

Outline

1. Introduction:

a. Hook

b. **General Statement:** Brain drain is a phenomenon about the drainage of skilled and intellectual individuals from country.

c. **Thesis Statement:** There are several causes driving brain drain: educational challenges, - lack of research and development opportunities, political instability, economic factors and quality of life. Brain drain has adverse consequences, affecting different sectors of life. It includes decrease in education standard, reduction in foreign currency inflow, hindered development, lack of efficient human resources, and economic impacts.

2. Main Body

A. Causes of Brain Drain:

a. **Educational Challenges:**

(i) Low quality of Higher Education

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(ii) Constrain Budget

(iii) **Reference:** According to the QS World University Rankings, no Pakistani university ranking in top 300 universities globally.

(iv) **Report Reference:** The Economic Forum's Global Competitiveness Report 2019, ranks Pakistan 110th out of 140 countries in terms of its higher education system.

b. Lack of Research and Development Opportunities:

(i) Less GDP Investment:

(ii) Inadequate Basic Facilities:

c. Political Instability:

(i) Political Turmoils Including Terrorism.

(ii) **Reference:** The Global Terrorism Index has consistently ranked Pakistan among the countries most affected by terrorism.

(iii) **Example:** Attack on Army Public School Peshawar (Dolls).

(iv) Corruption:

(v) Frequent changes in Government Policies:

d. Economic Factors:

(i) Unemployment:

(ii) Evidence From **World Bank Report**:

(iii) Low Salary:

(iv) Family and Social Pressure:

e. Quality of Life:

(i) Poor Healthcare Infrastructure

(ii) High Levels of Pollutions

(iii) **IQ Air's Annual Report 2023**

(iv) Security Concerns

(v) Example: Attack on Quetta Civil Hospital (2016).

B. Consequences of Brain Drain:

a. Decrease in Education Standard:

(i) Loss of Skilled Educators

- (ii) Impact on Teaching Quality
- (iii) Reduced Research Capacity

b. Decrease in Foreign Currency Inflow:

- (i) Remittances Reduction
- (ii) **In 2023**, total inflow of remittances decreased by **11.7 percent (State Bank of Pakistan)**
- (iii) Loss of Exportable Skills

c. Hinders Development:

- (i) Lack of Efforts to Improve Healthcare Infrastructure:
- (ii) Pakistan Medical Association Provided Figure
- (iii) Hinders Scientific Development:
- (iv) Shortage of Skilled Professionals
- (v) **Pakistan's National Academy of Young Scientists Report**

d. Lack of Efficient Human Resources:

- (i) Loss of Skilled Workforce
- (ii) Impact on Different Commercial Sectors

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(iv) Impede Competitiveness

e. Economic Impact:

- (i) Reduced Productivity
- (ii) Skills Shortage and Dependency
- (iii) Economic Stability and Development

c. Solutions:

- (a) Increase in Funding
- (b) Promote Research and Development
- (c) Stable Governance Structure
- (d) Develop Effective Policies
- (e) Ensure Security of Life

3. Conclusion:

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"Brain drain is not just about losing individuals; it is about losing the ideas, innovations and inspirations they carry with them" - Paul Kagame. Brain drain is a phenomenon about the departure of skilled and intellectual individuals from country. It is one of the prominent issues in developing countries. Seeking quality education, earning a decent amount of income and a standard life are the major concerns of people in developing states. When these facilities are not available in their own country, people look for better opportunities in developed states. This stems the issue of brain drain. Departure of skilled professionals cause major setback to country's progress. The loss of brightest minds is the loss of dreams of a better future for a country. Pakistan is among those countries where brain drain is strengthening its roots. The Economic Survey 2023-2024 reveals the intensification of brain drain from Pakistan. The Survey shows that about 45,687 highly skilled individuals leaving the

Country - There are several causes driving brain drain: educational challenges, lack of research and development opportunities, political instability, economic factors and quality of life. Brain drain has adverse consequences, it is affecting different sectors of life. The consequences include decrease in education standard, reduction in foreign currency inflow, hindered development, lack of efficient human resources, and economic impact.

To begin with the causes, first comes educational challenges. Low quality of higher education is one

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one of the major issues in developing countries, especially in Pakistan. In Pakistan, the syllabus being taught by higher educational institutions is outdated as counterparts of the west. Similarly, cramming based study is another ill of educational systems in Pakistan. For instance, students of fine Arts, purely practical field, have to take more theory classes than practical one's. Then what to say about other fields? In Pakistan, where students of fine Arts should focus more on practical projects, they are cramming theories. Moreover, the higher Commission of Pakistan is facing budget constraints. It is limiting its ability to improve the quality of higher education. Limited funding by government to the institutions of practical fields: medical, fine arts and engineering further hinders the talents of students. For example, in Pakistan most of the medical colleges in Pakistan, hardly one or two manikins are available for a large numbers of students. During demo lecture,

Some students don't even get a chance to have a glimpse of the manikin. This is the reason that Pakistan is lagging behind in standard of higher education. On other counterparts, quality of higher education in West is ruling over the world. According to the **QS World University Rankings**; no Pakistani university ranking in top 300 universities globally. Similarly, **The Economic Forum's Global Competitiveness Report 2019**, ranks Pakistan 110th out of 140 countries in terms of its higher education system. Therefore, to compete the education standard of today's revolutionizing world, individuals opt to abroad for higher education. ~~The~~ departure.

The second cause of brain drain is the lack of research and development opportunities. This factor serves as a significant contributor in brain drain from developing states: Pakistan, India, Nigeria, Brazil and Philippines. This problem stems from inadequate financing from government.

For instance, Pakistan spends less than 0.3% of its GDP in research and development, significantly lower than the global average. This limited investment hinders the scientific and technical progress of the country. It causes Resultantly, researchers and professionals look for more equipped environment to thrive knowledge and career. The investment by Pakistan in research and development is insufficient to carry out advanced experiments and enhance research output. It is because of high rate of inflation in the country. Moreover, to import tools and equipments for advanced experiments costs more due to devaluation of Pakistani currency.

In addition, inadequate availability of facilities further intensifies brain drain. For instance, field of medicine in Pakistan is lagging behind in advanced treatments' methods and use of technology.

The resources available for medical researchers are limited.

It restricting them to invent advanced innovations in medical

technologies. Consequently, a large number of medical experts moved abroad where there are more opportunities available for the growth of their professional skills and job career. Similarly, Pakistan is facing hurdles in technological advancement due to insufficient research's resources. Technological progress serves as pedestals to the development of any country. However, lack of research facilities hampers Pakistani engineers and IT experts to participate in the race of technological advancement. It restricts them to make Pakistan stands prominent in the realm of technological innovations. Unfortunately, IT experts and highly skilled engineers are tracking down their destination in developed countries. So that it could help them to perform in a better way in a better environment. Hence it is proved that lack of research and development opportunities increase the rate of brain drain.

The third cause driving brain drain

is political instability. It is significantly contributing in brain drain in developing countries like Pakistan. Pakistan has been faced Political turmoil including, military coups and terrorist attacks since for a long time. The Global Terrorism Index has consistently ranked Pakistan among the countries most affected by terrorism, impacting daily life and professional security. For example Attack on Army Public School, Peshawar (2014). It was one of the deadliest attacks in the history of Pakistan. This terrifying incident shows the vulnerability of educational institutions, students and professionals to the risk of terrorist attacks. In addition, therefore Political instability ^{terrorism} is playing crucial role in the departure of highly skilled experts and intellects to abroad. They are doing so for the security of their life, family and profession. In addition, Political instability is one of the causes of brain drain. It disrupts educational and research activities, affecting institutional growth and innovations. According to

UNESCO report, disruption in Pakistan's education system due to political instability have led to the challenges in maintaining quality education and research standard. Moreover, political crises erode the trust of public in government and government institutions. Corruption and favoritism in government institutions hinder the chances of job and growth opportunities of a skilled individual. Appointments of unprofessionals and unskilled people further disappoint the experts. This factor makes them to seek opportunities in developed states, where not only government organizations but also public institutions select candidates on the base of merit. Similarly, frequent changes in Pakistani government undermine public trust. It restricts them to make efforts and utilize their skill in such a place where there is no surety of their career. Because, when a government changes it changes the policies of former government and implements new policies.

It means new government, new policies. These frequent changes in government and policies intensifies brain drain. It make experts and skilled individuals to look for a stable environment.

The environment in which they can focus on utilizing and polishing their skills rather focusing on career surety and security of life and family.

The fourth cause of brain drain in developing countries is economic factors. It plays a vital role in the emigration of professionals especially doctors and engineers.

To delve more into the issue, taking examples of economic factors in Pakistan. First, on one hand, inflation rate is very high in Pakistan and on the hand, the job market for highly skilled individuals is limited. **According to a World Bank report**, Pakistan faces challenges in creating sufficient high-quality jobs, especially in the sectors that require advanced skills and education. Despite of having skills that are highly valued in developed states, why

would one wants to stay in such a country where getting a standard job is very difficult. Secondly, generously offered salaries in developed states attract more intellects from developing countries. For instance in Pakistan, average earning of a general practitioner is 1,800,000 annually. However, according to the US Bureau of Labor Statistics (2022), in the United States the average annual salary for a general practitioner is approximately USD 208,000. The amount is equal to 42,432,000 PKR. That's why wage disparity significantly contributes in brain drain. Lastly,

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family and social pressure is another driving factor of brain drain. In Pakistan, many families rely on remittances sent by relatives working abroad. It supports healthcare and educational expenses of their families ^{back home}. There is often pressure on a skilled family member to migrate abroad and earn higher wage. This pressure from family prompts individuals to move ⁱⁿ foreign countries and financially support their families back home. Moreover, in Pakistani society, sometimes there is a perception that working abroad or achieving success ~~there~~ enhances one's status and prestige. To achieve that prestige and social recognition, individuals migrate to developed countries.

Lastly, lack of quality life in developing countries is another ~~ill~~ causing brain drain. First, healthcare infrastructure is a basic need of individuals. It faces challenges in developing countries, especially in Pakistan. In Pakistan, many hospitals lack medical equipments, essential diagnostic tools and

facilities of advanced technology. For instance, A report by the **World Bank** highlighted that Pakistan has a shortage of medical equipments and facilities necessary to provide quality healthcare services. This situation prompts medical experts to seek a country where advanced medical facilities are available, where they can work in more equipped environment and thrive their professional skills. Similarly, limited access to medication, treatment and equipments disrupts supply chain. This situation not only compromises patient's health but also demonstrates healthcare professionals. To access advanced healthcare facilities and for better outcomes of their patients, medical experts move to developed countries. Secondly, increasing levels of pollution is also causing brain drain. For example in Pakistan, high levels of pollution is impacting daily life, out-door activities and business life. In cities like Lahore and Karachi, pollution level is dangerously high. **According to IQ Air's annual**

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World Air Quality report 2023.

Pakistan emerged as the second polluted country in the world in 2023. Increasing levels of pollution is raising healthcare burden due to harmful pollutants. It is affecting overall standard of living. Moreover, pollutants like Sulphur dioxide (SO_2), Nitrogen Oxides (NOx), Particulate matter etc are causing serious respiratory issues, such as asthma and bronchitis. Due to these safety hazards and polluted environment, ~~exp~~ skilled individuals and professionals emigrate to other countries. Where they can participate in professional activities and grow professional career in a safe and clean environment. Lastly, a safe and secure life is a fundamental right of all individuals. It tops the list of priorities. ~~Therefore,~~

According to an Urdu idiom "Jan hai tou jahan hai". Therefore, security concerns, particularly in Pakistan causes brain drain on a large scale. Unfortunately, Pakistan has been subjected to several terrorist attacks, targeting professionals. For example, **attack on Quetta Civil Hospital (2016)**.

A suicide bombing at the emergency ward in Quetta Civil Hospital, killed at least 74 people and injured over 100. The victims included lawyer, journalists, and medical professionals. They were present at the hospital after the assassination of prominent lawyer Bilawal Anwar Kasi, earlier that day. Attacks like this and many others targeting professionals prompt them to leave abroad for a safe and secure life. Hence, it is proved ^{that} ~~from~~ the factors are intensifying brain drain.

Brain drain has substantial consequences, hindering ~~the~~ progress of a country. First, brain drain is potentially decreasing education standards in developing countries.

For example, Pakistan faces challenges in retaining skilled educators. The loss of skilled and experienced educators is affecting education standard. **According to a World Bank report (2020)**, brain drain continues to affect Pakistan's education sector, with departure of skilled professionals, including professors and teachers. They are leaving the country for better environment, attractive salary and professional opportunities. Shortage of skilled teachers in schools, colleges and universities hinders educational development and research output. Similarly, brain drain has significant impact on teaching quality. When highly skilled teachers and professors moved abroad, consequently, untrained and unexperienced faculty members left behind. This factor severely affects the teaching quality. For instance, an experienced and well qualified professor has vast knowledge and years of experience. They understand student's psyche. The professors teach in such a way that

Students catch the knowledge effectively. On the other hand, inexperienced and untrained teachers have limited experience, so their approach to student's psyche will also be limited.

Teachers are the building blocks of any country's progress. When they leave the country, how can a country and its educational system be developed? Moreover, when researchers, scientists and academics leave a country, it underpins significant implications on research and development.

It reduces productivity and innovation. Departure of talented researchers actually impedes global competitiveness of the country. Therefore, it is crucial to provide such facilities and environment in which skilled professionals can serve their own country rather than others.

The second consequence caused by brain drain can be said as decrease in foreign currency inflow. As many skilled professionals, who moved abroad for better opportunities and salaries, sent remittances back home. These remittances plays

a crucial role in country's economy. When these individuals settled in foreign countries, they over time, they settled their families there as well. It means fewer remittances sent to the country. Reduction in remittances has greatly impacted economy of the country. As far as Pakistan's economy is concerned, according to the State Bank of Pakistan's data, remittances play a vital role in Pakistan's economy. It accounts for a significant portion of foreign exchange earnings. In 2023, total inflow of remittances was 26.3 billion. This amount which received in 2023, decreased by 11.7 percent as compared to the previous year. The report indicates that how dangerously brain drain affects the economy by reduction in remittances. Similarly, when highly skilled professionals and experts leave a country they take their talent and skills with them. Those skills if retained in the country, can tremendously increase the export scale of the country. For example, if IT experts invent new innovations, country can export it. It will increase foreign currency.

inflow. If a country have highly skilled researchers, IT experts and creative individuals, contributing in invention of new technologies and developments. The country can sell those technologies and products in the international market. It can also attract foreign investors, and could bring dollars to the country. But departure of experts and intellects to the foreign countries take those dreams of progress for a country with them. Consequently, decrease in significant portion of foreign currency inflow occurred.

Thirdly, brain drain not only affect quality education and foreign currency inflow, but also hinders development. When medical experts ~~and~~ left a country, it increases the shortage of skilled professionals. It hampers the efforts to improve healthcare infrastructure. For example in Pakistan, **According to the Pakistan Medical Association**, around 12,000 Pakistani doctors migrate abroad annually. It exacerbates the shortage of medical professionals in the Pakistan. Similarly, dearth of IT experts,

experts plays a vital role in the
experts, Medical professionals and
academic researchers results in
impeding scientific progress. These
professionals often possess cutting-edge
knowledge and skills which are
crucial for advancing scientific field.
For instance, IT experts plays a
vital role in the development of
tech startups. When these experts
leave, potential startup may struggle
in finding necessary talent and
mentorship to succeed. This suppress
the growth of a vibrant startup
ecosystem. It is essential for
driving innovation and economic
growth. Moreover, **according to a
report by Pakistan's National
Academy of Young Scientists (WAYS).**
many skilled software engineers
and developers have left the
country for better opportunities
in abroad. This has intensified the
shortage of experts in critical areas
such as artificial intelligence and
cyber security. Furthermore, Pakistani
universities often struggle to retain
faculty members experts in IT-related
fields. This affects the quality of
research output of these institutions.

It is limiting their contribution to the global scientific advancements. Therefore, brain drain has severe consequences on the development of healthcare infrastructure and scientific progress.

Fourthly, brain drain reduces a significant portion of human resources. Death of skilled and talented individuals has dangerous impacts on the output of different industrial sectors. For example skilled professionals drive innovations and productivity gains in various sectors. When they left, it reduces the creativity and productivity of industrial sectors. It affects the quality of the products and decreases the rate of export. For instance, industries in Pakistan, such as manufacturing, textile and field of engineering face skill shortages. When skilled workers migrate abroad, it reduces the production capacity and quality standards. Lack of skilled workforce causes delay in project completion and reduction in manufacturing process. It has negative impacts on industrial development. Similarly, shortage

of efficient human resources impedes global competitiveness of a country.

When ^{leave} intellectuals and skilled professionals ~~leave~~ left, only labour workforce left behind.

It is no less than a death for country.

In addition, industries rely on technological innovation, such as electronics and telecommunication.

However, due to brain drain industries are suffering from the dearth of IT professionals and engineers. It is limiting access to cutting-edge technologies.

Limited approach to advanced technologies hampers industrial modernization and adaptation of efficient production methods. It hinders competitiveness in the global market. These

examples show adverse consequences of brain drain affecting different commercial sectors growth and impede development.

Last but not the least, brain drain has severe impacts on economy of a country. Shortage of skilled individuals reduce productivity, impacting economic growth. Less creative and skilled individuals mean less creative production.

Similarly, dearth of skilled experts, increases dependency on foreign

workforce. To appoint engineers and experts from foreign countries require high investment and budget. For example, Pakistan is already going through economic crisis. When she hired foreign experts and professionals for development projects, it will further increase burden on the economy. Consequently, it hinders economic growth and development. In addition, brain drain among policy makers, economists and administrators, affects industries. It creates gap in regulatory frameworks, strategy planning, and governance. Inconsistent policies and governance practices deter foreign investment. It hampers industrial growth and exacerbate economic uncertainties. Overall, brain drain has adverse impacts on all important sectors of life. It is adversely affecting development and economy of developing countries.

Here are some solutions, that a country should adopt to mitigate brain drain. ^{particularly in Pakistan.} First, government should increase funding to the educational institutions at all levels, including vocational training. It will ensure a skilled workforce and quality education.

Secondly, promote research and development by investing in research institutions and laboratories. So that it can attract and retain skilled researchers and professors. Moreover, investment in healthcare infrastructure and services, by government could improve healthcare facilities. It will provide a well equipped environment for medical experts to perform in a better way. It will also motivate them to participate in development of healthcare infrastructure. Thirdly, implementation of stable governance structures ~~that~~ ^{which} promotes fairness, accountability and the rule of law can decrease the rate of brain drain. Government should develop such policies that support job creation, economic growth, and offers attractive salaries. It would help to retain intellects and professionals. Fourthly, government should implement strict policies to control emission of harmful gases and pollutants. That would ensure a healthy and workable environment to professionals and skilled individuals. Lastly, ^{the} most important ^{is} to ensure security of life, ~~fundamental~~

right of every citizen. Government should take strict action against anti-peace activities to ensure security of life. When these facilities are available in one's own country, why would one want to leave one's motherland?

In the nutshell, the major causes of brain drain are educational challenges, lack of research and development opportunities, political instability, economic factors, and quality of life. These factors are driving brain drain which has adverse consequences: decrease in education standards, decrease in foreign currency inflow, lack of human resources, hinders development, and economic impacts. Addressing the causes of brain drain is very crucial to retain precious asset of developing nations. When highly skilled experts and professionals leave a country, they left behind a void that is hard to fill. As

Ellen Johnson Sirleaf said, "

The loss of our brightest minds is not just a statistic; it is a setback to our nation's

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Progress and potential: These talented and highly skilled individuals decide the future of a country. It is ~~critical~~ crucial to take the issue seriously and develop effective strategies to retain the experts and professionals. It is never too late to pledge for a new change to create a new tomorrow! Where there is a will there is always a way. Regardless of obstacles and hindrances, developing countries, particularly Pakistan, will definitely achieve its goals.
