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## Exploring the potential of brain drain on higher education relations between Türkiye and Uganda

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### Abstract

This study aims to identify the academic mobility trends between Türkiye and Uganda and to analyse the brain drain potential in this context. In the study, firstly, the international academic mobility dynamics of Uganda and Türkiye are examined; then the situation of academic mobility from Uganda to Türkiye is analysed. The potential of these factors in terms of brain drain is discussed.

**Keywords:** Academic mobility, brain drain, Türkiye-Uganda relations, internationalization of higher education

Uganda stands out as a country with a high vulnerability score in terms of brain drain (World Bank, 2024). Traditionally, brain drain from Uganda has been directed more towards developed English-speaking countries such as the USA and the UK, with Western countries being the main destinations (Hassan & Macha, 2020; Kizito et al., 2015). On the other hand, Türkiye, as a developing country, ranks lower among Uganda's brain drain destinations. However, Türkiye's African opening policies implemented since the 2000s and the scholarship programmes including Uganda in this context have increased academic mobility from Uganda to Türkiye. In this process, the contributions of non-governmental organisations and the personal preferences of Ugandan families and students also play an important role.

Türkiye is also considered as one of the fragile countries in terms of brain drain (Kahya, 2022; Sercan, 2002; World Bank, 2024). In this context, the study aims to provide a unique analysis of the brain drain dynamics between a less developed country and a developing country while revealing the brain drain potential of academic mobility between Türkiye and Uganda.

Within the scope of the research, firstly, the concepts of internationalisation, academic mobility and brain drain will be briefly explained and then the brain drain potential of academic mobility between Türkiye and Uganda will be analysed in the light of relevant statistics.

Türkiye has deepened its diplomatic and educational relations with Uganda since the beginning of the 21st century. In this context, Türkiye offers various scholarships to students from Uganda and every year 20-50 Ugandan

students come to Türkiye to study in Türkiye. Today, approximately 500 Ugandan students are studying in Türkiye and there are around 200 graduates.

However, studies on the academic relations between Türkiye and Uganda, especially the effects of this relationship in the context of brain drain, are limited. This study aims to make an important contribution to understanding the effects of the migration of qualified Ugandan academics and students to Türkiye on the higher education systems of both countries and their long-term cooperation.

### Internationalisation of Higher Education

Internationalisation in higher education is defined as the process of integrating an international, intercultural or global dimension into the aims, functions and delivery of higher education. This process includes activities and policies such as student and teaching staff mobility, international research collaborations and curriculum development with global dimensions. Internationalisation aims to ensure that universities respond to the process of globalisation and prepare students to work in an interconnected, multicultural world (Knight, 2007).

Internationalisation is usually undertaken to improve academic quality, enhance cultural understanding, attract international talent and increase the global competitiveness of higher education institutions. This process can be driven by academic, economic, political and social reasons and aims to create more inclusive, globalised learning environments and to strengthen international cooperation in solving global problems (Jibeen & Khan, 2015). On the other hand, it also carries a threat potential, especially for underdeveloped and

developing countries. Academic mobility in the context of internationalisation has the potential to increase the possibility of brain drain for disadvantaged countries (Ivic, 1991; Lanko, 2022; Rozhenkova, 2021).

### Academic Mobility

Academic mobility refers to the movement of students, academic staff and researchers between countries or institutions for educational or professional purposes. This process takes place in various ways, such as student exchange programmes, scholarship opportunities, international research projects and teaching staff exchanges. Students may go abroad for a semester or a full diploma programme, while academic staff may have the opportunity to teach or conduct research in different countries. Researchers benefit from international mobility to collaborate on projects, attend conferences or exchange scientific knowledge (Fahey & Kenway, 2010).

Academic mobility, as an important component of the internationalisation of higher education, provides multifaceted benefits for both individuals and institutions. Participants broaden their horizons and enrich their professional experiences through exposure to different cultures and educational systems. Institutions, on the other hand, improve academic quality, encourage innovative ideas and increase global competitiveness through international collaborations. This process allows knowledge and resources to be shared across borders and supports higher education institutions to become more inclusive and global (Fahey & Kenway, 2010).

### Brain Drain

Brain drain refers to the process of highly qualified individuals leaving their home country and settling in another country for better living conditions, higher salaries or career opportunities. This process usually involves specialised occupational groups such as scientists, doctors, engineers and academics (Dodani & LaPorte, 2005). Brain drain can lead to serious consequences, especially in developing or low-income countries, because these countries lose their intellectual capital, which is critical for economic development and social progress (Iravani, 2011).

Brain drain can have serious negative effects on the source country. The loss of talent, especially in fields such as science, technology and medicine, weakens the innovation capacity and education systems of these countries. Gaps in specialised fields limit the country's potential for human capital development, while dependence on external experts or international academic networks may increase. As a result, it becomes difficult for higher education institutions in developing countries to make sustainable progress and a 'vicious circle' may emerge (Iravani, 2011).

On the other hand, brain drain often has positive consequences for recipient countries. The contributions of skilled individuals support the economies, innovative capacities and social progress of these countries. However, in some cases, brain drain can turn into 'brain gain' or 'brain circulation'. In such cases, migrants either return to their home countries and share their expertise or continue the flow of knowledge and experience through international connections (Docquier, 2006). However, the non-return of students, especially those who have studied abroad, may lead to a permanent intellectual loss in the source countries (Iravani, 2011).

### Policies to Prevent Brain Drain

Policies and strategies are crucial to manage and stabilise brain drain. Some countries are capitalising on this potential by engaging their academic diasporas through virtual collaborations, short-term visits or joint research projects. For example, initiatives such as Türkiye's TÜBİTAK 2232 Repatriation Research Fellowship Programme and China's 'Thousand Talents Programme' aim to attract back qualified individuals who have studied abroad (Nacházellová, 2022). In addition, universities can develop various programmes to manage international mobility and encourage the return of students and academics who have gone abroad (Ziguras & Gribble, 2015). However, policies of destination countries, such as student visas and post-graduation work permits, can create additional challenges for source countries by making the return of talent difficult (Nacházellová, 2022). In this context, the development of effective governmental and institutional policies can enhance the positive outcomes of internationalisation while minimising its negative effects.

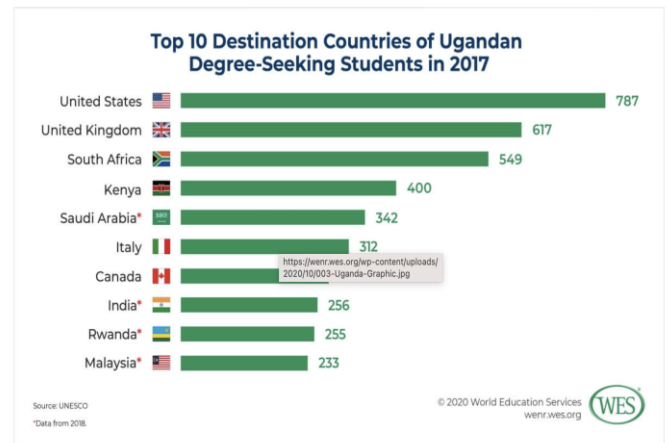
**Table 1.** Brain Drain and Fragile State Index Indicators of Uganda and Türkiye

| Criteria                         | Uganda | Türkiye |
|----------------------------------|--------|---------|
| Brain Drain Index                | 6.4    | 3.9     |
| Fragile State Index (out of 179) | 25th   | 62nd    |
| Fragile State Index Score        | 92.1   | 78.1    |

### The State of Brain Drain in Uganda

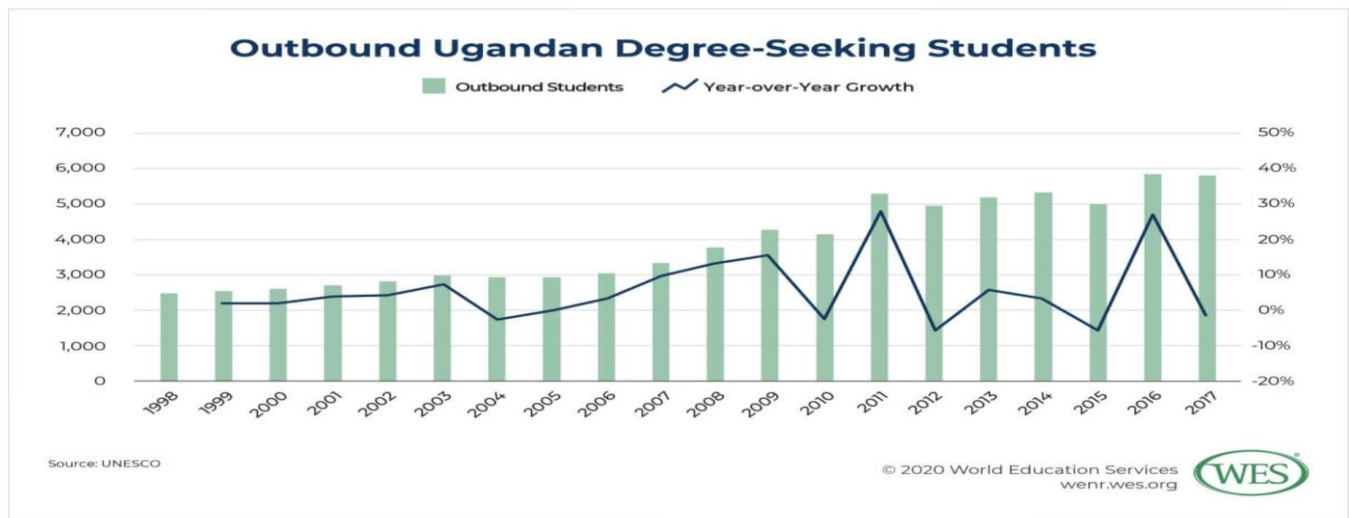
Brain drain in Uganda, especially in health and education, poses significant challenges as qualified professionals migrate abroad in search of better opportunities. About 40 per cent of doctors trained in Uganda migrate abroad, mainly to the UK, USA, Canada and South Africa (Hassan & Macha, 2020). This situation has a serious negative impact on the country's health system. The doctor-to-population ratio in Uganda is 1:25,000, which is well below the World Health Organisation's recommended ratio of 1:1,000. In addition, up to 60% of nurses trained in Uganda prefer to work abroad, leading to a serious shortage of personnel in health services

(Kizito et al., 2015). Makerere University has difficulties in retaining academic staff, especially in STEM (science, technology, engineering and maths) fields, due to migration abroad. An estimated 30% to 50% of Uganda's university graduates seek employment abroad, and much of this migration is to neighbouring countries or Western countries (Nabawanuka, 2011). This seriously affects Uganda's academic capacity and human capital (Kasper & Bajunirwe, 2012).



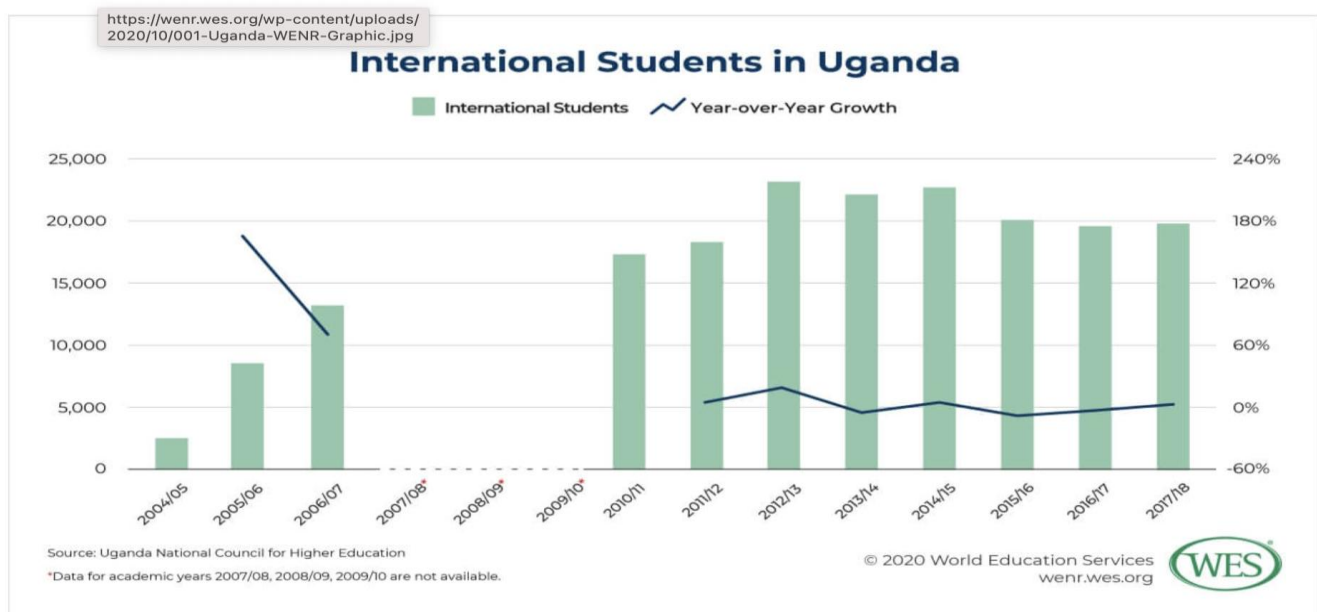
**Figure 1.** Main Destinations for Uganda Students

**Source:** Hassan, R., & Macha, W. (2020, October 8). Education in Uganda. World Education Services. Retrieved December 27, 2024, from <https://www.wes.org>



**Figure 2.** Number of Outbound Ugandan Students and Growth Rate

**Source:** Hassan, R., & Macha, W. (2020, October 8). Education in Uganda. World Education Services. Retrieved December 27, 2024, from <https://www.wes.org>



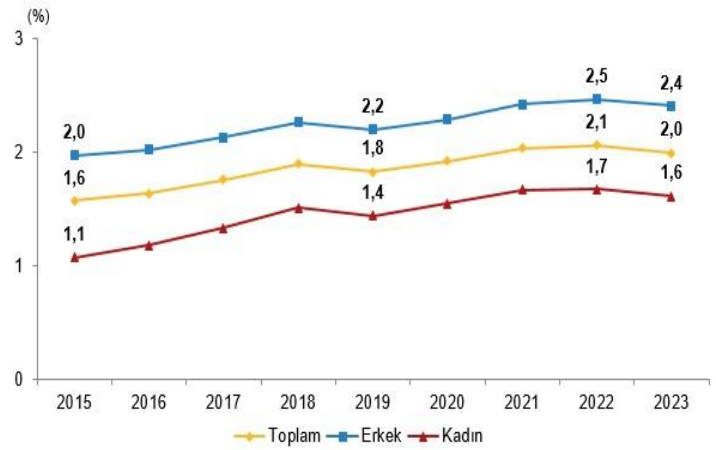
**Figure 3.** Number and Growth Rate of International Students in Uganda

**Source:** Hassan, R., & Macha, W. (2020, October 8). Education in Uganda. World Education Services. Retrieved December 27, 2024, from <https://www.wes.org>

### The State of Brain Drain in Türkiye

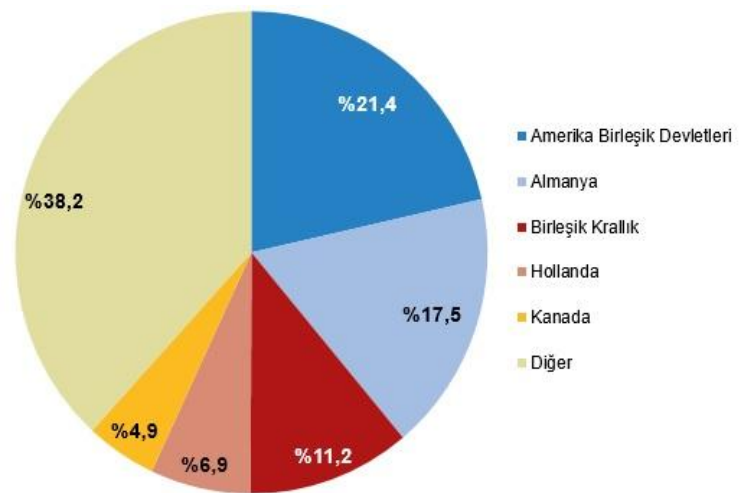
In recent years, the brain drain rate of higher education graduates has been increasing in Türkiye. The brain drain rate, which was 1.6% in 2015, increased to 2.0% as of 2023. This rate has increased particularly among male graduates and the brain drain rate for men was recorded as 2.4 per cent. The increase in brain drain rates follows a parallel trend as students graduating from Turkish universities begin to reside abroad for longer periods of time. This shows that the higher education field in Türkiye is undergoing a process of globalisation and graduates are looking for job and education opportunities abroad. The fields with the highest brain drain rates are technical fields such as information and communication technologies, engineering and natural sciences, while students graduating from these fields especially prefer the United States of America (TÜİK, 2024).

Higher education graduates in Türkiye migrate mostly to the United States of America. According to 2023 data, 21.4% of higher education graduates preferred the USA. This is followed by Germany, the United Kingdom, the Netherlands and Canada. Especially business administration graduates prefer the USA and Canada, while computer engineering graduates go to Germany, the United Kingdom and the Netherlands. This trend shows that in an environment where the education system in Türkiye is of high quality but limited in terms of economic and professional opportunities, graduates prefer to pursue a career abroad in search of wider opportunities. The brain drain of higher education graduates has significant implications for Türkiye's internationalisation policies in education, and academic and research collaborations with countries following this trend are expected to increase further (TÜİK, 2024).



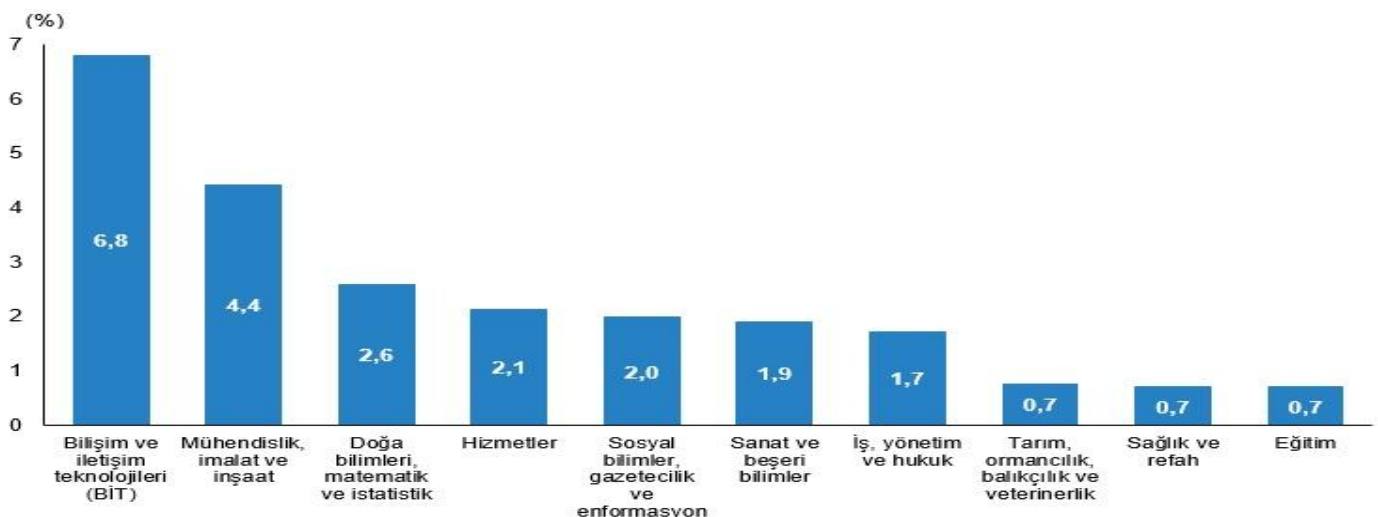
**Figure 4.** Brain Drain Rates of Türkiye over Years

**Source:** Turkish Statistical Institute [TÜİK]. (2024, September 26). Higher education brain drain statistics, 2021-2023 [Press release]. <https://www.tuik.gov.tr>



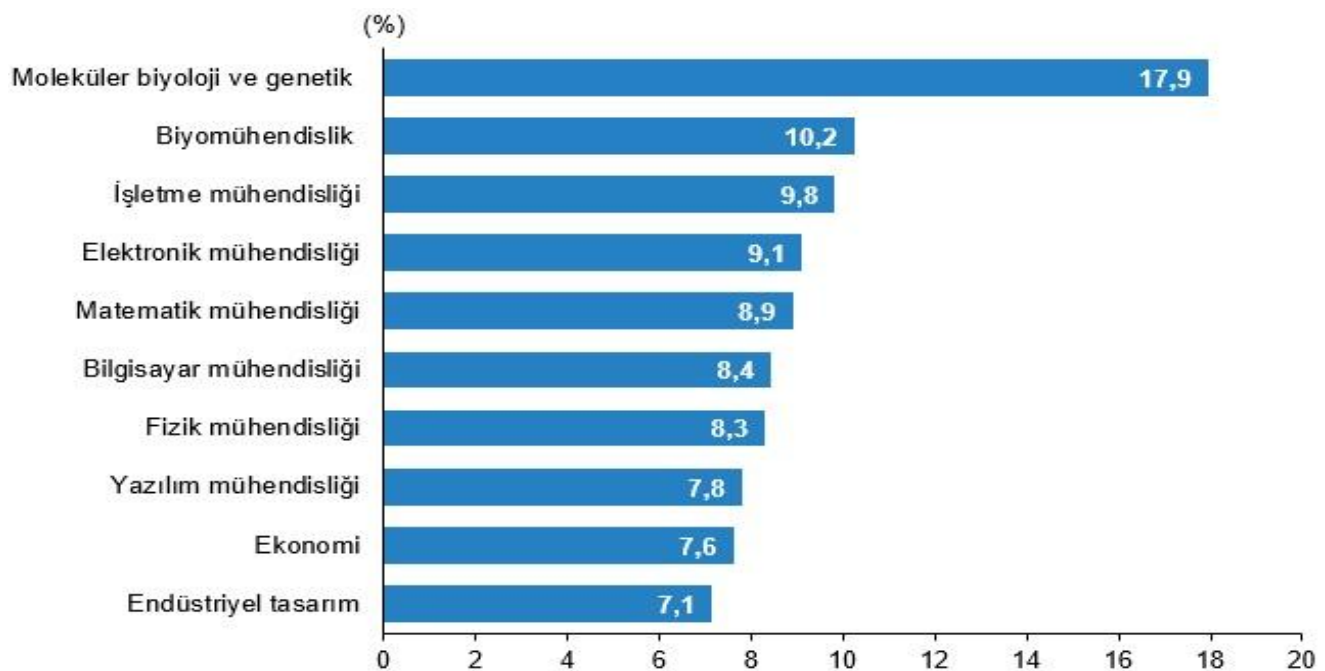
**Figure 5.** Main Destinations of Turkish Students and Skilled People

**Source:** Turkish Statistical Institute [TÜİK]. (2024, September 26). Higher education brain drain statistics, 2021-2023 [Press release]. <https://www.tuik.gov.tr>



**Figure 6.** Main Fields of Migrated Turkish Students and Skilled People

**Source:** Turkish Statistical Institute [TÜİK]. (2024, September 26). Higher education brain drain statistics, 2021-2023 [Press release]. <https://www.tuik.gov.tr>

**Figure 7.** Main STEM Fields of Migrated Turkish Students and Skilled People

**Source:** Turkish Statistical Institute [TÜİK]. (2024, September 26). Higher education brain drain statistics, 2021-2023 [Press release]. <https://www.tuik.gov.tr>

### Research Aim

The main purpose of this research is to determine the academic mobility, direction and trends between Uganda and Türkiye and to reveal the brain drain potential. In particular, it is aimed to examine the extent of academic mobility from Uganda to Türkiye at the undergraduate and graduate levels and to investigate how this mobility contributes to brain drain from Uganda to Türkiye. Furthermore, how Türkiye's scholarship programmes and other academic initiatives attract qualified Ugandan academics and students and the impact of this mobility on Uganda's higher education capacity will be evaluated.

### Method

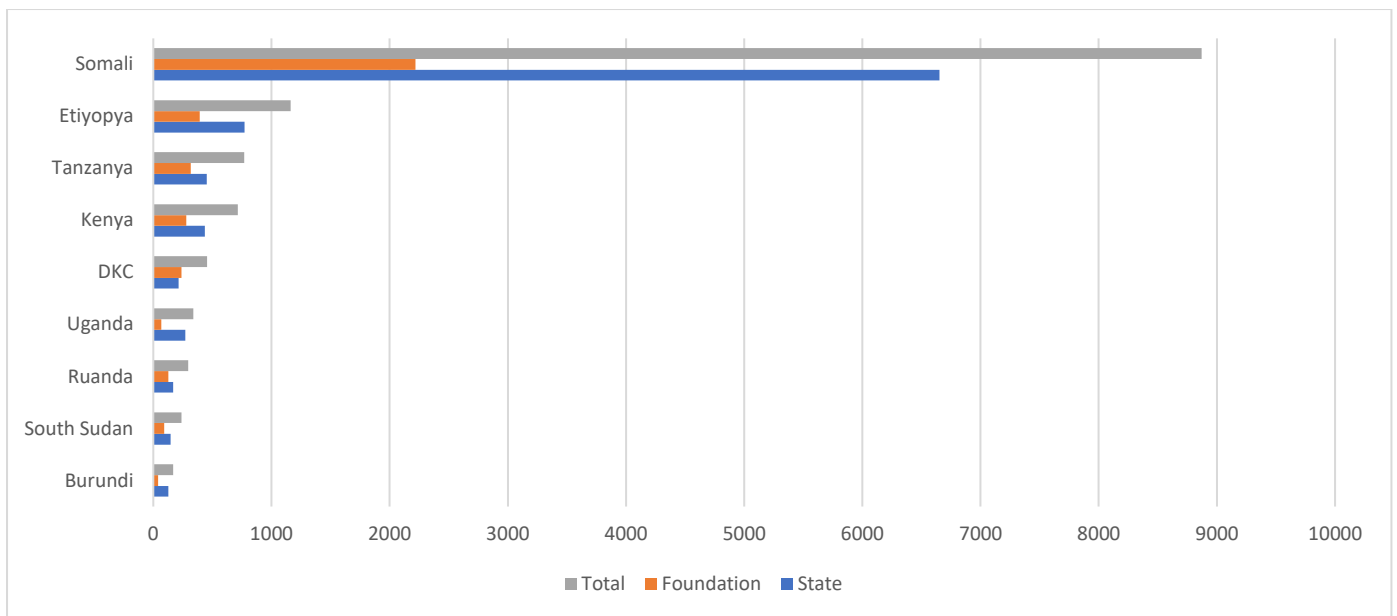
This research is a descriptive study based on a literature review and secondary data sources to examine the academic mobility and brain drain potential between Uganda and Türkiye. The study analysed various statistical data on students and graduates from Uganda to Türkiye.

The data collection process was carried out with secondary data obtained from various official and academic sources. The main data sources used in the research are Uganda National Statistical Data, higher education statistics provided by the Council of Higher Education (YÖK) in Türkiye and official data provided by the Presidency for Turks Abroad and Related Communities (YTB). In addition, the Ugandan Students Association and Ugandan Alumni Association in Türkiye were consulted to provide more in-depth information on students and alumni from Uganda in Türkiye.

The collected data were analysed through descriptive analysis. This analysis aimed to understand the number of students and academic staff migrating from Uganda to Türkiye, the potential for brain drain, and the impact of academic activities in Türkiye on Uganda's higher education capacity. Focusing on data, population statistics and educational mobility, a comprehensive assessment of the pattern and trends of academic mobility was made.

### Findings

The research findings are presented below in line with the research aim identified.



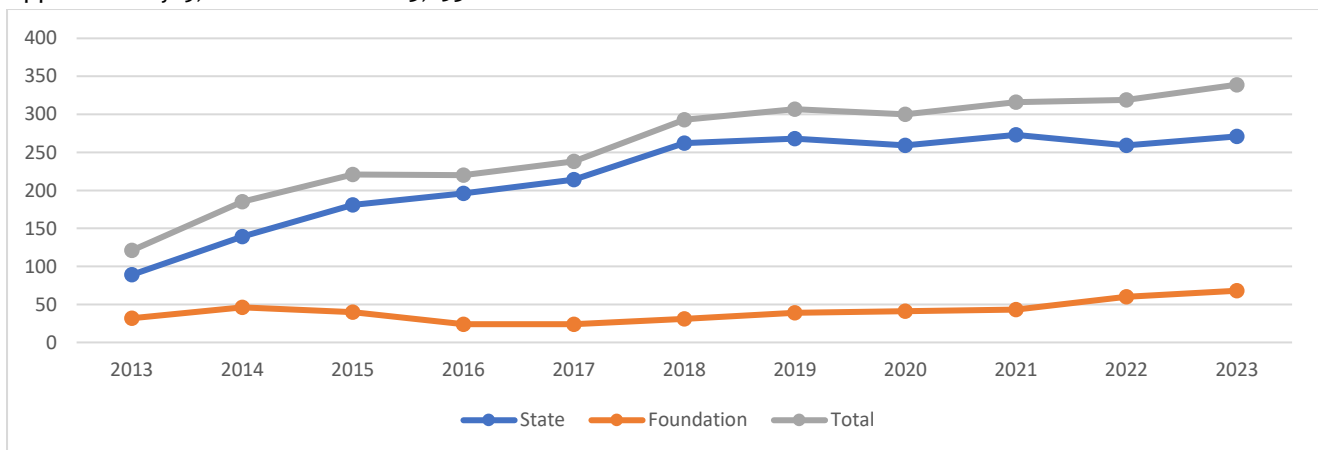
**Figure 8.** East African Active HE Students in Türkiye (Total 13253)

**Source:** Council of Higher Education [YÖK]. (2024). Higher Education Information Management System.

<https://istatistik.yok.gov.tr>

Following Türkiye's opening to Africa, there has been a significant flow of students from East African countries to Türkiye. Somalia is the country where this flow is the highest. Approximately 9,000 of the total 13,253 students from the

region come from Somalia. The number of students from Uganda is around 500. These students are mostly studying in public universities in Türkiye.



**Figure 9.** Active Ugandan HE Students in Türkiye

**Source:** Council of Higher Education [YÖK]. (2024). Higher Education Information Management System.

<https://istatistik.yok.gov.tr>

There has been a steady and significant increase in the number of students from Uganda over the years. While in 2013, the number of Ugandan students studying in Türkiye was approximately 100, by 2023, this number had reached almost 500.

**Table 2.** Distribution of Students Studying in Türkiye

| Capacity               | Number |
|------------------------|--------|
| Current Students       | 500    |
| Graduates              | 200    |
| Scholarship Recipients | 300    |

|                    |     |
|--------------------|-----|
| Returned to Uganda | 150 |
| Stayed in Türkiye  | 20  |

Source: Council of Higher Education [YÖK]. (2024). Higher Education Information Management System.

<https://istatistik.yok.gov.tr>

Of the approximately 500 Ugandan students studying in Türkiye, 300 are still actively continuing their education in higher education institutions. Approximately 300 of these students continue their education by receiving scholarships from the Turkish government. In addition, there are

approximately 200 students who graduated from Türkiye. Of these graduates, 150 returned to Uganda, and about 20 remained in Türkiye.

**Table 3.** Status of Ugandan Students in Türkiye

| Status                    | Number |
|---------------------------|--------|
| TR High School Graduate   | 31     |
| High School Students      | 38     |
| Higher Education Students | 142    |
| No Information            | 8      |
| Total                     | 188    |

According to the answers given to the questionnaire conducted within the scope of this research (N=188), 31 students are studying in secondary education institutions and 142 students are attending higher education. Among the students attending higher education, 38 of them completed their secondary education in Türkiye.

**Table 4.** Degrees of Ugandan Students in Türkiye

| Degree               | Number |
|----------------------|--------|
| High School Students | 44     |
| Undergraduate        | 104    |
| Master's             | 30     |
| PhD                  | 10     |
| Total                | 188    |

According to the data obtained in the same survey, Ugandan students in Türkiye receive education at secondary, undergraduate, graduate and doctoral levels. 44 of the students have secondary education, 104 have bachelor's degree, 30 have master's degree and 10 have doctorate.

**Table 5.** Departments of Ugandan Students in Türkiye

| Department     | Number |
|----------------|--------|
| STEM           | 38     |
| Social Studies | 48     |
| Education      | 4      |
| Theology       | 15     |
| Health         | 13     |
| Total          | 118    |

According to the data obtained in the same survey, the distribution of Ugandan students in academic fields varies. The majority study in the social sciences (N=48), but there are also significant numbers of students in STEM and health.

Compared to education, the number of students in theology is significantly higher. This is due to the fact that the majority of secondary school students in Türkiye study in imam hatip high schools.

### Conclusions and Discussion

In recent years, Türkiye has become an increasingly attractive destination for Ugandan students, particularly in the fields of undergraduate and graduate education. This trend indicates a growing recognition of Türkiye's higher education offerings, which are expanding in both variety and quality. Notably, a significant number of Ugandan students also come to Türkiye for high school education, reflecting Türkiye's wide-ranging educational opportunities. Türkiye's strong emphasis on offering diverse academic programs, competitive scholarships, and an appealing post-graduation job market has made it a favored destination for Ugandan students.

One of the key findings from this research is that Ugandan graduates who choose to stay in Türkiye after completing their studies often do so to take advantage of the country's post-graduation employment and living conditions. Around one-quarter of Ugandan graduates opt to remain in Türkiye, which indicates the availability of attractive career prospects in the country. This phenomenon highlights the growing concern over brain drain, as the migration of skilled talent from Uganda to Türkiye continues to rise. However, for those Ugandan graduates who return home, many are able to secure qualified positions, thanks to the education and skills acquired abroad. A portion of them even take up academic roles in Ugandan universities, contributing to the development of Uganda's higher education sector.

When comparing Uganda's brain drain with the talent retention strategies of Makerere University, a notable discrepancy emerges. While Uganda faces a significant outflow of skilled professionals, Makerere University is actively working to implement strategies aimed at retaining talent. These strategies focus on improving academic engagement, enhancing research opportunities, and fostering collaborations with international institutions. However, Makerere still faces challenges in retaining its academic staff, particularly in STEM fields, due to migration for better opportunities abroad. Despite these challenges, Ugandan universities are eager to form partnerships with Turkish institutions, emphasizing the potential for collaborative academic growth between the two countries. Uganda's ongoing efforts to attract and retain skilled students and staff reflect the need for comprehensive policies to counteract brain drain and foster sustainable academic development.

In summary, while Türkiye has emerged as a major destination for Ugandan students, there remains an imbalance in brain drain trends, with Uganda losing talent to

Türkiye. Makerere University's strategic goals of enhancing academic programs and research are commendable, but they will need to be further strengthened to effectively compete with global educational opportunities. This study suggests that closer academic collaborations between Uganda and Türkiye, paired with strategic talent retention efforts, could mitigate the negative impacts of brain drain and foster long-term academic cooperation.

### Limitations and Further Research

This research is based solely on data from official, administrative and international institutions. Moreover, a limited survey was conducted with students studying in Türkiye. Therefore, more data is required to further elaborate the academic mobility dynamics, trends and brain drain potential between Türkiye and Uganda. In future research, the depth of the brain drain potential and the rationales behind this mobility can be more clearly understood through qualitative data collection methods. Such data will shed light on the internationalisation policies of the two countries in education and contribute to strategic orientations.

Moreover, this study also provides important information in terms of academic mobility policies and strategies of higher education institutions. However, a more comprehensive collection and analysis of data would provide stronger conclusions on academic mobility and brain drain. Future research can provide concrete data for policy development processes in this field and strengthening international educational co-operation.

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