means the number of crops grown on a piece of land in one year. At the present stage of our development, there is a low level of cropping intensity as compared to advanced countries. The cultivable area under double or multiple cropping is inadequate in Pakistan.

- **Improper Crop Rotation**

Proper turning round of crops is essential to re-establish the fertility of the land. The constant cultivation of one crop or two; exhausts the fertility of the soil. Proper rotation of crops is necessary in order to restore the fertility.

➤ **Natural Problems**

• **Various Plant Diseases**

Various agricultural crops like cotton, sugarcane, tobacco, wheat, and rice often come under attack of pests and insects. Pests and plant diseases reduce the annual productivity of agriculture.

• **Natural Calamities**

Labor is in the hand of human-kind, but its result is in the hands of ALLAH in the agriculture sector. Therefore, the growth of agriculture is dominated by nature. In case if there is too much rain, reduction in the productivity. There is a 20% reduction in productivity due to unnecessary rain and unfavorable climatic situations in Pakistan.

• **The Scarcity of HYV Seeds**

Our poor farmers have to use lower quality seeds due to non-availability of High Yielding Variety (HYV) seeds. On the other hand, if the seed is available they cannot be purchased due to low income. Agricultural production is badly affected because of the inferior quality of seeds.

• **Under Utilization of Land**

Most of the poor population is attached to the agriculture sector in Pakistan. They are using orthodox and traditional means of cultivation. Our farmer is not interested to use the advanced and modern means of farming, as a result, the area under cultivation remains under-utilized, un-utilized or mis-utilized.

➤ **Socio-Economic Problems**

• **Consumption Oriented**

Our farmers have no proper records of their incomes and expenses. Mostly, they spend more when they have more due to illiteracy. A huge part of the farmer's income is consumed on occasions of marriage, birth, death and several other rural ceremonies and festivals in Pakistan.

• **Farmer's Litigation**

There are frequent and continuous litigations among the farmers directly or indirectly. They are often seen in courts, police stations, irrigation offices, revenue boards, and other official problems. Due to the mentioned problems, our farmer cannot devote his time, energy, efficiency and labor to agricultural productions.

• **Joint Family System**

Joint family system is also a big problem in the agriculture sector. Our farmer is poor; on the other hand, he has to support his big family. It creates a deficiency in saving and investment. A huge part of farmer's productivity is consumed at his own house.

- **Illiteracy and Ill health**

Most of the farmers and tenants in our country are illiterate. They are untrained and inefficient to boost up the agricultural productivity. On the other side, the health of our farmers is improper due to rural backwardness. The literacy rate is only 57.7 % in Pakistan. Economic Survey of Pakistan shows that literacy remains higher in urban areas (73.2 percent) than in rural areas (49.2 percent).

- **Political Instability**

Political instability has affected development in all economic and social sectors. Unfortunately, the political situations in Pakistan are not stable. It creates unrest among the farmers to sell the productions to various industries as raw material. On the other hand, people hesitate to invest in the agriculture sector due to political unrest.

➤ **Financial Problems**

- **Lack of Credit**

Basically, our farmer is poor and he has low level of income. Agricultural credit facilities are not common in Pakistan. Credit that can facilitate agriculture is not available easily. Moreover, non-institutional sources are available but these are not reliable due to high rate of interest. About 50.8% poor borrow from landlords in Pakistan.

- **Poor Financial Position of Farmers**

It is a common saying about our farmer that he born in debts, grows in debts and dies in debts. It means that the financial position of Pakistani farmer is weak and poor. According to "Pakistan Human Development Report 2003" about 57.4% poor are working for feudal-lords without wages.

- **Instability in Market Prices**

The price market of agricultural goods generally remains unstable in the country. Cobweb theorem is very popular in case of market prices; it means that a price of one commodity is much high in this year and many lows in the next year and vice versa. The farmers do not get a due reward from the sale of their productions. Therefore, they remain unsatisfied.

- **Shortage of Agricultural Finance**

Agricultural credit facilities are not sufficient in Pakistan. The rate of interest on agricultural credit is high and the loan is not provided in time. According to "Pakistan Human Development Report 2003" in Pakistan, about 50.8% poor borrow from property owners at a very high rate of interest.

➤ **Measures to Remove These Problems**

The following measures are suggested to improve the agriculture.

- **Supply of Agriculture Credit**

Poor farmers cannot afford the expensive technology from their own resources in Pakistan. So, the supply of agriculture credit at easy terms and conditions is very necessary. An amount of Rs. 85,177 million is disbursed by commercial banks in 2009 and Rs. 49 billion was distributed by ZTBL. ZTBL issued credit of Rs. 37.4 billion during 2010-11.

- **Water Logging and Salinity Control**

Water logging and salinity destroys about one million acres of land every year in Punjab and Sindh. It reduces our cultivable area. For this purpose, installation of tube wells, repair of canal banks and drainage of water etc. are needed. The Ministry of Agriculture proposed to invest Rs. 18.5 billion with the objective of converting 2,00,000 acres of irrigated land to drip and shower irrigation system.

- **Construction of Dams**

Sometimes, due to heavy unwanted rains and floods agricultural productivities destroys. To tackle this problem, it is necessary to construct dams and bands on rivers.

- **Provision of HYV Seed**

High yielding variety seed is not available at a suitable price in Pakistan. So, farmers have to depend upon the low quality of seeds that causes a 20% reduction in total production. The government should provide HYV seed at a minimum price in this case.

- **Mechanization**

Farm mechanization is necessary to remove the problems to the agriculture sector. Sowing, cultivation, and harvesting of crops through agricultural machines increase the product quality and quantity.

- **Agricultural Research**

Agricultural research is compulsory to remove the backwardness of the agriculture sector. Major agricultural colleges and universities are only about 16 in Pakistan. The government should increase the research work in the field of agriculture.

- **Agro-Based Industries**

Agro-based industries like poultry, fisheries, dairy, and livestock should establish. These industries indirectly lead to improving the agriculture sector.

- **Tax Concessions**

Mechanization is necessary to remove the problems of the agriculture sector. The government should give tax concession on imports of agricultural technologies to enhance the process of farm mechanization.

- **Training of Farmers**

Our farmers are illiterate and ill trained so, their efficiencies are poor. The government should start a special education programme for farmers and give them training about farming.

- **Prices of Agricultural Productivities**

Sometimes, our farmers receive low prices of their crops. There is no proper effective price policy of the government. The government should set reasonable prices of agricultural productions to develop the living standard of farmers.

➤ **Conclusion**

Being an agrarian country, the agriculture sector of Pakistan's economy is still backward. Use of modern techniques, provision of credit facilities, basic infrastructure, and agriculture research facilities are needed to remove all the problems of the agriculture sector.

Industrial Sector of Pakistan

➤ **Causes and Removal of Industrial Backwardness in Pakistan**

The backward industrial sector is the second major sector of the economy of Pakistan. Industrial sector plays an important role in the development process of any country. Since the latter part of the 18th century manufacturing as a human, occupation got much importance. The modern concept of industry-manufacturing goods began in Great Britain in the late 18th century.

➤ **Problems or Causes of Industrial Backwardness**

Causes of industrial backwardness may be divided into the following four major categories: historical causes, economic causes, social causes and political causes. Each one is discussed below.

➤ **Historical Causes**

- **The Policy of British Rulers**

There were no favors for the Muslims due to the British government, before independence in the sub-continent. British exported the raw material at a cheaper rate to Britain so that the industrialization process in the sub-continent is to be stopped.

- **Lack of Technical Knowledge**

Modern technology was introduced at the beginning of the 20th century. British used the modern methods of production in Britain. However, in sub-continent, they used the old method of production in all the manufacturing units. Therefore, quality and quantity of production were very low it creates a bad view of our industry at world level.

- **Industrial Share**

Before partition, there were 921 total industrial units in sub-continent. However, out of 921 industrial units, Pakistan got only 34 industrial units that are just 3.69 % of total industrial share. Accordingly, we started our economy without the industrial sector.

➤ **Economic Causes**

- **Disputable Industrial Strategy**

It is a huge barrier in the way of industrial advancement. In the history of Pakistan, there was a policy of import substitution, in the early 1950s. There was a trend of industrialization in the 1960s. The policy of Nationalization was adopted in Z. A. Bhutto's period and Zia-ul-Haq adopted the policy of Privatization. The investors are always hesitant to make an investment in such situations.

- **Lack of Mineral Resources**

There is an acute shortage of mineral resources like oil, coal etc. These resources are necessary for industrial development. Due to the lack of mineral resources, the rate of industrial development in Pakistan is very low. The contribution of natural resources to GDP is 0.8 % in Pakistan.

- **Low Investment and Low Savings**

Deficiency of capital is one major problem in the way of industrial development. Pakistan is fundamentally underdeveloped and there is a shortage of capital in the country. Industrial development is impossible without capital. Sufficient capital is a major condition for industrial development. Total investment and domestic saving are 6.13.4% and 9.5% of GDP respectively.

- **Lack of Technical Know-how**

There is a lack of technical and skilled workers in the country due to the high rate of illiteracy. The efficiency of labor is very low due to the use of backward and orthodox technology. It is also the main cause of industrial backwardness.

- **Lack of Infrastructure**

The infrastructure for industrial development is necessary. There is a shortage of infrastructure in Pakistan. For example, gas, electricity, transport, roads, railways network and communication are not available up to the requirement of industrial development.

- **Inflationary Pressures**

Rate of inflation is very high in Pakistan. The prices of imported machinery, oils, chemicals and spare-parts are rising very sharply. These factors contribute to industrial backwardness. The very high rate of inflation is 14.1 % in Pakistan.

- **Inadequate Industrial Credit**

There is a shortage of active financial institutions in Pakistan, which may provide credit services to industrialists according to their needs. Terms and conditions for the provision of credit are very tight.

- **Unfavorable Industrial Structure**

There are inequalities in industrial growth in Pakistan. Manufacturing of consumer goods is preferred over capital goods. No doubt return on consumer goods is more but capital goods are necessary for economic development.

- **Limited Market for Capital Goods**

The narrowness of domestic and foreign markets for the industrial goods is also a major hurdle in the way of industrial development. The small size of the market is due to low purchasing power, low standard of goods and the high cost of production etc.

- **Lack of Industrial Consultancy Firms**

The investment in modern industries is not only costly but also risky. The capitalists are regularly withdrawn and hesitant in investing their capital in new industrial ventures. No doubt, deficiency of capital is a problem in Pakistan, but the major problem is that existing capital is not properly utilizing due to lack of consultancy firms.

- **Lack of Industrial Research**

Research work for the industrial sector is not satisfactory due to lack of technical education and in addition to that, there is a shortage of technological universities in the country. Improvement in production and reduction in the cost of production is impossible due to lack of research. A number of technical and vocational institutions in Pakistan is more than 1522 out of which 1140 are in the public sector. These are providing training to 3,00,000 persons.

- **Frequent Breakdown of Electricity**

Like other power resources, electricity is also insufficient in Pakistan to meet the domestic needs. There is irregular supply and frequent breakdown of electricity in Pakistan. It is affecting the industrial production in the country. The growth rate of electricity and gas sector, in Pakistan, is -21.1%.

- **Economic Sanctions**

Advanced countries are not willing in the improvement of backward countries. They have created various trade zones among themselves. As a result, they import and export among themselves. Therefore, the export volume of developing countries remains very low. On the other hand, developed nations have imposed various sanctions on import and export with poor nations.

- **Global Recession**

The global economic recession in the last years adversely affected the growth of the manufacturing sector. The donor countries usually interfere in our internal affairs and economic activities in the time of recession.

- **Adverse Balance of Payment**

Adverse balance of payment is a new cause of industrial backwardness. To make industrial development, we have to import modern machinery and advanced technology from other countries. However, due to a shortage of foreign exchange, we cannot import such items to make rapid economic development. Pakistan is facing the deficit of \$ 8.3 billion in its balance of payment during 2010-11.

➤ **Social Causes**

- **Lack of Education**

People have no idea how to set up the industry due to a high degree of illiteracy. They have no sufficient resources to start heavy projects. The efficiency of unskilled, untrained and illiterate labor is very low that causes in industrial backwardness. The literacy rate is just 57.7 % and expenditures on education sector are only 1.8 % of GDP, which is the lowest in Asia.

- **Faith & Fate**

Man should work hard first and then put the result in the hands of ALLAH. Mostly, our people are irrational, they believe on faith and fate. They do not want to take the risks. They are working just to meet their basic needs. There is absence of commercial mind in Pakistan.

- **Corruption**

Corruption is a great evil, which is still increasing at very high rate in Pakistan. It is found in government as well as private sector also. Due to corruption, illiterate and dishonest workers come forward and cause industrial backwardness. Pakistan is at number 34th at the table of the most corrupt nations and at number 1st in South Asia.

- **Climate and Weather**

Climate and weather conditions are also a big cause of backwardness in various industries. There is inter-relationship between industrial and agriculture sector. If the weather is not well, it causes agricultural backwardness and it results in industrial backwardness.

- **Cultural Disturbance**

The cultural disturbances in the country have slowed down the production in the manufacturing sector. In addition to this, a shortage of raw material has an adverse effect on production. There are various caste systems in the country.

➤ **Political Causes**

• **Political Instability**

An additional cause of industrial backwardness is political instability. Since partition, the political situation of Pakistan is not satisfactory. There are regular changes in the governments and government policies. Domestic as well as foreign investors feel the risk of making investment due to political unrest. All these results in industrial backwardness.

• **Kashmir and Water Issues**

Since freedom, the Kashmir problem has been disturbing our economy. People in Pakistan remain worried about the danger of war with India due to Kashmir and water issues. Therefore, Pakistani and especially foreign people hesitate to invest.

• **Burden of Refugees**

At the time of partition, Pakistan had to face a serious problem of refugees coming from India and there was a shortage of resources in Pakistan. Now Pakistan is also facing this problem in the form of Afghan refugees.

• **Wars with India**

The two big wars fought in opposition to India in 1965 and 1971. It creates many economic problems. Now the situation is that both Pakistan and India has to keep up a huge part of their budget for defense.

➤ **Measures or Suggestions to Improve Industrial Sector**

The following measures are suggested to improve the industrial sector of Pakistan.

- More allocation of funds for industrial research is required, which is necessary, for the industrial development.
- Industrial sector can be promoted by increasing capital.
- Saving and investment should be increased to develop the industrial sector.
- To promote the industrial sector, there should be technical knowledge.
- Tax concession is also needed to increase the investment in new industries.
- In time, the supply of raw material is necessary for the improvement of the industrial sector.
- Advanced infrastructure is necessary for the industrial development of Pakistan.
- Financial institutions should provide credit facilities to the industrial sector at flexible terms and conditions.
- There should be an expansion of markets, at the domestic and foreign level, of industrial goods.
- Foreign investment should be encouraged; more incentives should be given to investors.
- Political stability is compulsory for the development of industrial sector.
- High degree of technical education is required to produce skilled, technical and efficient workforce.

- The problem of load-shedding and irregular supply of electricity should be removed.
- Commercial policy and self- reliance policy should be adopted to remove industrial backwardness.
- Foreign exchange reserves and the balance of payment position should be favorable to develop the industrial sector.

➤ **Conclusion**

All the above factors are causing industrial backwardness. Backwardness is not bad but remaining backward is so bad. So, the Pakistan needs to make industrial development through the following.

- Use of advanced technology
- Development in infrastructure
- Provision of credit facilities
- Increase in industrial consultancy firms Recommended

¹<https://infoaboutclimate.wordpress.com/>

²<https://dailytimes.com.pk/247550/pakistans-environmental-challenges/>

³<https://ihelpf9.com/environmental-problems-in-pakistan-and-its-effect-on-human-life/>