

Q) What are the major issues of energy sector in Pakistan and their implications? Also suggest solutions for this issue? (20)

~~Outline~~

Introduction:-

The prolong energy crisis from 2007 onwards in Pakistan is interdisciplinary and multidimensional. There are numerous causes that have led to this crisis and it affects the day to day domestic and industrial life. It is imperative to try and solve these problems in order to better fuel the progress of the nation.

"A nation that can't control its energy sources can't control its future"

(Barack Obama, Former President USA).

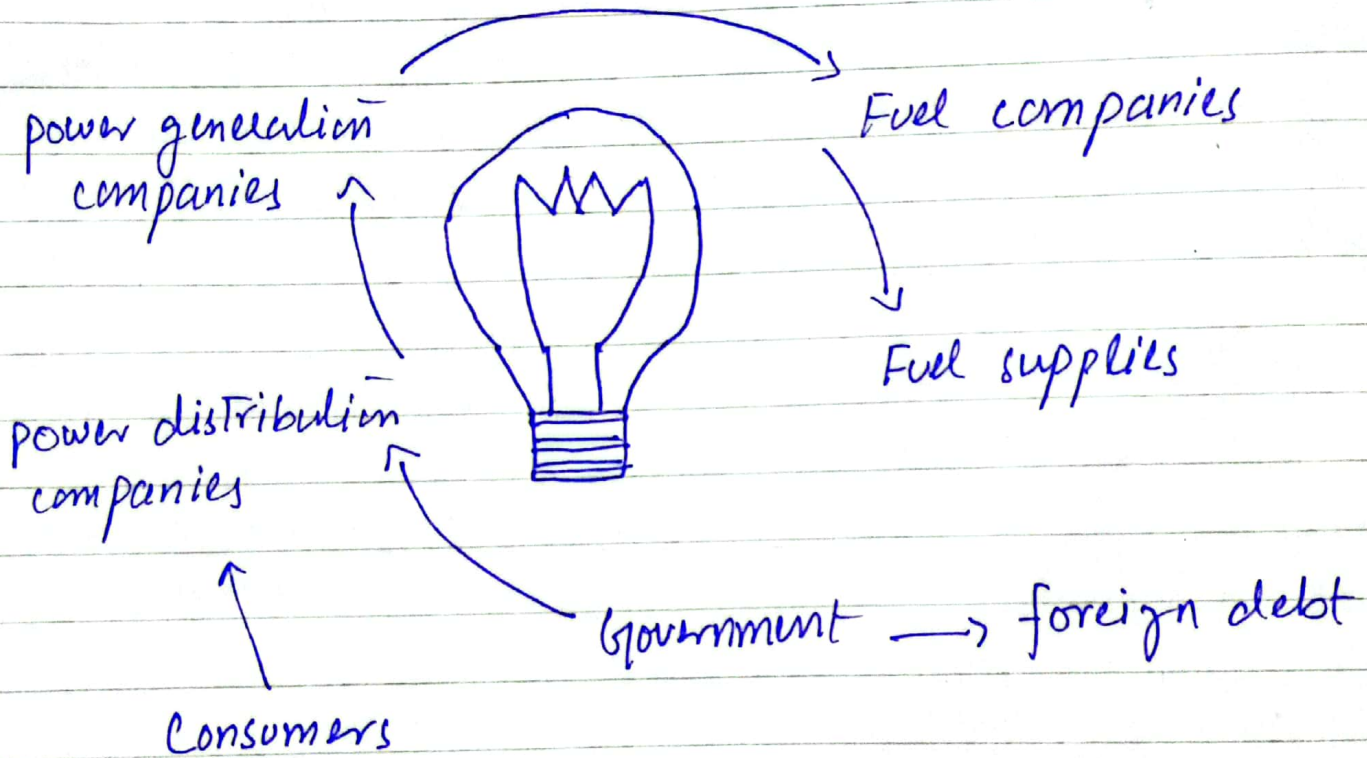
Issues:-

Aging Infrastructure:-

Firstly, one of the primary issues of Pakistan's energy sector is the transmission lines infrastructure. The transmission lines are old and hence it leads to energy losses. According to World Bank's report, the transmission losses of Pakistan accounts to around 17%. This percentage is quite higher than the average value of 8% globally. In this regard, these losses contribute to the energy crisis of Pakistan.

Increasing Circular debt:-

Secondly, the ever increasing circular debt is an other issue. The Power division of Pakistan has claimed that the circular debt has crossed PKR 4 trillion. The increasing circular debt value is due to the cascade effect, which eventually leads fuel companies not being able to buy fuel resources which leads to energy shortage.



Expensive Energy:-

Thirdly, due to the inefficient exploration for energy ^{sources}, much of it has to be imported from other countries. According to the financial report of Ministry of planning and special initiative, 40% of the energy ^{supp} sources that include natural gas, oil, coal ^{are} imported. The devaluation of Pakistani currency has led to the increase in energy price. Per unit (domestic) electricity cost is Rs. 34. According to these values, Pakistan is producing the most expensive electricity in Asia. Furthermore, another issue with importing energy sources is the

continuous change in the world politics. Recently, due to the Ukraine-Russia conflict, we have seen a change in the world energy politics. Hence, relying on imported energy also contributes to the energy crisis of Pakistan.

Power Theft:-

Fourthly, Power Theft is another area of concern. According to the Ministry of energy, for the year 2022-23 Rs 380 billion has been lost to electricity theft. Power Theft is another cause of the energy problem.

Implications:-

Load-Shedding:-

The prime consequence that the nation has to face due to energy shortage is frequent load-shedding. It is reported that there was an energy shortfall of 7000 MW in the previous ^{year} by the ministry of energy. To cater for this shortfall, there is on average 6-10 hr load shedding in urban areas and 15 hours in rural areas. These figures are really high and they severely disrupt the daily routine of the citizens.

Power Breakdown

Pakistan has faced two blackouts in the last one year with the latest being in January 2023. The recent 2023 breakdown has led to \$70m loss in the textile industry, which is Pakistan's one of the biggest exports. Power blackouts like these not only affect the domestic consumers but also the big industries.

Decline in energy production against increasing population:-

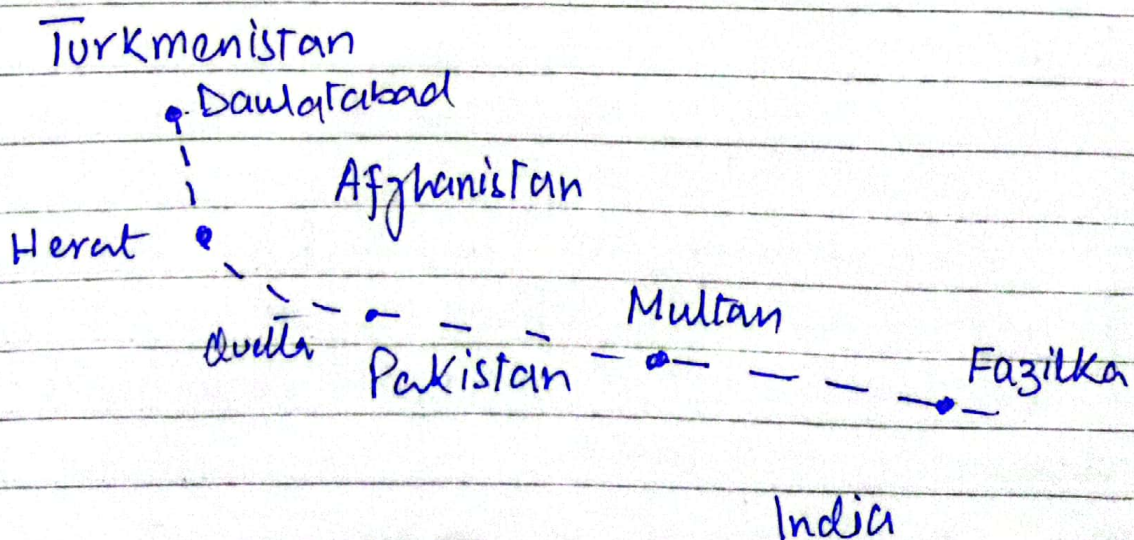
Additionally, due to the aging infrastructure, power theft and other issues have given rise to the reduction in energy production. According to NEPRA, there is a 23% decrease in electricity production in April 2023 compared to April 2022. This is a alarming situation especially considering the ever growing population of the country.

SOLUTIONS:-

Use of Renewable resources:-

The utilization of the renewable energy sources can lead to lesser dependency on imported supplies. Only 4% of the electricity produced in 2023 has been through renewable sources as stated by Pakistan economic survey 2022-23. Despite having great potential of solar and wind energy in the country. Using renewable resources will not only lower our dependency on imports but would also reduce use of carbon concentrated sources that lead to global warming.

TAPI Gas project to the rescue:-



TAPI gas pipeline project ^{is} a major step towards resolving the energy crisis of the region. However, this project ^{that} started in 2015 could not reach its completion in 2020 (initial goal). The prime factor behind this is the political instability of Afghanistan. It can be evident from the sketch, the importance of Afghanistan and its stability for the completion of this project. Turkmenistan has one of the world's largest natural gas reserves. While the goal of using maximum renewable energy sources is little far for Pakistan, meanwhile this project could ~~also~~ help in solving the energy crisis.

Iran - Pakistan Rp Gas Pipeline:-

Furthermore, IP gas pipeline project could also help in combating the energy crisis of Pakistan. The IP gas project that started in 2014 holds the potential of supplying 750 mcf of natural gas daily to Pakistan. However, US sanctions on Iran have become the biggest hindrance to this project. Pakistan is yet to construct the pipeline structure for the project.

Conclusion:-

After discussing in detail, the issues, implications and potential solutions, I have come to the conclusion that the fault lies heavily on the inconsistent governments policy making along with some technical hindrances. Government needs to make solid long term goals regarding the usage of renewable sources. The issues of aging infrastructure and power theft should be dealt with urgency.

"The difference between a good and a bad leader is the ability to execute policies" (Former PM of Singapore, Lee Kuan Yew)