



A STUDY ON THE IMPACTS OF BRAIN DRAIN ON HIGHER EDUCATION INSTITUTIONS OF AFGHANISTAN

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Abstract: *This study investigates the multifaceted impacts of brain drain in the Afghanistan's Higher Education Institutions (HEIs). The research is based on data collected from 175 respondents (university teaching staff), focusing on both the positive and negative impacts of brain drain within the context of higher education institutions. The study's primary objectives are: (1) to assess the extent of brain drain in HEIs of Afghanistan, (2) to discern the impacts of brain drain, and (3) to propose viable solutions for addressing the issue. The study's hypotheses are rigorously tested to determine the associations between the variables of the study. By addressing these objectives and hypotheses, this study contributes valuable insights into the Afghan context, offering guidance to policymakers, decision makers of higher education sector, and other stakeholders on the critical issue of brain drain. Ultimately, it seeks to inform strategic interventions that can enhance the quality of education in Afghanistan.*

Key Words: *Brain Drain, Academic Brain Drain, Higher Education Institutions, Positive Impact, Negative Impact.*

I. INTRODUCTION

For the development of any country, it is crucial to have a robust higher education system, national development strategy, related policies, and a strong research tradition. Over the past nearly five decades, esteemed public universities have experienced a significant fluctuation in their quality development process, largely due to the substantial brain drain resulting from the continues war and conflict, socio-political and socio-economic instability in the country. This phenomenon has resulted in a deterioration of the education quality and an alarming academic environment.

Outflow of human capital or in other words brain drain, is one of the most important obstacles to the development of developing and less developed countries. The migration of human capital and inverse immigration depends a lot on the policies adopted in the countries of origin (Ebrahimi et al., 2022). People generally migrate to other countries with the aim of accessing high standard of living, they also tend to provide better opportunities for their children to live, in addition to making full use of their skills and talents, invest to achieve stable future for themselves and their families (Rostovskaya et al., 2020).

Afghanistan is among the nations that have generated a significant amount of global migration (Dashti, 2022). Afghan society has been noted to be impacted by a "culture of migration," with migration now constituting a significant portion of the nation's historical character (Monsutti, 2008). Afghanistan's history reveals a complex and ever-changing scenario, characterized by waves of migration involving both outward and inward movement (Avis, 2021). According to the UNHCR, there are more than 6 million Afghans have left their country due to conflict, violence and poverty (UNHCR, 2023). These migratory patterns are closely linked to significant events such as the Soviet-Afghan War (1979–1989), Afghan Civil War (1989–1996), the Taliban rule (1996–2001), the US and NATO War in Afghanistan (2001–2021), and the recent resurgence of

the Taliban rule (Aug, 2021-till now). Roughly 76% of Afghans are thought to have experienced some kind of displacement. Among them, 41% experienced internal displacement within Afghanistan, while 42% faced external displacement beyond its borders. Furthermore, 17% have experienced both situations of displacement (Jackson, 2009). A huge number of human capital consist of university lecturers and academicians, researchers, engineers, physicians, and other experts from different sectors have also left the country in the past almost half a century, which is known as **brain drain**, and has extremely affected the development of this country in several sectors including higher education during this period of time.

In the 1950s, the phrase "brain drain" became popular to refer to all of the initiatives, programs, and endeavors made to entice scientists to relocate to a certain nation. Then, it discussed the immigration of scientists to the United States of America from nations like Germany, Canada, the United Kingdom (UK), and the former Soviet Union (Ukrayinchuk & Chojnicki, 2020). The definition of brain drain is: educated, skilled people leave their home country to immigrate to a more economically developed one (Gesing, 2017). It is a common phenomenon in the global migration of elites that these skilled elites stay and work in the host country for various reasons such as the level of prosperity, research facilities, security, secure future, ecosystem stability, hope for the progress of children, and so on (Lanati & Thiele, 2020). Today, it is used with reference to the flight of human capital that generally refers to migration of highly skilled professionals, specialists, intellectuals, academicians, and elites mostly from developing countries to developed ones. Considering this definition of brain drain, Rostovskaya et al., stated that developing countries are more likely to donate their elites to the richest countries in the world, so it seems that due to the lack of material and financial capital, these countries pay the cost of elite education for the rich societies of the world. Finally, the elites and the educated will leave their country without being effective in the development and welfare of their societies, and as a result, as a desirable human capital, they will help in the development and prosperity of more rich countries (Rostovskaya et al., 2020).

In the dominion of higher education, the term "Brain Drain" refers to the departure of exceptional and talented individuals and academicians, such as professors and other teaching staff, researchers, scholars, and students, from their native lands to other nations for various reasons and due to several factors, which is literally known as academic brain drain. According to (Jawaria, 2021) academic brain drain can additionally endanger the very foundations of a country's higher education and research sector in the era of knowledge-based economy.

In some developing and less developed countries of the world the phenomenon of brain drain is much more acute than in other regions. The reasons for the inadequate structure in these countries have caused them to lose their human capital more and more every year, and as a result, the process of development and prosperity in these countries continues to be slow and backward (Khosravi Ahmad Ali et al., 2020). Afghanistan is among the least developed countries (UNCTAD, 2021), this country has been a low-income country throughout the past century (Foad et al., 2015), and a country struggling with war and internal conflicts since half a century. The social infrastructure of this nation was severely damaged by the decades of conflict (Frost et al., 2016).

With its insights unique to the Afghan situation, this study adds to the larger conversation on the implications. By addressing the research objectives and hypotheses, it seeks to all the relevant parties and stakeholders on the acute concern of brain drain phenomenon in the HEIs. Furthermore, this study offers suitable suggestion how to overcome the issue in these institutions.

II. REVIEW OF LITERATURE

(Jawaria, 2021) has studied the academic brain drain in Europe. This study is a qualitative approach by synthesizing qualitative literature spanning two decades (2000-2020) to provide a novel perspective on the root causes of academic brain drain in Europe. The study finds five key factors as major contributors to the outflow of human capital, including; (1) the allure of higher salaries outside of Europe, (2) the prevalence of short-term fixed contracts for early career researchers, (3) unfair recruitment procedures, (4) attractive migration policies abroad, and (5) the indirect influence of internationalization policies that promote permanent mobility. The study argues that academic brain drain has become a significant challenge, particularly for Europe, which is facing the additional issue of an aging population. The paper emphasizes the attention of European countries towards understanding the key factors that contribute to the occurrence of academic brain drain within Europe.

(Lanko, 2021) researched the academic brain drain in Russia. This review study states that the majority of the academic community in Russia views the migration of skilled and talented individuals, commonly referred to as "brain drain," as a concern for the nation but a good option for individuals. However, some Russian educators consider it a problem, even a matter of national security. On the other hand, some articles

do not see brain drain as a problem. They recognize that many educated individuals leave Russia, but they also believe that those who leave maintain ties with those who stay, which contributes to academic cooperation between Russian and foreign universities. The researcher then asserts that Russian educators have suggested various measures to mitigate brain drain, including (1) stronger protecting intellectual property rights, (2) partially privatizing higher education, and (3) increasing internationalization.

(Helal, 2020) inquires to identify international efforts to limit the negative effects of academic brain drain, as well as to examine the factors and consequences of academic brain drain among faculty members at various universities in Egypt. The study utilized a descriptive approach with both analytical and survey components and collected data using a questionnaire from a stratified random sample of 261 faculty members from 24 Egyptian universities, particularly those with experience in immigration, travel, and residence abroad. The study identified several negative and positive consequences associated with academic brain drain such as (1) decrease in the morale of remaining academic staff, (2) limited expertise, (3) decline in the rate of publications, and (4) decay in quality of education.

(Torrise & Pernagallo, 2020) have conducted a study to examine whether the likelihood of migration in the academic sector can be influenced by working in a favorable organizational environment, characterized by job satisfaction. This study finds out that researchers who remain in Italy tend to adapt to the existing system and express negative perceptions of job satisfaction, a lower quality of life, and demonstrate a tendency to migrate abroad. The research findings offer a valuable suggestion for policymakers: to effectively address the emigration of valuable human workforce, it is crucial to enhance the well-being of universities in terms of organization and relationships. On one hand, Italian policymakers should implement policies that bolster funding for universities and research, thereby revitalizing the academic system. On the other hand, Italian researchers themselves should recognize their role as valuable assets for Italy and contribute to the country's advancement.

(Anokye et al., 2019) have studied the academic brain drain in Nigeria. This study argues that throughout the history of higher education, academic staff members has played a crucial role in driving its development through teaching, learning, research, and community engagement. However, in recent decades, higher institutions have faced criticism for failing to provide students with the necessary resources to compete effectively in the international market. This undesirable situation can be attributed to the mismanagement of academic staff and correspondingly the flight of academic staff which can hinder the development of their home country and universities as a whole. The movement of academic staff members in tertiary institutions has a negative impact on the institutions themselves, as well as on the students, as there may be no immediate replacements to fill the resulting void. This can adversely affect academic performance and expertise. If prompt and effective measures for staff retention are not prioritized, academic staff members will continue to leave the system in search of better working conditions, potentially in overseas countries. This paper suggests that university administrators and managers must make every effort to retain academic staff members, as their departure would ultimately hinder the growth and development of the university, consequently affecting future generations who will be the future leaders of the country.

(Muthanna & Sang, 2018) have investigated the issue of brain drain in Yemen's higher education sector. According to this study, brain drain poses a crucial challenge in Yemen. This phenomenon significantly affects the quality of higher education institutions when a considerable number of educators and instructors relocate to other countries. The study found that there is a shortage of teachers in all programs and it continues to be a significant issue in their higher education programs which negatively impacts the quality of higher education in the country. The research identified four key factors that contribute to brain drain including; (1) ineffective implementation of sabbatical leave regulations, (2) returning teachers' salaries not being equalized with those of their colleagues, (3) lack of resources to support research, and (4) the presence of internal and external conflicts. The study suggests that brain drain weakens the quality of higher education in Yemen and proposes several solutions. To address this issue, the policymakers and university administrators should work together to address the issue. This study states that it's essential for policymakers, administrators, and teachers to recognize that the development of a nation relies heavily on critical and applicable scientific research. Lastly, retaining educated elites has a significant impact on a nation's macro-economic development.

(Odhiambo, 2013) researched on the phenomenon of brain drain and its implication in public higher education institutions of Kenya. According to this paper, the relationship between brain drain in Kenya and the quality of higher education is highly intricate. It is a complex two-way issue, as the quality of higher education both causes and is a result of brain drain. The departure of qualified higher education scholars from Kenya has resulted in a shortage of qualified staff, increased workloads for the remaining staff, and a decline in research

and publication activities. Political factors, the decline of intellectualism in higher education, unfavorable working conditions and low salaries, lack of modern teaching and research facilities, and limited opportunities for development and capacity building are identified as main factors of academic brain drain. This paper suggests that institutions should continue to explore strategies for effectively utilizing the skills and experience of emigrant academics, while also minimizing their outflow.

This paper seeks to close the **gap** that exist in the literature by focusing on other nations rather than Afghanistan in all studies on brain drain and its impact on higher education. The **novelty** of this paper is that it evaluates the impacts of brain drain at these institutions, both positive and negative, and the data is gathered from the academicians of HEIs, using a structured questionnaire.

III. RESEARCH OBJECTIVES

Brain drain has its both positive and negative impacts on HEIs of Afghanistan. In this study, the aim is to quantify the prevalence of brain drain, shedding light on its magnitude within Government Higher Education Institutions. Moreover, to uncovers and acknowledges the potential benefits that may be associated with brain drain or maybe the adverse effect of brain drain on the quality and functionality of HEIs. Finally, to offer suitable recommendations aimed at mitigating the challenges posed by brain drain. The main objectives of the study are as follow:

1. To assess the rate of brain drain in HEIs of Afghanistan
2. To identify the impact of brain drain on HEIs of Afghanistan.
3. To suggest appropriate solution on how to prevail the issue.

IV. RESEARCH QUESTIONS

To assess the impact of brain drain on HEIs of Afghanistan, the following questions are framed:

1. What is the extent of brain drain in HEIs of Afghanistan?
2. To what extent are the HEIs of Afghanistan impacted by brain drain?

V. RESEARCH HYPOTHESES

With the intent of evaluating the impact of brain drain on HEIs in Afghanistan, the following hypotheses have been formulated.

1. H_01 : There is no significant association between the rate of brain drain and the impacts of brain drain on HEIs of Afghanistan.
2. H_02 : There is no significant association between positive and negative impacts of brain drain in HEIs of Afghanistan.

VI. RESEARCH METHODOLOGY

This research aims to explore the impacts of brain drain on HEIs of Afghanistan. Therefore, a combination of descriptive and explorative study is chosen for this study. Both primary and secondary data are utilized in this research. Primary data is gathered through a structured questionnaire from 175 respondents (faculty members of HEIs) using convenient sampling methods. The questionnaire comprises 19 questions divided into three parts: one question on the rate of brain drain, nine questions regarding the positive impacts of brain drain, and nine questions about the negative impacts of brain drain. The questionnaire is formulated based on the review of pertinent literature. Secondary data are evaluated from existing research articles.

VI.1. Research Tools

SPSS 23 is employed for processing and analyzing data. Cronbach's Alpha test is utilized to assess the reliability of the questionnaire, while the KMO test is applied to evaluate the adequacy and suitability of the sample for factor analysis. Factor analysis, including communality tests and extraction methods, is employed to assess the reliability of the questions. Descriptive statistics and content analysis are utilized to achieve the set goals. Additionally, the study's hypotheses are tested using Chi-square and Spearman's correlation tests.

VII. FINDINGS AND RESULTS

To test the reliability of the questionnaire and internal consistency among different items, Cronbach's Alpha test is utilized. Moreover, to test the adequacy of sample for factor analysis the KMO test is applied, and Bartlett's test is employed to test the correlation between the variables under study.

Table 1: Cronbach's Alpha Reliability Test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.901	.906	19

The Cronbach's Alpha values provided (both the original and standardized) are relatively high (above 0.9), indicating a strong internal consistency among the 19 items in the survey.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.815
Bartlett's Test of Sphericity	Approx. Chi-Square
	df
	Sig.
	2933.067
	171
	.000

The KMO (Kaiser-Meyer-Olkin) value is 0.815, which indicates that the sample is adequate and suitable for factor analysis. Moreover, the Bartlett's Test of Sphericity yielded a chi-square value of 2933.067 with 171 degrees of freedom, and a significance level (p-value) less than 0.05 (Sig. = .000), which indicates that there are significant correlations between the variables. The result of this test supports the suitability of this data for factor analysis.

VII.1. Demographic Data

Demographic data represents information about the gender, age, educational qualification, academic rank, and academic experience of the respondents in the first table, and the second table illustrates the number of respondents represent different HEIs of Afghanistan.

Table 3: Demographic Data

		Count	Column N %
Gender	Male	145	82.9%
	Female	30	17.1%
Age	21 to 30	11	6.3%
	31 to 40	89	50.9%
	41 to 50	59	33.7%
	51 to 60	14	8.0%
	Above 60	2	1.1%
Education Qualification	Master (Equivalent)	69	39.4%
	Ph.D. or Ph.D. Scholar	97	55.4%
	Post Ph.D.	9	5.1%
Academic Rank	Junior Lecturer	22	12.6%
	Senior Lecturer	63	36.0%
	Assistant Professor	52	29.7%
	Associate Professor	27	15.4%
	Professor	11	6.3%
Academic Experience	1 to 5	8	4.6%
	6 to 10	43	24.6%
	11 to 20	79	45.1%
	21 to 30	36	20.6%
	31 to 40	9	5.1%

Table 1 provides demographic data for a group of individuals based on different categories such as gender, age, education qualification, academic rank, and academic experience. In this survey, male group constitutes around 83% of the total respondents. The largest age group falls within the range of 31 to 40, making up 50.9% of the total, followed by the range of 41 to 50 with 33.7%. More than half of the individuals have a Ph.D. or are Ph.D. scholars (55.4%), whereas individual with a Master degree makes 39.4% of the total respondents and Post. Ph.D. holders are around 5%. The largest academic rank is Senior Lecturer, making up 36.0% of the total, followed by Assistant Professor (29.7%), Associate Professor (15.4%), and Junior Lecturer (12.6%), however Professor have the least proportion with 6.3%. The majority of individuals have an academic experience ranging from 11 to 20 years, making up 45% of the total.

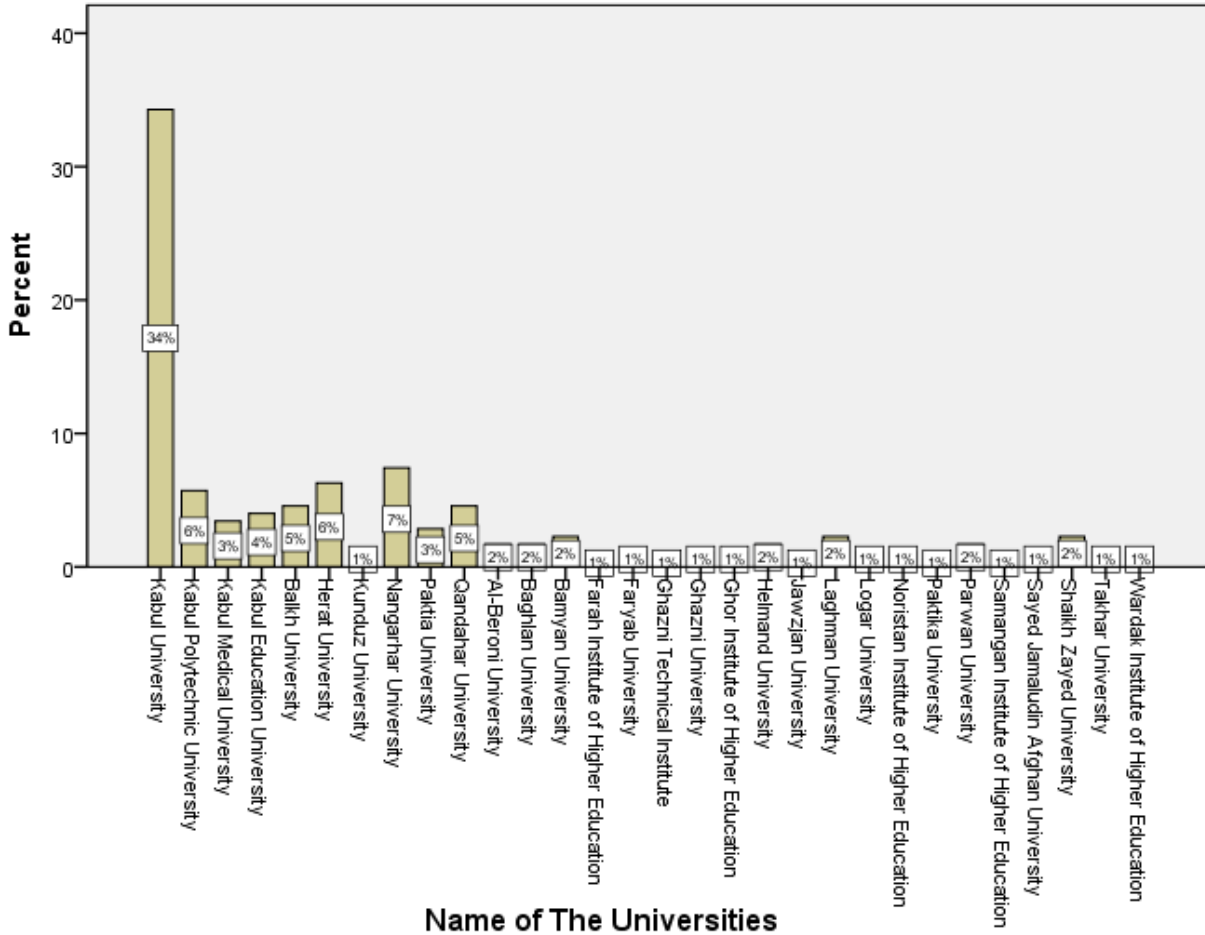


Figure 1: Distribution of Respondents from Different Universities

Figure 1 appears to represent the distribution of respondents based on the universities they are affiliated with. Kabul University is the most represented institution, with a significant percentage of respondents with 34% proportion in the survey. The six universities (including Kabul University, Kabul Polytechnic University, Nangarhar University, Herat University, Qandahar University, and Balkh University) make up around two third (63%) of the respondents. There is considerable diversity in the distribution, with a variety of universities being represented.

VII.2. Descriptive Analysis

To achieve the set objectives and find answer to the research questions, descriptive statistics is used.

Table 4: Rate of Brain Drain in Higher Education Institutions of Afghanistan

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very low	5	2.9	2.9	2.9
Low	18	10.3	10.3	13.1
Moderate	51	29.1	29.1	42.3
High	51	29.1	29.1	71.4
Very High	50	28.6	28.6	100.0
Total	175	100.0	100.0	

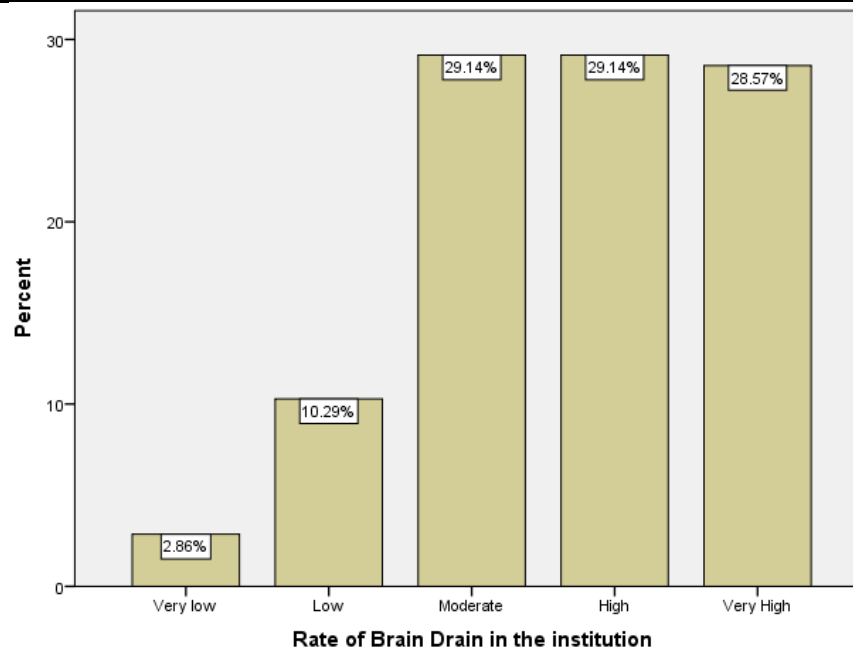


Figure 2: Rate of Brain Drain in Higher Education Institutions of Afghanistan

Table 4 and Figure 2 provide valuable insights into the perceived rate of brain drain. However, the data does not necessarily reflect the views of all academicians in Afghanistan's HEIs, 87% of respondents believe that the country's higher education faces a significant challenge due to the moderate, high, or very high incidence of brain drain.

Table 5: Positive Impacts of Brain Drain

Positive Impacts	SA		A		Neutral		DA		SDA	
	Count	%	Count	%	Count	%	Count	%	Count	%
1-Opened vacancies for talents	0	0.0	21	12.0	11	6.3	37	21.1	106	60.6
2-There is no shortage of lecturers	0	0.0	22	12.6	18	10.3	76	43.4	59	33.7
3-New lecturers are professional in research	0	0.0	14	8.0	18	10.3	52	29.7	91	52.0
4-New lecturers are expert in the subject area	3	1.7	20	11.4	15	8.6	48	27.4	89	50.9
5-Quality of H.E & research is improved	3	1.7	11	6.3	27	15.4	45	25.7	89	50.9
6-New lecturers are innovative	3	1.7	20	11.4	28	16.0	72	41.1	52	29.7
7-Those who left supporting their faculties	12	6.9	25	14.3	22	12.6	73	41.7	43	24.6
8-Transfer of knowledge & technology	21	12.0	7	4.0	9	5.1	64	36.6	74	42.3
9-Enhanced teaching	13	7.4	10	5.7	33	18.9	42	24.0	77	44.0

Table 5 presents the positive impacts of brain drain on various aspects, categorized by different levels of agreement. The majorities of the respondents (81.7%) either disagree or strongly disagree with the notion that brain drain opens vacancies for talents who can contribute to the development of higher education. Around 73% do not agree with the statement that there is no shortage of lecturers in the employment process and 81.7% disagree with the statement that brain drain leads to the hiring of lecturers who are professional and experienced in research. Moreover, 78.3% believe that brain drain has not resulted in the employment of subject-area experts. There is a general trend of disagreement that brain drain leads to improvements in the quality of higher education and research, 76.6% of the respondents of this survey also agreed with this trend. There is some agreement that brain drain results in the hiring of innovative lecturers who propose new ideas for improvement of higher education, but a significant portion (70.8%) have the opposite opinion. Responses vary regarding the academicians who left the country, but a considerable percentage disagree with the statement that brain drain from the institutions leads to support from those who left. There is a mixed response regarding the last two

questions, but a substantial portion doesn't agree with the notion that brain drain result in the transfer of knowledge and technology, or enhances teaching.

Table 6: Negative Impacts of Brain Drain

Negative Impacts	SDA		DA		Neutral		A		SA	
	Count	%	Count	%	Count	%	Count	%	Count	%
1-Brain Drain is a significant problem	5	2.9	8	4.6	8	4.6	51	29.1	103	58.9
2-Loss of intellectual capital	2	1.1	9	5.1	10	5.7	56	32.0	98	56.0
3-Decrease in quality of education & research	3	1.7	4	2.3	7	4.0	77	44.0	84	48.0
4-Absence of experts in some disciplines	7	4.0	3	1.7	7	4.0	74	42.3	84	48.0
5-Limitation in specialized programs	4	2.3	10	5.7	20	11.4	83	47.4	58	33.1
6-Decrease in morale of faculties & staff	6	3.4	21	12.0	27	15.4	53	30.3	68	38.9
7-Decline in research & development	0	0.0	14	8.0	35	20.0	68	38.9	58	33.1
8-Discouraged young talents to pursue HE	2	1.1	10	5.7	14	8.0	72	41.1	77	44.0
9-Limited partnership with foreign units	4	2.3	3	1.7	55	31.4	56	32.0	57	32.6

Table 6 summarizes the results related to various aspects of the negative impacts of brain drain in government universities. An immense proportion of the respondents (88%) agreed that brain drain is a significant problem in government universities. The same percentages of respondents believe that there is a loss of intellectual capital as a negative issue in these institutions. The percentage of respondents who agree that brain drain has negatively resulted in the quality of higher education and research is even higher around 92%. Whereas, 90.3% of the academicians believes that brain drain has resulted in the absence of experts in some disciplines. The number of respondents who believe that the limitation of special programs is the impact of brain drain is 141 (80.5%) of the total survey. Decrease in the morale of faculties and staff is another concern and 69.1% of the respondents agree that brain drain has an impact on this issue. However, 72% believe that there has been a decline in research and development due to this phenomenon. Moreover, 85.1% of the respondents consider this issue to discourage young talents from pursuing higher education in Afghanistan. As a final question of this part, 64.6% of the respondents agreed that brain drain resulted in limited partnerships between Afghan universities and foreign universities.

VII.3. Hypotheses Test

To test the hypotheses of the study, Chi Square test is applied to test the association between variable of the study (rate of brain drain, positive impacts, and negative impacts) and Spearman's Correlation test is executed to test the association between positive impacts and negative impacts.

Table 7: Chi Square Test

	Rate of Brain Drain in the institution	Negative Impacts	Positive Impacts
Chi-Square	55.029 ^a	202.000 ^a	192.857 ^a
Df	4	4	4
Asymp. Sig.	.000	.000	.000

The hypothesis being tested is that there is no significant association between these variables. In all three cases (rate of brain drian, negative impacts, and positive impacts), the chi-square values are considerably large, indicating a significant association between the rate of brain drain and the impacts. The p-values are close to zero, suggesting strong evidence against the null hypothesis of no significant association. Hence, we can **reject the null hypothesis** "There is no significant association between the rate of brain drain and the impacts of brain drain in HEIs of Afghanistan".

Table 8: Spearman's Correlation Test

Spearman's Correlation			Negative Impacts	Positive Impacts
Spearman's rho	Negative Impacts	Correlation Coefficient	1.000	-.389**
		Sig. (2-tailed)	.	.000
		N	175	175
	Positive impacts	Correlation Coefficient	-.389**	1.000
		Sig. (2-tailed)	.000	.
		N	175	175

** . Correlation is significant at the 0.01 level (2-tailed).

The Spearman's rho correlation coefficient (-0.389**) suggests a moderate inverse association between these variables. The significance level is 0.01, indicating that this correlation is statistically significant. Hence, we can **reject the null hypothesis** "There is no significant association between positive and negative impacts of brain drain in HEIs of Afghanistan".

VIII. DISCUSSION

The findings and results of the study provide a comprehensive overview of the perceived impacts of brain drain on HEIs. The objectives of the study are achieved through descriptive study, and the data represented in tables and charts, sheds light on the extent of brain drain, its positive and negative consequences.

The research objectives, outlined as assessing the rate of brain drain as well as the impact of brain drain in HEIs, and suggesting apposite solutions, align with the urgency and complexity of the issue. The findings of the study provide a foundation for addressing these objectives, offering insights into the challenges faced by HEIs in Afghanistan due to brain drain.

The findings in table 4 highlights that a significant proportion of respondents indicate a prevailing concern about brain drain in Afghanistan's higher education institutions. The high percentage (87%) of academicians who believe that the country's higher education faces a significant challenge due to brain drain, emphasizes the severity of the issue. The loss of academic elites is destructive in the long term as stated by (Seidl et al., 2016) in a study on academic brain drain "brain drain can be destructive for academia in the long run".

The positive impacts of brain drain, as presented in Table 5, seem to be largely contested by the respondents. A notable majority disagrees with the notion that brain drain opens vacancies for talents who can contribute to the development of higher education. Additionally, skepticism is expressed regarding the efficient employment occurrence, hiring of professional and experienced lecturers, and the employment of subject-area experts resulting from brain drain. However, there is some acknowledgment that brain drain may lead to the hiring of innovative lecturers proposing new ideas, albeit with a substantial portion holding a contrary opinion.

The negative impacts, as summarized in Table 6, are overwhelmingly acknowledged by the respondents. A huge number of academicians agree that brain drain is a significant problem in Government Higher Education Institutions. This sentiment is mirrored in the belief that there is a loss of intellectual capital and a negative impact on the quality of higher education and research. The absence of experts in certain disciplines is another major concern. The impact on special programs, morale of faculties and staff, research and development, and discouragement of young talents from pursuing higher education also highlight the multifaceted negative consequences of brain drain.

In addressing the third objective, potential solutions may involve a multi-faceted approach. Initiatives to retain and attract talent, such as creating a conducive academic environment, improving working conditions, and offering competitive incentives, could help mitigate brain drain. Moreover, implementation of policies that facilitates temporary or permanent returning of academicians "Reverse Brain Drain", or collaboration of academic diaspora with institutions in Afghanistan "network approach", "brain circulation", and "diaspora knowledge transfer". However, (Witteborn, 2019) urges that if policies aim to maximize the number of returning educated personalities, they should rely on incentives rather than strict command-and-control measures. Additionally, fostering collaborations with foreign universities, implementing mentorship programs, and providing opportunities for professional development may contribute to retaining skilled academicians.

To address the hypotheses of the study, based on the chi-square test results, we can conclude that there is a significant association between the rate of brain drain and the impacts of brain drain in universities, rejecting the first null hypothesis. Furthermore, the spearman's correlation result suggests a moderate negative correlation between the positive impacts of brain drain and negative impacts of brain drain with a significant level of (0.01) which rejects the second null hypothesis of the study too. The negative correlation suggests that as the negative impacts of brain drain increase, the positive impacts overt tend to decrease, and vice versa. In other words, there seems to be an association between higher levels of negative impacts and lower levels of positive impacts overt in the context of brain drain in HEIs of Afghanistan.

IX. CONCLUSION

In conclusion, the study's findings underscore the urgency of addressing brain drain in Afghanistan's HEIs. Overall, the majority of respondents believe that the rate of brain drain is high and seem skeptical about the positive impacts of brain drain on various aspects of education and research. Regarding negative impact, the analysis reflects a range of concerns related to negative impact of brain drain in the institutions, loss of intellectual capital, absence of experts in some disciplines, limitations in specialized programs, and decline in the quality of higher education and research being highlighted as significant issues. The responses also indicate varying degrees of agreement on other aspects affecting higher education, research, and collaboration with foreign universities. The negative impacts are pervasive, necessitating immediate attention and strategic interventions. Moreover, the spearman's correlation and chi-square tests suggest the rejection of null hypotheses and indicate significant associations between variables under the study. The suggested solutions should be tailored to the unique challenges faced by the institutions, taking into consideration the perspectives and concerns expressed by the academicians in the survey.

This study doesn't demonstrate the opinion of all academicians in higher education of Afghanistan, and this counted as a **limitation** of this study.

X. SUGGESTIONS

Based on the discussion presented, here are some suggestions:

1. *Policy Interventions for Talent Retention*: Emphasize the need for policymakers to implement strategies that address the concerns of academicians and mitigate brain drain. Recommend the development and implementation of policies that focus on retaining and attracting talent. This could include creating a conducive academic environment, improving working conditions, and offering competitive incentives to educators.
2. *International Collaborations and Networking*: Suggest the importance of fostering collaborations with foreign universities as a means to counteract brain drain. Highlight the potential benefits of international partnerships in creating opportunities for knowledge exchange, joint research initiatives, and enhancing the overall academic environment.
3. *Mentorship Programs and Professional Development*: Advocate for the establishment of mentorship programs to support early-career academics and provide guidance to potential talents. Additionally, propose initiatives that facilitate continuous professional development, helping educators stay updated with current trends and advancements in their respective fields.
4. *Diaspora Network*: Afghanistan, with a substantial population of diaspora, has the potential to harness its expatriates and establish a mentor-sponsor framework within specific sectors, particularly in higher education. Considering the previous two suggestions, diaspora network can be right option to be opted. Embassies, consulates, governmental and non-governmental organizations, along with international institutions, have a significant role to play in engaging with and connecting with the Diaspora.
5. *Addressing Skepticism Regarding Positive Impacts*: Acknowledge and address the skepticism expressed by respondents regarding the positive impacts of brain drain. Consider discussing case studies or examples where brain drain has led to the hiring of innovative lecturers and positive contributions to higher education.
6. *Focus on Quality Improvement in Higher Education*: Highlight the urgency of addressing brain drain in the context of its negative impacts on the quality of higher education and research. Suggest specific measures for improving the overall quality of education, such as investing in research and development, addressing the absence of experts in certain disciplines, and fostering a positive academic culture.
7. *Public Awareness and Advocacy*: Recommend the need for public awareness campaigns to highlight the consequences of brain drain on the education sector. Encourage advocacy efforts to garner support for policies aimed at retaining and attracting skilled academicians.

8. *Long-term Strategic Planning*: Emphasize the importance of a long-term strategic approach in addressing brain drain. Propose that solutions should not only focus on immediate retention measures but also include sustained efforts to build a robust higher education ecosystem that attracts and retains talent over time.

By incorporating these recommendations, this research article aims to provide a comprehensive perspective on the challenges posed by brain drain in Afghanistan's HEIs and offer practical suggestions for mitigating its impact.

RECOMMENDATIONS FOR FURTHER RESEARCHES

Further investigation and measures may be needed to address and mitigate the factors contributing to brain drain. Moreover, understanding the reasons behind the perceived brain drain could help in formulating targeted strategies for retention and improvement.

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