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Research

Higher education gender analysis: access to employability and entrepreneurship opportunities

Sub-Saharan Africa: Kenya

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Contents

Contents

Abbreviations

Afretec	African Engineering and Technology Network
AGEE	Accountability for Gender Equality in Education
ANIE	African Network for Internationalization of Education
DUC	Differentiated unit cost
FGD	Focus group discussion
GDP	Gross domestic product
GEM	Global Entrepreneurship Monitor
GoK	Government of Kenya
EE	Entrepreneurship education
HELB	Higher Education Loans Board
IAU	Innovation for African Universities
ICIPE	International Centre for Insect Physiology and Ecology
ICT	Information and communications technology
ILO	International Labour Organization
ILRI	International Livestock Research Institute
KEMRI	Kenya Medical Research Institute
KNEIL	Kenya Network of Entrepreneurial Institutions Leaders
NACOSTI	National Council for Science and Technology
NESSP	National Education Sector Strategic Plan
NRF	National Research Fund
OUK	Open University of Kenya
SH	Sexual harassment
STEM	Science, technology, engineering and mathematics
TVET	Technical and vocational education and training
UK	United Kingdom

List of tables and figures

Executive summary

This study examines gender inequality in Kenya's higher education sector, mainly focusing on challenges faced by female students and graduates in accessing employment and entrepreneurship opportunities. It further seeks to develop recommendations for the British Council to better integrate gender questions into its higher education programmes in Sub-Saharan Africa and provide broader insights on how higher education can increase gender equality. The study had the following objectives:

a) to produce a report on gender inequality in Kenya, focusing on the challenges female students face in employment and entrepreneurship

b) to identify steps that the British Council can take to strengthen the integration of gender questions into its higher education programmes

c) to develop recommendations for higher education sector partners on gender-sensitive or transformative approaches to increase gender equality.

The study adopted a multimethod approach, including desk reviews, surveys, interviews and focus group discussions (FGDs). Ten higher education institutions, comprising seven public and three private universities, were selected to represent Kenya's diverse higher education sector. We sent questionnaires to 420 students, of which 266 were female and 154 were male, and we also interviewed institutional leaders and heads of support units. The study explored the gender-related challenges female students face and the role of institutional policies and frameworks in tackling them. We generated a number of central findings.

a) Female students in Kenyan universities encounter significant challenges, including institutional barriers, gender biases, limited access to entrepreneurship opportunities and inadequate support structures.

b) While policies aimed at promoting gender equality exist at both national and institutional levels, there is a noticeable gap between their intentions in theory and effective implementation in practice.

c) Female students require tailored support in areas such as accommodation, career guidance and life skills training to realise their potential.

d) Some universities have initiated innovative practices, such as entrepreneurship training, innovation and incubation centres and stronger links between university and industry, to solve these challenges.

e) Despite these efforts, challenges remain, particularly in securing adequate funding and expanding entrepreneurship opportunities for students.

Therefore, the study makes a series of recommendations.

a) Universities should integrate entrepreneurship education into their academic programmes to prepare students, especially female students, for self-employment and entrepreneurship.

b) Both national and institutional policies on gender equality should be implemented more effectively to ensure female students have equal access to support services.

c) There should be stronger partnerships between universities and industry to bridge the gap between academic learning and practical work experience.

d) Business parks and incubation centres should be established within universities to nurture student-led innovation and start-ups.

e) Universities should diversify partnerships to include international and local stakeholders, thereby expanding support for female students, particularly in entrepreneurship.

f) There should be further investment in information and communications technology infrastructure to enrich students' learning and entrepreneurial opportunities.

g) The government and universities should improve access to funding for students, especially women, to support entrepreneurial ventures.

While Kenyan universities are making commendable strides to solve gender inequality, there are still substantial gaps, especially in policy implementation and support systems. Female students need increased institutional support to overcome the barriers they face surrounding entrepreneurship and employment. Universities, in collaboration with international and local partners, have the potential to drive significant change by creating more gender-responsive programmes and policies, integrating entrepreneurship education and strengthening university–industry links.

1 Supporting women in higher education: solving gender barriers in Kenya

1.1 Introduction

While the higher education sector in Kenya has made significant progress over the past few years, it still faces several challenges, most of which are discussed in the next section of this report. Notably, gender disparities and barriers have persisted, especially for female students, leading to differences in enrolment rates, dropouts, early marriages and pregnancies, and challenges surrounding access to employment and entrepreneurship opportunities. According to past research, even the few female students who successfully go through the higher education system still need help accessing employment opportunities. In addition, they face barriers in their attempts to become self-employed via entrepreneurship. This report presents the outcome of a study exploring the challenges faced by female students in Kenyan universities, especially in their attempts to access employment and entrepreneurship opportunities. The British Council commissioned the African Network for Internationalization of Education (ANIE) to undertake this study. Similar studies were simultaneously conducted in Ghana, Nigeria and South Africa. This report presents the Kenya case study.

1.2 Objectives and scope of the study

The study objectives were:

i. to produce a Kenya country report on gender inequality focusing on challenges faced by students and graduates, particularly female ones, in accessing and participating in employment and entrepreneurship-related opportunities

ii. to identify steps that the British Council can take to ensure that gender questions are better integrated into higher education programmes in Kenya

iii. to consider the broader role of higher education in contributing to improved gender equality for students and graduates and develop recommendations for our higher education sector partners and stakeholders to implement gender-sensitive or transformative approaches.

Our analysis explored women's barriers to entrepreneurship and positive graduate outcomes, as well as considering the overall experiences of female students. It also explored the structures in place across higher education institutions that affect access to and provision of support and considered any inherent biases concerning gender and its intersection with other social categories. The study adopted an intersectional approach that considered how different aspects of identity, such as ethnicity, religion and economic status, interact with gender and exacerbate inequalities within the higher education sector. This report therefore highlights the experiences of female students and the inherent biases and barriers they face from an intersectional lens. It also outlines best practices and innovations that some institutions are developing to respond to these challenges.

1.3 Methodology

The study deployed a multimethod approach comprising desk and literature reviews, surveys (by questionnaires), interviews and focus group discussions (FGDs). Table 1 below presents the institutions that were selected in Kenya, seven of which are public and three of which are private.

1.3.1 Desk and literature reviews

We undertook desk and literature reviews aimed at collecting, collating and analysing relevant information to contextualise Kenya's higher education sector, including recent developments and transformations, particularly regarding the critical parameters of this study. The targeted literature principally focused on developments in policy, access, funding and education quality in the country. We also scanned for information on the institutional learning environments, links between universities and industry or private sector actors, support frameworks for students and the role of development partners: this was necessary for understanding and contextualising the challenges facing female students and the ways institutions tried to overcome them.

We also paid attention to relevant government and institutional policy documents, legislation and guidelines concerning gender and the specific problems of entrepreneurship and access, which are critical to this study. Some of the information was obtained from the websites and repositories of the participating institutions and government departments, especially Kenya's Ministry of Education. Additional documents were obtained via research reports and publications. These various sources allowed us to assess the current gender situation in Kenya alongside some of the critical barriers and challenges faced by female students. This was an important starting point for the study.

The study also relied on relevant British Council publications, especially Gender equality in higher education: maximising impacts, and the Innovation for African Universities (IAU) programme reports, which formed essential building blocks for this study.

1.3.2 Questionnaires and follow-up interviews

For our second step, we delved deeper into the institutions to gather information from leading stakeholders, which included students, university leaders and the heads of relevant student support units. Kenya has many universities (there are 74 in total, both public and private), so we had to select a sample of ten institutions to make the study manageable but also as representative as possible of the higher education sector. Table 1 presents the institutions chosen to participate in the study based on our parameters.

Table 1: Selected higher education institutions in Kenya

No.	Name of institution	Institutional type	Year of establishment	Number of faculties	Student enrolment (2022–23)	
1	University of Nairobi	Public	1970	10	37,889	30,016
2	Moi University	Public	1984	13	11,419	9,500
3	Kenyatta University	Public	1985	7	21,338	14,913
4	Egerton University	Public	1986	10	11,130	8,132
5	Jomo Kenyatta University of Agriculture and Technology	Public	1994	19	19,856	14,664
6	Daystar University	Private	1994	8	7,791Ω	
7	Maseno University	Public	2001	12	13,392	10,520
7	Mount Kenya University	Private	2006	11	32,730Ω	
7	Masinde Muliro University of Science and Technology	Public	2006	11	10,997	7,508
10	Kiriri Women's University of Science and Technology	Private	2022	4	N/A	1,343*

Source: *Economic Survey 2023 (KNBS).*

Key: ** Figure derived from the institution's website, 2024.*

Ω Figure is the combined total for male and female students (CUE, 2024).

The selected institutions are a representative sample of the diverse higher education institutions in Kenya, including public, private, old, new, comprehensive, differentiated, urban and rural institutions.

The study included the University of Nairobi, situated in the country's capital city, which is the oldest and one of the largest universities in Kenya, with a total student enrolment of about 67,905. At the same time, it also included Kiriri Women's University of Science and Technology, a private, female-only university that was only chartered in 2022. Moreover, the selected institutions are spread across the country's different regions and offer a variety of academic programmes, ranging from the natural sciences, art, social sciences and humanities, health sciences and engineering, business studies, and technology. They were therefore expected to offer a representatively diverse pool of respondents for the study. It should be noted, however, that while most public universities are comprehensive, private ones offer limited programmes due to their focus areas and institutional capacities.

Still, overall, the selected institutions effectively represent the institutional diversity of Kenya's higher education sector.

1.3.3 Questionnaire survey

We sent a questionnaire survey to a sample of students at the participating institutions. A diverse range of students were selected based on their faculties and socio-economic backgrounds. The survey involved 420 students, including 266 women and 154 men. While the study targeted ten institutions, responses were only received from eight institutions, with Kiriri Women's University and Egerton University not posting any responses, as Kiriri Women's University students were on holiday and those at Egerton were sitting their end-of-semester examinations. The survey was carried out electronically and it gathered information on various points relating to the study's objectives.

1.3.4 FGDs and interviews

The information from the survey was further developed by FGDs with a sample of the students who had participated in the survey. Two universities participated in this exercise. The FGDs, conducted online, aimed to further explore interesting or unclear results from the survey. It also enabled us to delve deeper into topics or parameters that may not have been best captured through the survey.

In addition, we undertook detailed interviews with institutional leaders at various levels, including administrators, faculty deans and heads of support units, which play a crucial role in supporting students and helping them achieve success within the institutions. Interviews were held with faculty from two universities. We thereby aimed to gather more detailed information on the institutions' efforts to solve challenges facing female students. Areas of interest included policy frameworks, affirmative action, support units, and student training and capacity-building opportunities. Three female deans of faculty from two universities were interviewed, in addition to three heads of support units.

1.3.5 Ethical considerations

Our research adhered to the relevant ethical standards and requirements from the outset. This included obtaining approval to conduct the study and assuring the participants that their responses would be kept confidential and anonymous. Participants also gave consent before the interviews and FGDs, therefore participating voluntarily. In adopting FGDs as part of the study, we knew we needed to create a safe space – in other words a supportive, respectful, and inclusive environment – to foster honest and productive discussion, particularly on sensitive or complex questions. We also adhered to the ethics guidelines provided by the British Council for this study.

1.3.6 Analysis

All primary and secondary findings were collated and corroborated thematically (according to themes relevant to our study). We substantively analysed the literature, including policy documents, to obtain synthesised information for the relevant components of the study. The interviews and document review were then analysed using a range of tools, including a matrix approach to record research evidence into themes and priorities. This enabled us to summarise the critical results relating to the study's main objectives. The interviews were also recorded, which allowed us to capture verbatim quotes to illustrate essential findings. The interview transcripts were thematically analysed to generate deeper insights and contextual understanding of various relevant topics, including the national and institutional policies and frameworks on gender and youth employment, alongside challenges and barriers. These enabled us to generate robust explanations, propositions, patterns, themes and insights that answer the research questions and promote the objectives of this study.

1.4 Gender analysis framework

The study took into account several frameworks for gender analysis. However, it principally adopted the Accountability for Gender Equality in Education (AGEE) Framework, which has proved beneficial for previous studies. The AGEE Framework helps interrogate complex gender questions and injustices in higher education. It looks at gender inequalities and barriers in six different domains and therefore provides a more holistic approach, as required by this study.

The six domains, as shown in Figure 1 below, include: resources (money, policies, administrators, school or institutional support systems and information); opportunities (factors that enable or constrain gender equality and how these factors can be converted into opportunities); participation (how factors such as socio-economic status, location, race and ethnicity affect women versus men); women and men in education; knowledge, understanding and skills; outcomes (gender equality in all facets of society, including access to education, employment, healthcare, and economic and political opportunities). These domains and dimensions map onto the topics and parameters explored in this study.

AGEE Framework

Figure 1: *The AGEE Framework*

As shown in Fig. 1, the AGEE Framework (Unterhalter, et. al. 2022) helps to measure functions achieved and enabled by education, levels of individual freedom, and opportunities to convert specific resources into capabilities, i.e. what people have been able to do and become thanks to educational achievements. This framework also takes into consideration social contexts and arrangements that affect the distribution of resources and therefore individuals' choices. As such, by targeting multiple factors that heighten gender inequality, it brings new ways of thinking about gender inequalities in higher education.

We deployed the AGEE Framework to contextualise questions concerning student experiences, institutional practices and social policy contexts in Kenya, particularly regarding how the six domains affect gender (in)equality discourse in Kenya's higher education sector. The AGEE Framework is suitable for this study due to its intersectional approach (Crenshaw, 2017) to gender inequality, which recognises the complex and multifaceted nature of gender-related barriers. The framework doesn't use a single axis dimension of (in)equality and argues for the need to interrogate multiple intersectional factors. In addition, it interrogates policy gaps and how social positioning and power relations inform our understanding of the barriers faced by female students in Kenya's higher education institutions.

We also reviewed the British Council's report Gender equality in higher education: maximising impacts (Mott, 2022), as well as its theory of change. From this, we identified five critical components. These are: fair access to resources and opportunities, a supportive legal and policy environment, changes in attitudes and social norms, and increased awareness and agency among women and girls. In this particular study, the framework was employed in the following ways.

First, the study explored the concept of fair access to resources and opportunities by investigating the educational and financial resources available to female students. Research indicates that female entrepreneurs often face significant barriers in accessing capital and financial support, particularly when compared to their male counterparts (Dawa et al., 2021). By examining the availability of scholarships, grants and entrepreneurial training programmes that are specifically designed for women, the study sought to identify gaps in resource allocation and then propose targeted interventions. For instance, programmes that focus on financial literacy and provide mentorship could support female students to navigate the entrepreneurial landscape more effectively (Manzanera-Ruiz et al., 2022).

Second, the study considers the legal and policy environment to be crucial for fostering gender equality in entrepreneurship. We therefore analysed the policies that affect female students' access to entrepreneurship and employment opportunities. For example, we assessed the effectiveness of policies promoting gender equality in education and entrepreneurship, such as affirmative action initiatives or gender-sensitive curricula (Langevang & Gough, 2012). By highlighting some of the best practices and identifying areas for improvement, the study advocates for changes to create a more enabling environment for female students.

Moreover, the study also deals with the need to change attitudes, beliefs and discriminatory social norms that hinder women's participation in entrepreneurship. Research has shown that societal expectations often dictate the roles women are expected to play, which can limit their aspirations and opportunities (Langevang & Gough, 2012). The study sought to identify specific social norms that must be challenged, by investigating the cultural perceptions surrounding female entrepreneurship and employability. Changing these perceptions could involve engaging with institutional and community leaders and stakeholders to promote positive narratives about women's capabilities and contributions to the economy.

Increased awareness and agency among female students are also critical aspects of the study. It is crucial that we explore how awareness of entrepreneurial opportunities and resources affects female students' intentions to start businesses or pursue careers in various fields: for instance, entrepreneurship education can shape students' perceptions of their capabilities and the feasibility of starting a venture (Mshenga et al., 2020). By assessing the impact of entrepreneurship programmes and workshops, this study provides insights that may contribute to boosting female students' confidence and agency when pursuing entrepreneurial paths.

Additionally, the study incorporates social networks and their influence on female entrepreneurship. Research suggests that social capital plays a significant role in entrepreneurial success, as these networks can provide access to resources, information and support (Dawa et al., 2021). The study highlights the importance of fostering collaborative environments that support female students by examining the role of peer networks, mentorship programmes and community support systems. Further avenues could involve platforms for networking and knowledge-sharing among aspiring female entrepreneurs (Court & Arikekpar, 2022).

Finally, the study emphasises the importance of continuously monitoring and evaluating initiatives that promote gender equality in entrepreneurship and employability. By establishing clear metrics for success and regularly assessing the impact of interventions, stakeholders can ensure that efforts to support female students are effective and responsive to their needs (Manzanera-Ruiz et al., 2022). This commitment to accountability will not only increase the impact of gender equality initiatives but also foster a culture of inclusivity and empowerment within higher education.

In conclusion, applying the British Council's theory of change to this study on the barriers and opportunities for female students in universities in Sub-Saharan Africa enabled a comprehensive approach that considers, among other things, access to resources, legal and policy frameworks, social norms and the empowerment of female students. By focusing on these areas, we hope to contribute to significant progress, promoting gender equality in entrepreneurship and employment.

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2 Higher education in Kenya: context and vital recent developments

This section provides an overview of the fundamental problems currently affecting higher education in Kenya. These challenges encompass fiscal constraints, demographic shifts and research-related concerns, as detailed below.

2.1 Overview of higher education in Kenya

Kenya stands out as one of the African countries making significant progress at nearly all educational levels, including higher education. The Constitution of Kenya, 2010 and Kenya Vision 2030 demonstrate that national policymakers recognise the pivotal role of education and training in the country's socio-economic transformation (GoK, 2023). In recent years, Kenya has made significant strides in improving education provision, marked by improved access, better quality, better educational infrastructure, curricular reforms and strengthened governance, management and financing (GoK, 2023). By means of its Vision 2030, the government aims to transform Kenya into a newly industrialised, middle-income country with a high quality of life for its citizens (GoK, 2007).

The higher education landscape in Kenya is comparatively new: most universities have been around for just a few decades, but they have grown and transformed at a phenomenal rate (Jowi, 2018; Nyangau, 2014). The government of Kenya (GoK) realises that higher education will play a critical role in the country's socio-economic transformation and development, and so it has undertaken efforts to expand university education and give opportunities to students from diverse backgrounds. Since 2000, the higher education sector in Kenya has been significantly rejuvenated. The country only had one public university when it became independent in 1970; by 2023, however, the higher education sector comprised 74 universities, of which 37 are public and 27 are private (CUE, 2024). The rapid expansion of the sector is also linked to citizens' increased demand for university education. Student numbers in Kenyan universities have grown from 3,443 in 1970 (Ngome, 2003) to 573,776 in 2024 (CUE, 2024).

The expansion of the higher education sector has also led to more diverse academic programmes being offered, alongside increased competition for students and even staff, which all contributes to improving the quality of education. While the Kenyan system still experiences challenges concerning quality, the Commission for University Education (CUE) is mandated to regulate the standards of academic programmes. CUE was established in 2012 by an Act of Parliament. In addition, the GoK established the National Commission for Science, Technology and Innovation (NACOSTI) to promote, regulate and assure quality in the science, technology and innovation sector, advise the government in related matters, and mobilise and channel resources into research, science, technology and innovation, respectively.

Kenya has also witnessed a sharp expansion in private higher education institutions. The first private university was only established in 1991, but by 2022, Kenya had 25 private universities with a student population of about 112,287 (GoK, 2023). However, while there is a growing number of private universities in Kenya, as shown, most of them only offer programmes in the arts, humanities and social sciences. As such, higher education courses in science, technology, engineering and mathematics (STEM) are mostly offered by public universities.

2.2 Fiscal management and research

The government, private households and development partners have been primarily responsible for funding university education in Kenya. Since 2016, the Universities Fund, which advises the cabinet secretary for education on matters of university funding, has also been in operation. The fund originally adopted the differentiated unit cost (DUC) model for funding but then transitioned to another model that is 'student-centred, predictable and that will encourage institutions to seek other revenue streams' (www.universitiesfund.go.ke). Notably, the government originally set funding at a uniform cost of 120,000 Kenyan shillings per student, of which the government paid 70,000, with the remaining balance covered by the student's household and/or the Higher Education Loans Board (HELB). The DUC model was subsequently introduced to increase transparency, fairness and equitability.

Kenya is one of the leading research producers in Sub-Saharan Africa, coming in just after South Africa and Nigeria (UNESCO, 2015). In addition to research produced by universities, Kenya also hosts several leading research centres which are located outside the university context, including the International Centre of Insect Physiology and Ecology (ICIPE), the International Livestock Research Institute (ILRI) and Kenya Medical Research Institute (KEMRI), among others. The overall growth in research in Kenya over the past few years can be attributed to several factors, including the prioritisation of research and postgraduate training, an increase in numbers of staff with PhDs, the establishment of research centres and centres of excellence in universities, new international collaborations with universities in other regions, and the competitiveness of Kenyan researchers in securing research grants.

Still, research in Kenya has also faced challenges, with a recent governmental report (GoK, 2023) noting that government funding for research in the 2020–2021 financial year was still a paltry 0.8 per cent of gross domestic product (GDP). This is well below the requirement of 2 per cent that was set out in the Science, Technology and Innovation Act of 2013. In addition, findings that are relevant to this study suggested that women and female students face obstacles to participating in research, especially in STEM areas, due to several factors, including difficulties in accessing funding.

The government has established the National Research Fund (NRF) to mobilise and provide funding for research in targeted areas, especially in STEM subjects. However, it's clear that these efforts need to be significantly improved.

Research outputs in universities have further been curtailed by underfunding thanks to the new DUC model, which the government introduced in 2017–2018. The DUC is based on several parameters, including cost of staff, student–staff ratios, student numbers, cost of infrastructure and operations, student load and cost of programmes (universitiesfund.go.ke). Overall, however, it has led the Kenyan government to continually fail to send enough money to public universities, resulting in budget deficits that threaten to hamstring operations in many institutions. As indicated in Table 2 below, many universities are facing an accumulation of pending bills (GoK, 2023).

Table 2: Funding for university education in Kenya

Financial Year (FY)	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Number of Students	233,218	241,015	271,446	324,182	356,188
Requirement (DUC) (Kshs. Billions)	46.18	63.58	73.81	89.14	97.38
Allocation in Billions	35.34	40.51	41.91	43.84	44.24
DUC % Allocation	66.40	60.70	53.77	49.51	48.11
Deficit (Kshs. Billions)	10.84	23.07	31.90	45.30	53.14

Source: *UFB, 2022*

2.3 Information and communications technology (ICT)

Kenya has made significant strides in using ICT and digitalising various sectors, including higher education and research. Integrating digital technologies and ICT in higher education, especially after the Covid-19 pandemic, has been a game changer. According to Nganga (2012), Kenyan universities took the top spot in an East African survey on the adoption of ICT in teaching and learning, with a focus on the use of websites and other digital platforms, subscriptions to academic journals, and use of intranet, social media and other e-learning tools.

A study by Boshoff et al. (2021) noted that most early career researchers in Kenya appreciated the opportunities that ICT and digitalisation offered them in research, drawing on lessons from the Covid-19 experience. Indeed, the Covid-19 pandemic marked a significant turning point in this regard, as most activities and services had to rely on these technologies during this period, particularly during the lockdowns. In general, the pandemic pushed universities to take action, forcing them to adapt and innovate quickly to respond to the many consequences of Covid-19 (Wachira & Ombati, 2020). But in the longer term, adopting these new technologies has opened new opportunities in terms of access, new modes of teaching and learning, improved governance and efficiency, while also generating some new and complex challenges.

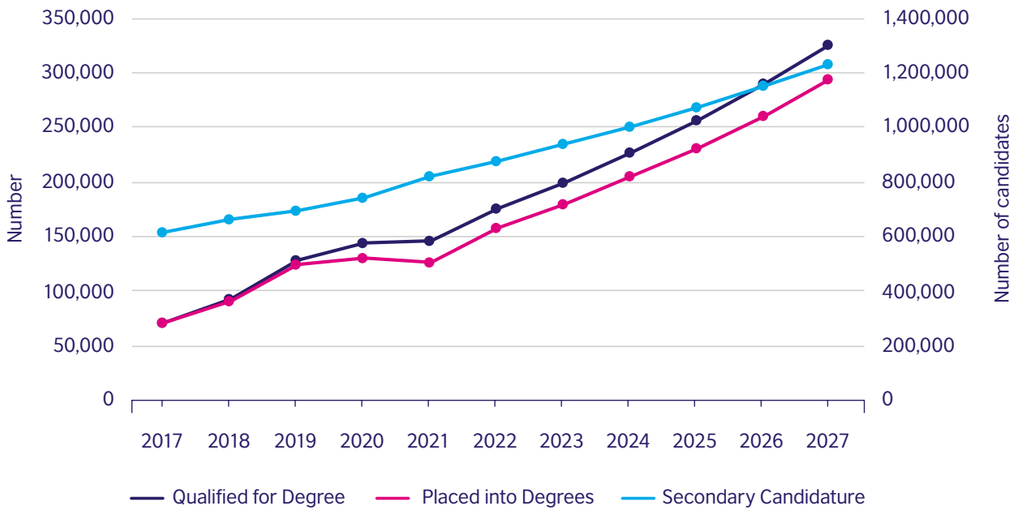
While the use of digital technologies is waning a little as we return to normality, most universities have now embraced ICT and digitalisation to answer some of the weaknesses they previously experienced (GoK, 2023). The pandemic also ushered in unprecedented developments in education delivery, creating opportunities to improve access to and adoption of innovative approaches, especially regarding teaching and learning. This shift, alongside the growing demand for university education, has motivated the Kenyan government to establish the Open University of Kenya (OUK), which now provides opportunities to students who are unable to access conventional universities. Nonetheless, these developments also have the potential to exacerbate existing inequalities and exclusion, perpetuating barriers and challenges facing female students in particular.

2.4 Challenges

Therefore, despite various developments and transformations, Kenyan universities are still grappling with several challenges, just like higher education sectors in other Sub-Saharan African countries. Institutions in the region experience inadequate funding, weak institutional capacities and poor infrastructure, rising student numbers, low research outputs, low numbers of staff with PhDs, low course quality and weak links with the private sector and industry, among other problems (Odhiambo, 2018; Onsongo, 2011). These challenges can, at times, negate the gains made over the years. Significantly, despite efforts to improve access, many students, especially female students and students from marginalised and disadvantaged backgrounds, still face significant barriers in higher education (Wainaina, 2011).

Moreover, in recent years, the number of students who have qualified for university education has exceeded institutional capacity, leading to disenfranchisement, particularly among women. Graph 2.1 below presents the number of students who have qualified for university education but who need help finding places at university. Some qualified students are ultimately not admitted to the university due to lack of capacity and end up joining other training programmes, especially in the technical and vocational education and training (TVET) sector, which has been gaining popularity in recent years. PInterestingly, in 2023, several students who had in fact been admitted to universities opted for opportunities at TVET institutions instead.

Graph 1: Secondary school students accessing university education in Kenya



It is important to note that, while male and female student numbers have both steadily increased, male student enrolment continues to exceed enrolment female enrolment. According to the CUE, in 2024, 327,492 male students were enrolled in Kenyan universities, accounting for 57.08 per cent of the total number of students (which stood at 573,776), compared to 246,247 female students, which is 42.91 per cent of the total. This gender disparity is a significant problem that requires immediate attention.

The exponential growth in overall university enrolments has been accompanied by a considerable increase in the number of courses offered to students, as shown in Table 3 below.

Table 3: Approved programmes by category of institution, 2020–22

Institution	2020	2021	2022
Public	3,142	3,148	3,371
Private	667	724	778
Total	3,809	3,872	4,149

Despite the expansion of the higher education sector and a sharp rise in enrolments, there is yet to be a commensurate increase in staff numbers, alongside expansion of institutional infrastructure and facilities. Notably, there were less than 1,000 professors in all the universities combined and the staff-to-student ratio stood at 1:26. The recent PWPER Report (GoK, 2023) identified this as one of the sector's central challenges, which needs urgent attention.

In addition, only 37 per cent of the academic staff had PhD qualifications. This lack of adequate qualified staff undermines institutional research productivity, which is then compounded by inadequate research funding, heavy teaching loads, low staff morale and salaries, poor research infrastructure and weak international and local partnerships (CUE, 2019).

It should be noted that, as of 2020, postgraduate students comprised just 11.7 per cent of the student population (Kenya National Bureau of Statistics, 2020). Total enrolments in PhD programmes stood at 7,146 (4,915 men and 2,231 women), most of them at public universities.

According to CUE (2019), academic staff appointments in Kenyan universities are theoretically required to model gender equality. The case is, however, different, in practice, with female academic staff accounting for only 33 per cent of the total academic staff in universities.

Furthermore, universities have long been facing governance challenges (GoK, 2023), which have, in recent years, reached crisis levels. Notably, executive, senior governance and management position appointments have been widely influenced by political patronage and tribalism (Sifuna, 2012), compromising institutional leadership's credibility and legitimacy.

Finally, several public universities face severe financial challenges, with some institutions declared bankrupt at the end of 2023; others need help to undertake their responsibilities adequately.

Despite these challenges, Kenya has a vibrant higher education and research system, which has the potential to grow further.

2.5 Summary

Kenya's higher education sector has grown significantly over recent decades: while there was just one public university in 1970, there were 74 universities in 2023, serving over 573,000 students. However, gender disparities persist, with female students constituting only 42.91 per cent of enrolments and women making up just 33 per cent of academic staff, falling short of the constitutional principle of gender parity. Various barriers, such as limited access to funding, especially in STEM fields, inadequate representation in research and societal norms, exacerbate these inequalities. The government has made attempts to plug these gaps, including by establishing funding mechanisms like the NRF and expanding access via innovations such as the OUK. However, governance challenges, underfunding and infrastructural deficits significantly hinder progress. Our analysis of these dynamics from a gender lens underscores the urgent need for targeted interventions to promote inclusivity, equality and more diverse representation in Kenya's vibrant but inequitable higher education system. It is against this backdrop that we now move into the specifics of higher education provision.

3 Gender questions in Kenya's higher education sector

3.1 Context

In recent years, gender questions have become ever more central in Kenya's higher education sector. Gender questions in higher education mainly focus on how institutions provide opportunities for both female and male students, how students access and enjoy services and entitlements while at the institutions, and how power relations and responsibilities affect students. Gender inequality in Kenya's higher education has been explored by several previous studies (Chege, 2015; Mbirianjau, 2016; Odhiambo, 2011; Ombati, 2013), which define it as a critical, multifaceted problem with far-reaching implications. They examine a series of gender-related topics in higher education, including enrolment, leadership and economic results. These studies, notably Chege (2015), emphasise the role of universities as agents of social change, as the way they challenge gender-related barriers and disparities in higher education can set a precedent for broader societal progress (Chege, 2015). Onsongo (2009) also calls for gender inequalities in Kenyan university leadership to be solved, especially with regard to institutionalised structural barriers that shut out qualified and experienced female academics from leadership and management positions.

The *Education and Training Sector Gender Policy* (GoK, 2015) and *Sessional Paper No. 02 of 2019 on National Policy on Gender and Development* (GoK, 2019) are essential documents for framing the gender situation in Kenyan universities.

The gender policy emphasises the importance of access, equity, quality education, safety, security, gender-based violence, nurturing and mentoring, and governance and management.

On the other hand, *Sessional Paper No. 2 of 2019* identifies critical actions that must be taken to solve educational inequalities in Kenya. It sets out the need for:

> **equal participation of qualified women and men in leadership and decision-making positions in the education sector; adoption and strengthening of measures to increase access and retention of girls and boys in the education system at all levels; and the promotion of e school mentorship and sensitisation programs to encourage girls to pursue STEM-related careers (GoK, 2019, p. 33).**

In short, there is detailed existing guidance at the policy level on what gender questions in education need to be answered.

However, gender-related challenges continue to persist at the institutional level. While universities have made progress in increasing female students' access to higher education, men still make up the majority of the student population, particularly in science, technology, engineering and mathematics (STEM) subjects. According to Ojwala (2024), students' access to, for example, higher education ocean science courses in Kenya is curtailed by factors such as gender and ethnicity. As such, women's access to higher education in Kenya remains a critical problem, which merits closer attention from researchers in the sector.

According to Kenya's most recent Economic Survey (GoK, 2023), the position of female and male students varies. Three criteria were assessed: enrolment increases, recipients of loans and government-funded students. Significantly, between the 2019–20 and 2022–23 academic years, the enrolment of female students increased by 5.5 per cent to reach 240,200, whereas during the same time, the enrolment of male students decreased by 3.5 per cent to 322,800. However, the increase in overall student enrolment was marginal: it grew by 0.2 per cent, from 562,100 in 2021–22 to 562,900 in 2022–23.

By comparison, more male students received loans from public universities, increasing by 2.3 per cent from 120,000 in 2020–21 to 122,700 in 2021–22. Meanwhile, the number of female students receiving loans dropped by 5.4 per cent to 74,000 in 2021–22.

Last, government funding to universities has been steadily declining, dropping from 43,843,000 Kenyan shillings in 2021–22 to 43,827,000 in 2022–23. However, the number of government-funded female students almost doubled in the same period, from 97,825 in 2021–22 to 190,956 in 2022–23. This contrasted with the number of funded male students, which decreased by 16.4 per cent to 121,445 in 2022–23. This illustrates that female students are starting to have more funding opportunities to study in universities than their male counterparts.

The government wants to take affirmative action to support female students by means of sponsorship. This aspiration is captured in Kenya's national gender policy, which highlights the question of female participation in university education. Our interviews with university leaders also underlined this idea of equal opportunity for male and female students. One of the deans we interviewed asserted that:

> **we now need to pay more attention to university-level opportunities, especially for female students. This serious problem must be tackled before the students join university.**

Were (2020) examined the factors that influence the retention of female students in STEM courses in Kenyan universities, noting that female students are likely to drop out due to a range of personal, social and institutional factors.

Universities must consider institutional factors, including mentoring, pedagogy, curriculum and environment, to retain female students. According to Odhong (2022), mentorship programmes and transformative institutional leadership play a critical role in fostering an environment that is conducive to female student retention and progression. Still, according to Andiema and Manasi (2021), female students in Kenyan universities continue to face various challenges, including lack of funding and gender-based discrimination. This is then exacerbated by low levels of awareness among institutional leaders about the challenges facing female students, alongside negative attitudes and lack of commitment towards the implementation of gender-sensitive policies.

Ngugi and Muthima (2017) and Munyi and Cheruiyot (2019) further emphasise the need to encourage and support the participation of female students in university, especially in STEM courses, as well as their progression to the world of work. They therefore urge institutions to adopt gender-responsive policies and approaches in addition to gender-responsive pedagogies and invest in supportive institutional environments. Solving gender disparities requires a comprehensive and holistic approach that considers the various dimensions of challenges and barriers facing female students – and how equitable access to education and opportunities benefits everyone. This was part of the primary reason why this study adopted the AGEE Framework to explore the various challenges faced by female students in Kenyan universities.

While overarching policy seems to guide what and how gender concerns are prioritised, there are multiple ways in which these concerns manifest and are dealt with in the sector. The results from this study's survey and interviews illustrate the presence of a wide variety of gender factors. For example, according to the students' answers to the questionnaire, most female students find their learning environment to be conducive and enabling. In addition, in our interviews, university leaders confirmed their commitment to treating male and female students in their programmes with equality – so much so that individual success is largely attributed to each student's capability in a meritocratic system.

In short, existing research on entrepreneurship education and employment support in Kenyan universities presents a mixed scenario. Several studies have investigated entrepreneurship and student employability in Kenya (including Ayuo et al., 2014, 2017; Karanja et al., 2016; Kirui & Sang, 2018; Munywoki et al., 2018; Mwiti & Ngwiri, 2021; Nelson et al., 1997; Ngigi et al., 2020; Nteere, 2013; Rintari, 2015; Tumuti et al., 2013; Waita, 2014).

Against this backdrop, we now move on to present specific results on gender and entrepreneurship at the university level in Kenya.

3.2 Challenges and opportunities for employment and entrepreneurship among female students

3.2.1 National and institutional policies and frameworks

Several policy documents on gender in higher education have been developed recently. In pursuit of its education agenda, the government has implemented a range of legislation and policy frameworks, as operationalised in the National Education Sector Strategic Plan (NESSP). However, while the policies are forward-looking, their implementation has not been totally effective, especially when it comes to ensuring accountability. Mbirianjau (2016) notes that, despite the development of progressive gender policies and interventions, female students still encounter many barriers. The disconnect between policy goals, their implementation and the actualised results merits closer scrutiny. Either way, gender equality is still not sufficiently implemented by the existing policy frameworks.

As well as policy gaps, Sifuna (2006) observed that cultural and societal stereotypes, social constructions of women and societal structural barriers curtail higher educational opportunities for women. According to Sifuna, gender equality in higher education could be solved by legislative and policy reform to ensure increased female representation in competitive academic programmes.

3.2.2 Institutional environment and support systems

Institutional support systems in universities across Kenya are multifaceted, though nearly all of them are constrained by economic, infrastructural and governance challenges. These systems are essential for students' academic success, emotional well-being and personal development.

As displayed in Table 4, students' satisfaction levels with their institutional environment and support systems varies, with their responses reflecting the discrepancies among different universities.

Table 4: Students' satisfaction with support services within the institution

Support service	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Mean
Dean's office	4.3%	6.8%	29.8%	45.2%	13.8%	3.58
Finance office	17.6%	0.0%	29.1%	43.0%	10.2%	3.28
Registrar's office	3.4%	6.8%	34.2%	47.4%	8.3%	3.50
IT and system support	5.0%	13.0%	26.9%	44.0%	11.1%	3.43
Student advisory service	4.9%	8.9%	42.2%	36.9%	7.1%	3.32
Counselling service	0.0%	8.7%	35.4%	38.8%	17.1%	3.64
Library support services	2.2%	3.7%	21.2%	47.4%	25.5%	3.90
Chaplaincy or multifaith provision	1.8%	4.3%	28.0%	41.5%	24.3%	3.82
Student housing and accommodation	8.0%	11.4%	35.1%	36.0%	9.5%	3.28
Students' union	7.7%	8.0%	31.9%	39.6%	12.7%	3.41
Health centre	9.0%	10.2%	30.7%	37.9%	12.1%	3.34
Campus catering	7.5%	14.0%	32.6%	37.0%	9.0%	3.26
University clubs, societies and fellowships	3.1%	7.7%	28.5%	39.9%	20.7%	3.67
Support for **female** students and people with disabilities	1.8%	7.4%	32.3%	40.3%	18.2%	3.66
Career guidance office	2.8%	8.1%	35.0%	41.3%	12.8%	3.53
Entrepreneurship support unit or department	5.7%	2.9%	46.6%	35.1%	9.7%	3.40

From a general perspective, the figures in Table 4 indicate that the students were generally satisfied with the support systems and services they received from their institutions. The students seemed somewhat satisfied with nearly all the services, though they expressed higher satisfaction with the clubs and societies, support for students with disabilities, counselling services, library services and the chaplaincy. Even though only a few sampled students expressed high levels of dissatisfaction, their dissatisfaction was mainly concentrated on the finance office, health and housing services, the students' union, entrepreneurship support units or departments, and catering services. This is useful information, as these service departments (finance, office, entrepreneurship unit and the students' union) could feasibly play a role in helping female students to access opportunities in future.

Still, while the results of the survey indicate that most of the students were satisfied with the support services within their institutions, in their interviews, they reported that their training did not prepare them well for the world of work. In certain institutions, some of the support units that the students needed either did not exist or needed to be developed more to answer student needs. One of the students remarked that:

> **In my case, I do not think the university is doing as much as I would hope to prepare students for the world of work. […] What I wish to see our institution doing is to forge closer links with the world of work. If you want to go into the mining sector, as is the case for me, you should be exposed to entrepreneurial ventures in the mining industry. When we get a chance to go on industry placements, we're often placed in any related industry, even when it may not be the exact one we're studying or preparing for through our programme […] So the experience you obtain is only minimal and general for a mineralogist.**

According to Mwang'ombe and Mwingi (2023), female students face several challenges that call for more robust support systems and policies. These could include providing support materials and reducing workloads, especially for student mothers. Akala (2019) further advocates for affirmative action and policies to support the admission and retention of female students.

Nonetheless, most of the students involved in the study reported that they were satisfied overall with the services their institution provides, suggesting that most participating institutions provided a conducive learning environment.

3.2.3 Employability and employment opportunities

Definitions are always contentious, and particularly so when singular models are used for multiple contexts. This is also true of the definitions attached to employability (Kirui, 2019; Tight, 2023). The concept of employability is a multifaceted construct that encompasses an individual's ability to gain, maintain and advance in employment throughout their career. While it is particularly relevant to university graduates, the notion of employability extends to individuals across various educational and professional backgrounds. As highlighted by Tight (2023), graduates should possess the skills and knowledge to make an immediate economic impact. Nonetheless, employability is a dynamic concept that requires consistent development and adaptation to reflect evolving labour market demands. Kirui (2019) underlines that employability is a critical dimension of higher education quality. Still, it is essential to recognise that employability is a lifelong journey beyond the university setting.

In 2018, the International Labour Organization (ILO) estimated the combined rate of under-employment (linked to working time) and unemployment in Kenya to be around 31.5 per cent (42.4 per cent among women and 23.4 per cent among men). Most jobs are also in the informal sector, which poses challenges related to health, safety and social protection (ILO, 2018). This situation also creates a significant challenge for universities, particularly concerning instilling skills related to entrepreneurship and employability. We would be curious to establish the extent to which universities are aware of this situation and consciously deploy strategies to answer this challenge for their students.

Many universities in Kenya emphasise the importance of practical learning in improving employability and combatting graduate unemployment (Ochieng, 2019). Research has highlighted the positive impact of personality and cognitive factors on students' self-employment intentions, particularly among engineering students and those in technical and vocational education and training (TVET) institutions (Maina, 2019). Shifting students' perceptions towards self-employment is therefore essential to effectively tackle the growing unemployment crisis (Maina, 2011) – and so, encouraging entrepreneurship approaches across a range of courses and programmes has become a crucial strategy to alleviate graduate unemployment in Kenya (Yatich, 2022). Indeed, this led one university in Kenya to establish a Women's Economic Empowerment Hub (www.weehub.ku.ac.ke), which aims 'to generate evidence to advance women's economic empowerment in Kenya'. Additionally, the implementation of innovative entrepreneurship education at the college level should promote mass

entrepreneurship and innovation, enriching higher education and improving students' overall employment prospects (Lu, 2022).

Additional strategies include policies aimed at women-only professional services firms in economically remote areas, so as to offer tailored support and opportunities to female graduates (Khalifa, 2018), thereby expanding women's access to job and career advancement opportunities. In addition, bridging the gap between university education and the labour market is an essential part of the puzzle. Institutions must align with the demands of the labour market and ensure graduates possess the soft skills that employers require (Mseleku, 2021) to support successful transitions into the workforce.

The study recognises that graduate unemployment is a more profound problem among female graduates, particularly among those from disadvantaged backgrounds who typically face even greater barriers to accessing employment opportunities. It notes the crucial role that ethnicity, social networks, family background, socio-economic status and even course of study play in employability and in tackling gender inequalities in entrepreneurship.

The Kenyan labour market has also not seen any significant policy shifts to help young people seeking employment, instead relying on traditional recruitment practices based on social and family networks. This means that graduates from disadvantaged backgrounds face even more barriers to employment.

3.2.4 Entrepreneurship opportunities

Various definitions are attached to entrepreneurship education (EE) (Kanyi, 1999; Nelson et al., 1997). In the Kenyan context, Nteere (2013) provides a helpful definition of entrepreneurship education:

Therefore, in university education programmes, EE should be understood as academic courses that

> **the process or series of activities which aim to enable an individual to assimilate and develop knowledge, skills and values and understanding that are not simply related to a narrow field of activity, but which allow a broad range of problems to be defined, analysed and solved. (Nteere, 2013, p. xiii)**

offer foundational knowledge, essential skills and practical experience that will enable students to cope with or adapt to the ever-changing business environment. Any EE programme's effectiveness depends on factors that include but are not limited to curriculum, environment, agency and resources (Njoroge, 2019; Slavtchev et al., 2012).

A rise in female labour force participation was one of the defining characteristics of global socio-economic change in the latter part of the 20th century. Warnecke (2013) observes that, in all regions except Africa, the labour force participation rate grew faster for women than men, particularly in the 1980s and 1990s (Lim, 2009). He attributes this to a range of factors, including changing values and attitudes concerning women's roles outside the home, the rise in female educational attainment, the expansion of service-oriented jobs, the decline in male labour force participation and the stagnation of real wages among men (Aziz, 2009). Entrepreneurship, however, remains heavily male-dominated. Of the 53 lower-, middle- and high-income countries assessed by the Global Entrepreneurship Monitor in 2011, only Singapore and Thailand witnessed higher rates of female than male entrepreneurial activity (Kelley et al., 2012). In any case, female participation in entrepreneurial endeavours remains low in African countries. Zhang et al. (2014) notably found that men and graduates of all genders from technological universities and backgrounds have higher entrepreneurial initiative than women and graduates from other universities and backgrounds. They also found significant positive interactive effects between gender, university type and study major and the relationship between EE and entrepreneurial initiative.

A counterargument has recently emerged on this subject. According to a report from GEM (Hill et al., 2023), it's crucial to encourage and sustain support for women entrepreneurs. Avnimelech and Reichter (2023) emphasize the importance of grounding support for female entrepreneurship in female-focused frameworks, rather than allowing it to be filtered through male-dominated environments. Their study sheds light on how and why accelerators can enhance women's participation in entrepreneurship. Overall, this research underscores the importance of supporting female entrepreneurial endeavours, particularly at the university level. When such initiatives and courses in entrepreneurship are appropriately conceived, developed and sustained, female students develop functional foundational scaffolds for their post-graduation ventures in the world of work. This is what we would like to see university programmes incorporate into their offerings.

EE in Kenya is still in its infancy. According to Otuya et al. (2013), Kenya needs to embed this throughout all education levels, due to its decisive role in Kenya's economic growth. Nteere (2013) recognises the need to provide female university students with better EE opportunities, as well as the need to establish support systems, such as incubation centres and mentorship programs. Indeed, incubation centres enable students to freely innovate and create ideas in collaboration with industry and private sector partners that can foster future self-employment opportunities (Karanja et al., 2016). Ayuo and Kubasu (2014) corroborate this view in their study on entrepreneurial practices among students in Kenyan universities. They highlight that

entrepreneurship training and entrepreneurial initiative among students are influenced by various factors, including gender, entrepreneurial parents, subjective norms, perceived behaviour control, and a supportive environment, including academic support.

In their study on gender and enterprise development in Sub-Saharan Africa, Campos and Gassier (2017) distinguish a set of gender-specific constraints that influence women's entrepreneurial ventures. In their view, gender differences in categories such as entrepreneurial intention, endowments and preferences often restrict the range of economic choices women can make, thereby impeding the development of their businesses. These choices – or lack of choices – affect levels of investment, business practices, decisions to compete and type of activities, not only influencing women's decisions to enter entrepreneurship but also their chances of success. This is corroborated by Nordman and Vaillant (2014), whose study showed that 75 per cent to 85 per cent of the gap in the performance between female- and male-led enterprises results from the context (i.e. the environment in which women entrepreneurs operate). According to these studies, then, women entrepreneurs' context must be deliberately resourced to support their success.

While the significant role of entrepreneurship in national economic growth has been recognised, entrepreneurship has yet to be integrated into most higher education programmes. As a result, most students graduate from university having never accessed this kind of training. The student responses in this study indicate that most students wished their training had included programme-specific EE to enable them to venture into appropriate market-relevant enterprises.

Table 5: Students' perception of support for entrepreneurship and employment opportunities in their universities

Entrepreneurship and employment opportunity	Dissatisfied	Somewhat satisfied	Satisfied	Very satisfied	Mean
The overall learning environment	1.5%	9.9%	76.7%	11.9%	2.99
The guidance and support of the department	6.3%	13.8%	65.3%	14.7%	2.88
Relevance of the courses offered	2.4%	6.6%	65.4%	25.6%	3.14
Relevance of the programme to the labour market	4.3%	14.9%	67.7%	13.1%	2.90
Availability of learning facilities, such as lecture rooms, computers and library	3.9%	12.2%	57.3%	26.7%	3.07
Professional relationship with lecturers	2.1%	10.7%	68.1%	19.1%	3.04
Professional relationships with students and support staff	2.1%	25.4%	68.6%	3.9%	2.74
Adequacy of entrepreneurship opportunities	16.4%	28.2%	48.9%	6.5%	2.46
Adequacy of financial support for your studies	17.9%	26.4%	47.9%	7.9%	2.46
Support (including financial) for establishing entrepreneurial activities	27.6%	34.3%	34.9%	3.2%	2.14
Opportunities to share relevant experiences with students from other universities	15.3%	25.2%	50.3%	9.2%	2.53
Support to participate in relevant seminars and workshops	16.4%	21.0%	53.8%	8.8%	2.55
Opportunities to network with industry/private sector	21.7%	27.2%	43.0%	8.0%	2.37
Opportunities to participate in work-study programmes and internships	14.2%	24.1%	52.2%	9.6%	2.57
Gender inclusivity in the campus environment	2.7%	8.7%	70.0%	18.6%	3.05
Access to stable internet	13.1%	19.6%	50.7%	16.6%	2.71
The intellectual environment of the department	3.6%	3.6%	78.1%	14.7%	3.04
Access to funding opportunities and sources	21.5%	27.7%	45.8%	4.9%	2.34
Access to information on possible employment opportunities	19.6%	27.1%	46.1%	7.2%	2.41
Training on how to navigate the world of work	16.4%	25.2%	50.6%	7.9%	2.50
Quality of accommodation facilities on campus	12.2%	24.7%	56.4%	6.7%	2.58

Most of the student respondents in this study were generally satisfied with the institutional support they received. This also included support for setting up entrepreneurial activities. Based on the results presented in Table 5 above, students have a positive view of their institutional learning environment, their departments' academic capacity and how it prepares them for the world of work. One of the female students we interviewed remarked:

I believe that we have some of the best lecturers in the country for our programme. They, in many cases, do their best to support us, with a few exceptions.

Another female student said that:

In my school, even though we face challenges, they are manageable, and I am happy that entrepreneurship is now becoming a common course for all of us, compared to those ahead of us.

Notably, the responses show that the students were the least satisfied with support for establishing small entrepreneurial enterprises. This could be due to the difficult economic situation in which most of the universities currently find themselves. One student said:

We know that times are hard for our university. But they can partner with other companies and international funding agencies to tackle some of the students' challenges.

The literature review highlighted that some Kenyan universities, such as Strathmore University, Riara University, United States International University Africa, Kenyatta University and Egerton University, had begun to establish strong relations with the private sector.

Due to existing gaps in EE and inadequate support environments for prospective student entrepreneurs, it is imperative that Kenyan universities deliberately introduce EE and training as a critical part of their academic programmes. According to Mwiti and Ngwiri (2021), universities should collaborate with the government and industry to strengthen entrepreneurial training and mentorship among students, especially in entrepreneurship. This could include the joint development of curricula that prepare graduates for entrepreneurship and the labour market (Rintari, 2015). Internship programmes and community service engagement can also enable students to adapt their knowledge, skills and attitudes appropriately (Tumuti et al., 2013). Munywoki, Owino and Mutoro (2018) urge universities to provide their students with internship opportunities to prepare them for the future needs of the job market. One of the female students stated that:

Even though internships are mandatory in our training programme, we face challenges in identifying and accessing appropriate host institutions. We go anyway because it is a requirement, but it would have been better if we had been helped to go to the right ones.

Due to a lack of support, particularly when it comes to access to start-up funds, only a few graduates start small-scale enterprises at or straight after university, even with the raging unemployment crisis (Binyanya & Wandolo, 2022). This is also when employers look at graduates' employability skills, underscoring the importance of honing these skills to secure employment (Kalei, 2015). One of the critical strategies within EE is to provide students with the skills and mindset they need to create job opportunities (Lim et al., 2021). Universities thereby foster a culture of innovation and self-reliance, which benefits everyone – including female students, who are better equipped to face the challenges of the job market.

On the other hand, institutions need more support to offer innovative entrepreneurship training and support. Their current efforts, though useful, need to be strengthened to meet student needs. One of the deans interviewed agreed that universities needed to develop further strategies to support female entrepreneurship students. While their institution had established supportive gender policies, it had no mechanisms to fully implement some of the policy requirements. The dean commented that:

We have deliberately spread entrepreneurship courses across the second and third years of study. While in the second year, the first entrepreneurship course is intended to spark interest in developing business ideas, while, in the third year, entrepreneurship courses require students to develop proposals on business ideas [...] We have embraced entrepreneurship wholeheartedly in our school.

Another dean spoke about supporting students, particularly female students, to acquire entrepreneurial knowledge and skills. The dean highlighted how one of their graduates had excelled in an entrepreneurship venture after graduation:

One of my former students has done very well after graduation [...] I am particularly impressed because I recall [this student] needed quite a lot of support during their journey in the five-year programme. I encouraged the student a lot. [...] Ultimately, the student excelled in [the] programme and now runs an international consultancy. We need to introduce entrepreneurship courses into our programmes now, since jobs are scarce for graduates.

Not only do men have greater access to formal education than their female counterparts, but they have more significant opportunities for entrepreneurship training and development (Morris et al., 2006). This leads to gender gaps in access to EE and skill development, which ultimately results in gender inequalities in the sector. Lebeau and Oanda (2020) argue that higher education institutions could play a pivotal role in equipping female students with the entrepreneurship skills they need to confront the current unemployment crisis and contribute towards reducing ballooning inequalities. We therefore find that universities need to do more to improve learning environments and support opportunities for female students, primarily through training and funding for entrepreneurship.

3.2.5 Inequalities and discrimination

In our analysis of students' perceptions regarding possible gender inequalities within their institutions, we noted interesting results, as shown in Table 6 below. Above all, the students indicated that their institutions' approaches to gender-based discrimination towards students have generally improved (45 per cent agree; 8 per cent strongly agree). They also expressed that their institutions have made progress in building student support systems and mitigating gender-based challenges. They recognised that policies have been put in place, backed up by evidence from the literature. It is also important to note that, while about 10 per cent of the students reported that they have experienced gender-based violence or discrimination within their institution, about 70 per cent did not. In addition, most students were yet to experience gender-related biases when using financial support services and participating in entrepreneurial ventures, and their institution also gave them access to supportive policies and frameworks for employment opportunities. This implies that most Kenyan universities are making efforts to solve problems related to gender inequality.

Table 6: Analysis of gender inequality questions

Gender inequality question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean
I have experienced gender bias, which hampers equal access to entrepreneurship opportunities	18.4%	34.3%	26.8%	17.8%	2.7%	2.52
I have experienced gender-based discrimination within my institution that could affect my academic performance	28.0%	44.9%	16.9%	8.7%	1.5%	2.11
My institution has supportive policies and frameworks for students to access employment opportunities	7.5%	15.4%	40.7%	29.8%	6.6%	3.13
I have experienced gender-based discrimination when accessing employment opportunities	22.7%	40.6%	20.6%	13.9%	2.1%	2.32
My institution has put in place gender-inclusive policies and practices	4.2%	9.1%	31.4%	44.4%	10.9%	3.49
My institution has support units I can report to when I experience discrimination or mistreatment based on my gender	4.2%	9.7%	24.5%	45.8%	15.8%	3.59
The support units in my institution provide adequate support to mitigate cases of discrimination	3.0%	9.4%	30.7%	47.4%	9.4%	3.51
Societal expectations, especially with regard to my gender, have played a crucial role in my choice of career or course	10.0%	16.0%	28.7%	34.7%	10.6%	3.20
I have experienced gender-based violence as a student in my institution	34.7%	35.6%	19.1%	7.9%	2.7%	2.09
My institution provides adequate support systems to enable me to solve gender challenges when accessing employability opportunities	4.0%	13.1%	40.1%	37.0%	5.8%	3.28
Some of the policies and practices in my institution perpetuate gender inequality and hinder access to entrepreneurship and employment opportunities	15.9%	35.5%	33.0%	13.5%	2.1%	2.50
I have experienced gender-related biases in the financial support services provided to students, including for entrepreneurial ventures	16.6%	42.2%	27.4%	10.8%	3.1%	2.42
There are gender disparities in my institution when it comes to accessing mentorship and networking opportunities that are important for entrepreneurial growth and success	16.6%	36.3%	29.5%	15.7%	1.8%	2.50
My institution has made improvements in the way it deals with gender-based discrimination towards students	2.5%	8.3%	37.2%	44.6%	7.4%	3.46

Table 6 also shows that many students were neutral on many of the items listed. After further analysis, during which we desegregated the results, it became apparent that there was a difference in male vs female students' satisfaction with the support services: male students were more satisfied with support services than female students.

This is a curious finding, which could significantly affect our understanding of gender disparities in higher education. According to Ojwala (2024), ethnicity continues to significant affect female students in Kenyan universities, especially those from minority ethnic groups. For them, the challenges faced generally by female students take on even more nuanced dimensions, necessitating multiple, coordinated ways of dealing with these challenges. This view was further corroborated by the university administrators we interviewed. The administrators acknowledged that universities were facing challenges in meeting the diverse requirements of their students. Added to this, in recent years, the economic situation in many universities has become so dire that even paying staff salaries has become difficult. Some of these difficulties spill into the support systems and services provided to students, leaving students from disadvantaged backgrounds in precarious situations.

3.2.7 Barriers facing female students

Table 7 below presents some of the main challenges faced by female students as they go through university education. As previously noted, the scores in this table are much lower than in the previous table, suggesting that female students face significant challenges. Indeed, over 30 per cent of respondents either agreed or strongly agreed that students are affected by societal gender norms, which deters some of them from taking on risky ventures such as entrepreneurship. In turn, several respondents reported feeling impeded by gender stereotypes and cultural biases. As such, concerted efforts must be made to change deep-seated societal views on women that cause them to experience challenges and barriers, even in contemporary society.

Table 7: Gender-based inequalities in access to entrepreneurship opportunities

Gender-based inequality	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean
There are gender stereotypes and considerations that influence the hiring practices of university students in my institution	11.1%	29.6%	35.5%	18.2%	5.6%	2.77
Societal gender norms influence my success and the types of entrepreneurial opportunities that I can access in my institution	8.1%	27.7%	32.4%	25.9%	5.9%	2.94
I have experienced gender-based biases when accessing professional development resources, business networks and entrepreneurship opportunities in my institution	14.6%	39.9%	28.2%	13.3%	4.0%	2.52
Challenges/barriers to accessing funding disproportionately affect **female** entrepreneurs in my institution	10.0%	30.9%	33.1%	20.0%	5.9%	2.81
Societal norms discourage **female** students from risk-taking behaviour, such as entrepreneurship	8.1%	20.9%	26.3%	34.1%	10.6%	3.18
Cultural biases influence the types of industries pursued by **male** versus **female** entrepreneurs in Sub-Saharan Africa	5.3%	13.8%	35.2%	36.8%	8.8%	3.30
I have faced gender-related obstacles while seeking funding or investment for entrepreneurial ventures	11.8%	31.1%	32.0%	19.6%	5.6%	2.76
I have experienced disparities in the support and mentorship offered to **male** versus **female** entrepreneurs in my institution	10.6%	32.3%	39.1%	15.2%	2.8%	2.67

While getting entrepreneurship training, we need more exposure and practical skills. This is what we need to succeed.

Universities, on the other hand, believe they are doing their best in the circumstances. One of the institutional leaders we interviewed was pleased with the policies and frameworks that had been implemented to support female students in universities. They expressed that there had been significant improvements, especially when comparing now with the situation a few years ago, although it was still not the best it could be.

One of the students asserted that:

As a woman, I will not be expected to start a business if my husband doesn't have one himself or else doesn't agree to it. In addition, you may work hard, but then all your hard-earned money will be taken by your husband.

Another one mentioned the question of funding support:

Sometimes we have good business ideas, but no one believes we can actually do something with it and succeed. There are no opportunities for us to get money to start up our own ventures. So, with time, the idea just dies.

As discussed in the previous section, the question of funding is crucial, as it enables the students to start their businesses or not. In addition, one female student asserted:

We are doing our best to support the students. We must change with the changing times. It is very different now from when we were students: sometimes, we go out of our way to do our best for them. Today's students are also very demanding, and we must attend to these new demands.

Female students face other additional challenges, such as sexual harassment (SH), but these do not come out quite so explicitly in our results. As shown in Table 6, only about 3 per cent of the students surveyed have experienced gender-based violence: though this number may seem small, it cannot be ignored. Bondestam and Lundqvist (2020) have researched SH in higher education. They contend that, while SH is a global epidemic impacting individuals, groups and entire organisations, it takes place in a culture of silence, supported by a lack of active leadership (Guschke et al., 2019). Much research on this phenomenon in Africa echoes this position (Adams et al., 2013; Makhaye et al., 2023; Nyarko et al., 2023). While SH in higher education institutions is not new, in recent years, there has been an increase in SH cases in universities across the globe, including in Kenya. Despite measures that have been put in place at national and institutional levels, the vice continues unabated.

4 Conclusions and recommendations

This study reveals the challenges and barriers facing female students in Kenyan universities. It builds on the results of other recent studies that have been undertaken on this critical topic. Although we have mainly focused on the challenges facing female students in accessing employment and entrepreneurship opportunities, several factors have come into play in our study. This is why we have used the Accountability for Gender Equality in Education (AGEE) Framework as a basis for our exploration. Due to their different characteristics and contexts, female students face various and, at times, interconnected challenges. While the study notes that progress is being made, we reiterate that several challenges remain unsolved – and there are also new ones emerging.

While gender-responsive policies have been developed at national and institutional levels to tackle these challenges, there is still room for improvement in their implementation. Both literature and field evidence underscore the need for policies that bring theoretical equal opportunities goals into line with authentic implementation. The existing mismatch between aspirations and reality needs to be solved, and policies should be intentionally designed to ensure alignment at the university level. Moreover, policies should not only guide the identification and resolution of gender concerns but also ensure that these concerns are comprehensively dealt with by all sector stakeholders.

Stronger policies also need to be implemented to guarantee client-specific benefits regarding gender status. Our research shows that female students still need institution-wide targeted support to realise their full potential. Gender-responsive policies for student support services – accommodation, academic, life skills and career – must be initiated and developed to ensure these services are being implemented equitably.

University leadership has a pivotal role to play in these transformations. Recognising this, Kenyan universities have established the Kenya Network of Entrepreneurial Institutions Leaders (KNEIL) as a platform for leaders to discuss, co-design and drive innovative and entrepreneurial solutions, with the active involvement of women scientists and entrepreneurs. Given the existing gaps in entrepreneurship training and the lack of supportive environments for prospective student entrepreneurs, Kenyan universities must deliberately integrate entrepreneurship education and training into their academic programmes. International partnerships and collaborations are also crucial for fostering innovation and entrepreneurship and preparing students for employment. For instance, the British Council-funded Innovation for African Universities (IAU) project has enabled KCA University to introduce entrepreneurship training for students to support their transition to the world of work, as well as enabling faculty exchanges. Riara University has also participated in the IAU project in collaboration with the Open University of Kenya (OUK) and Ashoka East Africa. Such initiatives need to be expanded to reach more institutions and students, thereby elevating these collaborations' global reach and potential.

This study underscores the urgent need for Kenyan universities to establish robust links with industry players and international partners. These connections are crucial for bridging the gap between theoretical knowledge and practical application. Students have expressed a clear desire for industry-specific exposure that aligns with their future career aspirations. Stronger university–industry links have huge potential to provide students with the relevant skills and experiences they need in their professional journeys.

Kenyan universities have also been actively participating in the East African Business Council's Academia–Public–Private Partnership Forum, which provides a place for universities to engage with the private sector, present students' innovations and entrepreneurial ideas and also allow students to engage with industry players. In addition to national and regional partnerships, however, universities should be encouraged to partner with international stakeholders on gender-oriented activities. At one Kenyan university, the support of international stakeholders was singled out as a way female students were able to pursue postgraduate studies. This support is doubly important, given that fiscal support from the national government has dwindled over the years.

Moreover, academic programmes need to integrate entrepreneurship into standard courses for all students. Thanks to a curriculum review, Moi University decided to introduce entrepreneurship courses tailored to students in different programmes within one of their schools. In addition, the university introduced courses on the United Nations Sustainable Development Goals: these were tied to the entrepreneurship courses as a way to get students to develop context-relevant projects.

Chege (2015) underscores universities' pivotal role as catalysts for social change. They must provide answers to gender challenges, barriers and disparities in higher education, thereby contributing to broader societal progress (Chege, 2015). Despite the many difficulties institutions face, including worsening funding situations, exponential growth in enrolment and inadequate institutional capacities, they still have the potential to drive positive change. By implementing strong policies and improving student support systems, universities can significantly advance gender equality in education.

4.1 Emerging best practices and recommendations

The study unveils innovative practices undertaken by universities in Kenya to deal with these challenges. Notably, universities in Kenya are already making commendable attempts to implement innovative and novel approaches that could reverse the current situation. They include the following.

4.1.1 Training in entrepreneurship

The literature review and interviews with university stakeholders revealed that nearly all the sampled universities have established some sort of entrepreneurship training. This demonstrates that they recognise there are alternative ways of preparing young people for the uncertain future world of work, including by preparing them for entrepreneurship and self-employment.

In the same vein, Dedan Kimathi University of Technology has established a Centre for Innovation and Entrepreneurship Management to nurture and develop student innovations and start-ups as a response to current employment and entrepreneurship barriers. This goes alongside academic and training programmes in entrepreneurship. Opportunities like these need to be developed, coordinated and harnessed to meet the growing needs of students, especially female students, and of society.

4.1.2 Supportive policies

Notably, the policy landscape is changing to deal with the challenges and barriers facing female students. Forward-looking policies exist at national and institutional levels. However, institutions have encountered difficulties in implementing them for various reasons. Nonetheless, it is important that other African universities also implement policies that support students, especially disadvantaged and female students.

4.1.3 University–industry links

University–industry links are essential but remain underdeveloped in most universities. Institutions such as Strathmore University, Riara University and KCA University have made notable progress, leveraging these partnerships to create opportunities and support for their students. Strathmore University in particular has been a pioneer in fostering innovations and entrepreneurship via strong industry connections.

4.1.4 Establishment of incubation centres and business parks

Higher education institutions, in collaboration with other partners, have started establishing incubation centres and business parks as a way to solve existing challenges. Various initiatives are already underway in Kenyan institutions, including KCA University, Chandaria Business Innovation and Incubation Centre at Kenyatta University and the iLabAfrica Business Innovation and Incubation Centre at Strathmore University, among others. Kabarak University also established an innovation and incubation centre in 2021 to develop innovation, commercialisation, networking and intellectual property capacity. Similarly, the University of Nairobi established the African Technology and Engineering Network (Afretec), which brings together a consortium of African and international universities to take advantage of growth in digital technologies for innovation and entrepreneurship.

4.1.5 Strategic partnerships and collaborations

Most universities in Kenya are facing significant challenges and constraints: to deal with this, they need to draw on a combination of government support and diverse strategic partnerships, both locally and internationally. There are successful case studies, including the British Council-funded Innovation for African Universities (IAU) programme, which, in addition to supporting relevant transformations within Kenyan institutions, links them to UK counterparts.

4.1.6 Deployment of information and communications technology (ICT) and digitalisation

Recent developments in ICT and digitalisation in Kenya represent exciting opportunities that Kenyan universities could and should tap into. The few universities that have invested in ICT have made significant progress. Still, while students have generally expressed satisfaction with ICT- and internet-related developments, there is still more to be done to ensure that students fully benefit from the opportunities created by ICT.

4.1.7 Access to financing

The students identified access to financing as a major hindrance to entrepreneurship. The government of Kenya has developed various initiatives to support aspiring entrepreneurs, including students, in accessing funding to start businesses. This needs to be strengthened further. Some universities have established funds that are awarded on a competitive basis rather than as part of affirmative action.

4.2 Summary

This study highlights the challenges faced by female students in accessing employment and entrepreneurship opportunities in Kenyan universities. Using the AGEE Framework, we have underscored how various interconnected factors contribute to these challenges. While evident progress has been made, gaps persist in policy implementation and institutional support, leaving female students needing client-specific interventions to realise their potential. Effective policies concerning accommodation, academic support, life skills and career guidance are prioritised in theory, but often need more effective implementation.

University leadership can play a transformative role in resolving these gaps. Institutions such as KCA University and Riara University, supported by initiatives like the British Council-funded IAU project, have demonstrated the value of entrepreneurship training and international partnerships. These efforts aim to bridge the gap between academic knowledge and industry knowhow, emphasising practical exposure and sector-specific training. Additionally, the Academia–Public–Private Partnerships Forum provides a space for universities to present innovations and engage with industry, as well as offering students unique entrepreneurial opportunities.

Emerging practices in institutions, such as widespread entrepreneurship training, policy reforms, university–industry links and incubation centres, signal positive strides. Dedan Kimathi University's Centre for Innovation and Entrepreneurship Management and Kenyatta University's Chandaria Business Innovation and Incubation Centre are notable examples of universities deliberately fostering employability and innovation. Strategic partnerships and collaborations with the private sector, such as the Afretec network, further improve universities' entrepreneurial, networking and intellectual property capacity.

Despite these advancements, challenges such as inadequate financing and digital access persist. Government initiatives and university-specific funding programmes are helping some students access start-up capital, but this needs to be increased. ICT and digitalisation also show potential for transformation, but efforts need to be scaled up to ensure students fully benefit from technological advancements.

In conclusion, while Kenyan universities are making commendable progress in tackling gender barriers, they are yet to fully align the implementation of their policies with their strategic goals. Investments in entrepreneurship training, industry links and ICT infrastructure, supported by robust partnerships, are necessary to support female students and prepare them for the evolving demands of the workforce. Institutions must sustain and expand these initiatives to achieve gender equality and foster inclusive progress across the higher education sector.

In conclusion, while Kenyan universities are making commendable progress in tackling gender barriers, they are yet to fully align the implementation of their policies with their strategic goals. Investments in entrepreneurship training, industry links and ICT infrastructure, supported by robust partnerships, are necessary to support female students and prepare them for the evolving demands of the workforce. Institutions must sustain and expand these initiatives to achieve gender equality and foster inclusive progress across the higher education sector.

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