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IDRC GRANT / SUBVENTION DU CRDI : - BRIDGING THE GENDER EQUALITY GAP IN SCIENCE AT THE WOMEN'S UNIVERSITY IN AFRICA

BRIDGING THE GENDER EQUALITY GAP IN SCIENCE AT THE WOMEN'S UNIVERSITY IN AFRICA, ZIMBABWE

Final Technical Report submitted to IDRC

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Abstract

Over the past decades, significant progress has been made to address gender disparities in university education in general and, to a certain extent, science disciplines. Various interventions, such as affirmative action policies, have been used to address this issue of gender disparity. However, much of what is known about this problem comes from higher education contexts in the global North with limited data on this issue emerging from the South and a paucity of understanding of how structural barriers in these contexts fail to attract, retain and ensure women complete their studies in STEM disciplines. To address this limitation, we conducted a gender audit at the only women-centred university in the SADC region, the Women's University of Africa (WUA), which has various campuses across Zimbabwe, to understand if and how policies and practices implemented at this institution have addressed systematic and systemic barriers to women's participation in higher education in general and science disciplines more specifically. Using an array of methods (document analysis, interviews with university stakeholders, focus groups with students and graduates, and observations), the audit found that overall, the university has implemented many progressive policies and practices to work towards its overarching vision of gender equality and achieve its gender-informed enrolment goal (85% female to 15% male student ratio). Despite these successes regarding overall admission rates (i.e. 83% women to 17% male student ratio), our study also found that gender gaps continue to persist in various science-related disciplines at WUA – gaps that can be explained by systematic and systemic issues in the country's higher education system that can potentially be addressed by more targeted and holistic interventions.

Keywords: higher education, Zimbabwe, gendered disparities, STEM, gender responsive and transformative pedagogy

LIST OF ACRONYMS

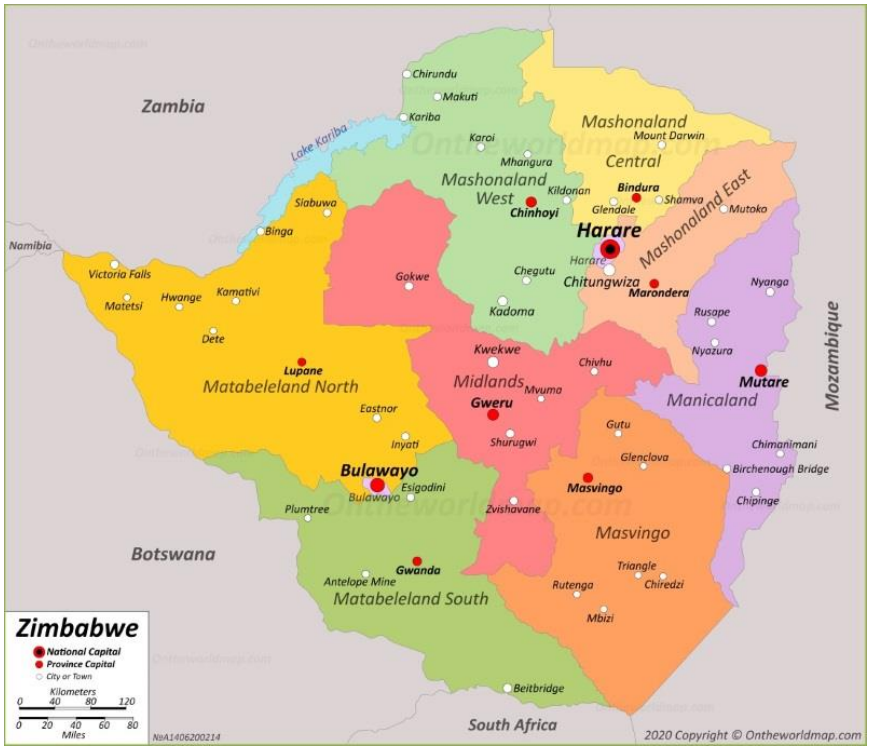
ECOZI	Education Coalition of Zimbabwe
FAWEZI	Forum for African Women Educationists Zimbabwe
GOZ	Government of Zimbabwe
GRP	Gender Responsive Pedagogy
GZU	Great Zimbabwe University
M&E	Monitoring and Evaluation
MOA	Memorandum of Agreement
MoPSE	Ministry of Primary and Secondary Education
MSU	Midlands State University
NDS	National Development Strategy
ODL	Open Distance Learning
SADC	Southern African Development Community
SDG	Sustainable Development Goal
STEM	Science, Technology, Engineering and Mathematics
TSP	Transitional Stabilisation Programme
UN	United Nations
UZ	University of Zimbabwe
WUA	Women's University in Africa
ZEGU	Zimbabwe Ezekiel Guti University
ZIMCHE	Zimbabwe Council for Higher Education
ZOU	Zimbabwe Open University

1. RESEARCH PROBLEM AND OBJECTIVES

World over, the important role of science and technology and gender equality for development has become imperative as espoused in the Sustainable Development Goals (SDGs) (UN, 2015). In Zimbabwe, the country's Vision 2030 for example, acknowledges the pivotal role of science and technology, with a particular focus on science disciplines in the country's industrialization agenda that is aimed at ensuring that the country attains an upper middle-income status by 2030. The 2021-2025 National Development Strategy (NDS 1) acknowledges the gender gap in science, technology, engineering and mathematics (STEM) disciplines and there is a commitment by NDS 1 to address this gap via inclusive and equitable access to education. In support of this vision, the Ministry of Higher and Tertiary Education, Innovation Science and Technology Development developed Doctrine 5.0, a framework and road map that describes the important role of universities in the country's industrialization agenda and emphasizes the place of science in this development agenda (GoZ, 2018). Although science is identified as one of the vehicles to the realization of Vision 2030 in Zimbabwe, the Vision also identifies gender equality, a human right and a foundation for peaceful, prosperous and sustainable development as an enabler and key driver for this Vision. To this end, inclusive science initiatives are recognized as fundamental for Zimbabwe's industrialization agenda.

The situation on the ground, however, is that women have achieved near-parity in several fields of study in the social sciences and humanities; yet, there are still persisting gaps in various STEM disciplines globally, including in Zimbabwe (National Science Foundation, 2011). In addition to fields of study, globally, the current stock of graduates is still highly skewed towards humanities and social sciences with less than 25% of graduates in STEM fields (Iwu & Azoro, 2017; World Economic Forum, 2016). Women continue to remain underrepresented among STEM graduates in Zimbabwe with female students at 19% compared to 39% of male students (World Economic Forum, 2018). Studies on the underrepresentation of women in STEM in Zimbabwe have linked this issue to structural factors created through the social structures of institutions and the segmentation of the labour market and internalised values and beliefs about appropriate roles and expectations (Gudyanga, 2016). In other words, the participation of women in STEM disciplines tends to be hampered by the deeply entrenched patriarchal and cultural norms and practices that can undermine women's agency and perpetuate the subservient status of women. Furthermore, the gap is commonly attributed to negative stereotypes and lack of role models, lowering girls' performance, aspirations vis-à-vis science and technology, covert discrimination, implicit biases and career preferences (Gudyanga, 2016). Societal constraints can and do force women to make 'choices' that often lead them away from STEM fields.

In trying to address some of these barriers to women's participation in higher education and STEM disciplines, in 1995 the Government of Zimbabwe implemented measures, such as an affirmative action admission policy, to facilitate women's entry into public universities (GoZ, 1995). This policy states that women require two points less than their male counterparts to gain admission to public higher education institutions in the countries. At that time, only 25% of enrolled students were women and in 2021, 54% of students in universities in the country were female, with almost 20% in STEM disciplines (UNESCO, 2021). The GoZ also provided scholarships for females enrolled in STEM disciplines. Yet, these measures have not registered significant traction towards the desired goal as the above statistics have shown. The continued gender disparities in higher education and the STEM disciplines in Zimbabwe saw the birth of WUA in 2002, with the specific mandate to address gender disparities in education – *"addressing gender disparity and fostering equity in university education" (https://www.wua.ac.zw/)*. The following map of Zimbabwe indicates the location of the WUA campuses in the major cities of Harare, Mutare and Bulawayo as well as the towns of Marondera and Kadoma.



Owing to its background, WUA has put in place policies and practices that deliberately promote diversity and inclusion to ensure that barriers to access to education by women in all fields are addressed. However, since its inception, no comprehensive study has been conducted to interrogate WUA's experiences and the effectiveness of its measures to mitigate or eliminate systemic barriers to a greater participation of women and other underrepresented groups, as well as increase diversity of personnel in science fields for lessons and best practice sharing. Such a study is important at this critical time in Zimbabwe when the higher education sector is operationalizing its Doctrine 5.0 to draw up important lessons for the sector for the industrialization of the country and the attainment of Vision 2030. It is against this background that this study with the following objectives was undertaken:

1.1 General Objective

The general objective of this project was to assist WUA to review, learn from and improve on its interventions to reduce systemic barriers to a greater participation of women in science -related disciplines at the University and beyond.

1.1.1 Specific objectives

The specific objectives of this study were as follows:

1. Explored the nature of systemic barriers and their consequences on the engagement of women in science fields at WUA and in Zimbabwe's institutions of higher education and inform measures of addressing the barriers.
2. Interrogated and evaluated practical and policy interventions by WUA (in its administration and science faculties) to mitigate these barriers to inform future interventions.
3. Designed, implemented and monitored novel approaches and interventions with WUA to address and reduce barriers preventing women's full participation in science fields at the University.
4. Proffered recommendations and share lessons and best practices with key stakeholders in Zimbabwe for the reduction of barriers preventing women's full participation in science fields in the country's higher education institutions.

2. METHODOLOGY

The project was implemented in two phases over 36 months. The first phase focussed on data collection for 12 months from January to December 2020, while the second phase (24 months) from January 2021 to December 2022 used the results to design, implement, monitor and evaluate the results.

Implementation of Phase 1

The project had proposed to design and administer two questionnaires to current and former students as well to faculty staff that included selected female and male lecturers, staff in the Registry department, key administrators in the University, and programme coordinators. The purpose of the questionnaire among students was to gather their views and perceptions on their experiences at WUA on its engendering agenda, with a particular focus on STEM. Among staff, the questionnaire was intended to gather data on the extent to which gender mainstreaming and inclusivity in general have been internalized and acted upon by staff, the extent of gender mainstreaming in terms of the development and delivery of gender-sensitive programs and services and their delivery including infrastructure and

equipment, mechanisms, practices and attitudes that have made a positive contribution to mainstreaming gender and promotion of women in STEM at WUA. The questionnaires also were intended to gather staff's perspectives about the extent to which policies are gender-sensitive and promote women in STEM, staff sex balance at WUA, and the challenges faced and the interventions being implemented to improve the institution's ability to address the barriers to women's participation in STEM among others.

There was a slight change to the original arrangement on the use of the questionnaire as a data collection method for gathering data from students as a result of the lockdown imposed by the Government of Zimbabwe as a measure to contain the spread of COVID 19. These imposed measures include Phase 4 lockdown (30 March to 19 April 2020), which restricted mobility, except for essential services; banned inter and intra-city transport, imposed school closure, closed all businesses except those offering essential services, banned gatherings, required mandatory masking and social distancing. Phase 2 was implemented in April to 3 May and to 17 May and indefinitely. This phase eased some of the Phase 4 lockdown conditions, allowing industry and commerce to open under supervision, banned intercity travel and gatherings of more than 50 people, extended opening times for business from 8am-3pm to 8am to 430pm and introduced a 6pm to 6am curfew. These measures affected data collection as universities and other entities were closed. Meetings with students and staff were only possible for one week towards the end of 2020 when students came to the campus for examinations. The team could not administer the desired number of questionnaires within a week; hence, it resorted to use of focus group discussions with the students (see Appendix 2). It was also difficult to bring together WUA alumni for focus group discussions (FGDs) due to mobility restrictions. As a result, the research team resorted to individual virtual discussions with the alumni. Resorting to digital platforms meant that those who lacked access to these platforms were excluded from the study and participatory methods such as FGDs became problematic.

Questionnaires were only administered to staff (see Appendix 4). A total of 17 gender audit questionnaires were administered to staff members, seven male and ten female.

Setting up appointments with key informants was also a challenge as most of them were working from home with limited access to internet. This meant deferring some of the interviews to a period when the lockdown restrictions were relaxed. The key stakeholders interviewed virtually during the lockdown include UN Women, UNESCO, Forum for African Women Educationists Zimbabwe (FAWEZI), Education Coalition of Zimbabwe (ECOZI), and Ministry of Primary and Secondary Education (MoPSE)

Key informant interviews with WUA staff (see Appendix 5) were held physically while with the interviews with the rest of the study's participants were done virtually (See Appendix 6). At WUA key informant interviews were conducted with 12 key senior administrators. In addition, fourteen full time lecturers in the following science programmes were also interviewed:

(i) Diploma in Environmental Management
(ii) BSc. Honours Degree in Clinical Midwifery
(iii) BSc Honours Degree Information Systems
(iv) BSc Honours Degree in Computer Science
(v) BSc Honours Degree in Information and Infrastructure Management Services.
(vi) BSc Honours Degree in Business Intelligence and Data Analytics.
(vii) BSc Agriculture Honours Degree in Agribusiness Management
(viii) BSc Agriculture Honours Degree in Animal Science
(ix) BSc Honours in Horticulture
(x) MSc Livestock Science and Meat Technology
(xi) MSc Agribusiness Systems Management and Development

Locating WUA alumni for purposes of this study was difficult as some contact details at the alumni office were no longer valid. To address this challenge, the research team made use of the alumni that were employed at WUA to assist in gaining contact with other alumni. A total of 19 alumni were interviewed - 9 males and 10 females (see Appendix 3).

Focus group discussions (FGDs) were conducted with STEM undergraduate and postgraduate students in the above cited programmes in separate groups at the Harare and Marondera campuses. Undergraduates were separated from postgraduates to allow for unfettered discussions. The groups combined both male and female students. Each group was made up of between eight and nine participants as a measure to contain the spread of COVID 19. A total of seven FGDs were conducted with a total of 107 students, 65 females and 42 males.

Table 1: Data Collection Tools and Respondents' Characteristics

Data collection method	Programme	Level of study	Female	Male	Total
Focus Group discussion with students	MSc in Livestock Science and Meat Technology	Masters	9	4	13
	MSc Agribusiness Systems Management and Development	Masters	9	5	14
	BSc Honours Degree in Computer Science	Undergrad Level 2	7	5	12
	BSc Honours Degree in Computer Science	Undergrad Level 4	8	6	14
	BSc Honours Degree Information Systems	Undergrad Level 2	9	5	14
	BSc Honours Degree Information Systems	Undergrad Level 4	7	5	12
	BSc Honours Degree Animal Science	Undergrad Level 2	8	6	14
	BSc Honours Degree Animal Science	Undergrad Level 4	8	6	14
Sub-total			**65**	**42**	**107**
Questionnaire with staff			10	7	17
Key informant interviews with key administrators			5	7	12
Key informant interviews with relevant stakeholders			6	8	14
In-depth interviews with alumni			10	9	19
Total			**96**	**73**	**169**

Ethics Process

The institution's ethics committee at WUA was not operating during COVID 19, thus the team sought guidance from IDRC and followed ethics guidelines according to the Canadian Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans. In the case of working with other individual in the research process, informed consent is cornerstone of the ethics process. David de Vaus (1995:334) gives an extensive checklist regarding informed consent. He advocates that informed consent needs to provide the participants with knowledge of: the research purpose and processes, any potential risks or harm, the benefits of the research, how the participants were chosen, the ability to ask questions concerning the research, the voluntary nature of their participation, the identity of the researcher and sponsor and how the findings will be used. It is this checklist that was used to ensure

that participants consented from an informed point of view (See Appendix 1) during all aspects of this study. In this research, participation was voluntary, based on participants' knowledge of research processes and the consequences of such processes on their well-being as well as the freedom to withdraw from the research process. Informed consent was sought from all research participants prior to having them involved in the data collection process. To do this, participants were informed of the purpose of the research and its significance. Obtaining written informed consent from participants using virtual platforms was difficult, the same way it was difficult for face-to-face meetings due to the risk of contracting and spreading COVID 19 that comes with exchanging paper and pen. As a result, it was difficult to obtain physical signatures. Verbal consent was therefore considered.

Informed consent also involves explaining that collected data may be shared with other researchers or development practitioners with interest in gender dynamics in Southern science systems. In this regard, confidentiality became a valuable tool that allowed data to be shared whilst preserving privacy of the contributors. Since this process requires that identifiers be changed in some way (Clark, 2006), the collected data in this study was either generalised or aggregated.

Confidentiality was observed throughout the research process in the sense that researcher can match names with responses but ensures that no one else will have access to them" (de Vaus 1995:337). To maintain participants' confidentiality during fieldwork, field notes were kept separate from the names of those who provide the data. In any publications or communication activities in which findings are used (e.g. conference presentations), the respondents' real names are not used, pseudonyms instead are used.

Researchers did not offer incentives to participants due to the obligation they have to the scientific community and the dilemma they present with reference to the data collected. Jennings (2001:113) has shown that with incentives the researcher cannot be sure whether the participant has responded because of genuine interest and provided truthful responses as opposed to participating in order to receive the incentive and giving responses not reflecting their true position. The decision not to offer incentives was reached bearing in mind that there are scientists who do not have funding for their projects so paying incentives would set a wrong precedent. More so, while some researchers have characterised payment of participants as a feature of ethically sound research, there remains the belief that providing monetary incentives might compromise the key ethical principle of participation in research, that of free and informed consent. In this regard, Head (2009) argues that the potential research participants from low socio-economic background might feel coerced if the incentive is attractive because of poverty. For these reasons participants were not paid incentives though of course, focus group discussions participants were given money to cover their travel and subsistence costs.

During data collection, the research team adhered to all COVID-19 protocols in the country. Precautionary measures that were taken included wearing of protective masks during interviews and FGDs, regular sanisation of hands, no-shaking of hands, maintaining physical distance of between one to two meters, having a maximum of nine participants in FGDs and obtaining verbal consent instead of written consent to avoid infection during exchange of papers.

Data Analysis

The primary analytical approach for the qualitative data involved content analysis. This allowed us to identify, organize, and categorize themes in the transcripts, which was done using Dedoose. This process involved identifying the major themes in the data, based on the study questions and objectives. This thematic coding allowed us to ensure the qualitative analysis remained focused on the study objectives, while also remaining flexible enough to capture emerging themes in the data. Results interpretation considered key themes, which raised certain themes, and relationships that exist between themes that helped us answer the study questions.

Quantitative data from the questionnaire with staff was cleaned and entered into Excel for analysis. Due to the number of low response rate to questionnaires due to COVID 19, only 17 questionnaires were completed. Descriptive analysis was therefore conducted providing information on perceptions on commitment to gender equality within the University, staff capacity to mainstream gender in the institution, awareness of the existing gender equality policy framework in the university, gender responsiveness of the University infrastructure and facilities among others.

Phase 2: Implementation, Monitoring and Evaluation

Using the results from phase 1, the research team worked with WUA management to design intervention measures for inclusive STEM programmes at the University as well as to devise action plans for implementation. For this second phase of the project, physical monitoring visits to the WUA

were conducted, complemented by regular virtual monitoring calls to members of the Gender Equality committee. The purpose of the monitoring visits and calls were to measure progress of implementation of the action plan developed by the Gender Equality committee. WUA has two intakes in a year, that is February and August, hence the 24 months of this phase of the project, four academic circles were dedicated to implementation, monitoring and evaluation. The research team monitored the following enrolment intakes: August 2021, February 2022 and August 2022 to establish the enrolment statistics of women in STEM fields and the number of STEM related programmes available at WUA as well as change in policies and practice at WUA.

3. PROJECT OUTPUTS

The sub-sections below outline the various activities and outputs the study team have produced from this project.

Table 2: Calendar of events

Date	Activity	Venue	Outputs
19 February 2020	Review of proposal meeting focusing on ethics and data management, methodology, roles and responsibilities, definitions of key terms and timelines	Virtual	Nil
28 April 2020	Meet and Greet session	Virtual	
29 April 2020	Recording of presentation for the Inception workshop	Virtual	Recording by IDRC
11, 13 and 15 May 2020	Inception workshop	Virtual	PPT Presentation of the project proposal
28 May 2020	Student concept note review and data collection planning, Inception workshop report back and discussion of data collection tools and preparations for project launch	Virtual	Nil
4 June 2020	Project launch at WUA	WUA Boardroom	PPT Presentation of the project Proposal
26 June 2020	Discussion of consent forms, data management plan and data collection tools	Virtual	Draft data collection tools and consent forms
25 July 2020	Finalisation of tools and consent forms	Virtual	Revised data collection tools and consent forms
16-30 September 2020	Secondary data collection from WUA	Virtual	Draft report with secondary data
9 November 2020	Methodology training	WUA Boardroom	Final data collection tools
10-14 November 2020	Key Informant interviews and FGDs with students at WUA	WUA Harare campus	Raw data
18 November 2020	Women in STEM Conference	Virtual	Nil
25-27 November 2020	Interviews with alumni	Virtual	Raw data
30 November 2020	Discussion on pedagogy and COVID issues coming out of the data	Virtual	Reflections notes
3-5 December 2020	Data collection at Marondera campus	Marondera campus	
11 February 2021	Radio Programme disseminating findings on Barriers to Women and Girls' Participation in Science Programmes in Zimbabwe	Virtual	Audio recording
10-15 March 2021	Interviews with stakeholders and alumni	Virtual	Raw data
17 June 2021	Dissemination of project findings at Women's University in Africa	WUA Boardroom	PPT Presentation
25 July 2021	Reflections on feedback from the dissemination workshop at Women's University in Africa	Virtual	Reflections notes

29-31 July 2021	Gender and STEM Network Conference	Virtual	Nil
21 August 2021	Preparation of a concept note for the policy dialogue meeting	Virtual	Draft concept note
24 September 2021	Meeting of the Women's University in Africa Gender Committee to discuss the creation of a subcommittee, the Women in Science Taskforce	Virtual	Minutes
18 October 2021	Development of the Women in Science Taskforce committee Terms of Reference and Action Plan	Virtual	Terms of Reference and Action Plan
25 November 2021	Policy dialogue meeting	Virtual	Draft Policy paper
26 November 2021	Post-mortem of the policy dialogue meeting and next steps		
29 November 2021	Finalisation of a policy brief on Promoting Women in Science in Zimbabwe	Virtual	Final policy paper
1 December 2021	Monitoring of WUA August intake and other developments on Science Programmes	Virtual	Updated report
19 January 2022	Development of a WUA gender equality in Science progress monitoring tool	Virtual	Gender equality tracking tool
22-24 March 2022	Monitoring the February 2022 Women in Science intake and changes in the WUA policies, culture and practices	WUA	Updated report
14-17 June 2022	Monitoring the changes in the WUA policies, culture and practices	WUA	Updated report
21 June 2022	Results dissemination workshop	WUA	PPT Presentation
July-August 2022	Production of a draft Practitioner Guide on Gender Responsive STEM Education	Virtual and WUA	Draft Practitioner guide
21-23 September 2022	Monitoring the February 2022 Women in Science intake and changes in the WUA policies, culture and practices	WUA	Updated report
9-10 November 2022	Results Dissemination workshop	WUA	PPT Presentation
22-25 November 2022	Presentation of project results at the Teaching and Learning Conference - Durban University of Technology	Durban, South Africa	PPT presentation
25 January 2023	Brown Bag presentation	Virtual	PPT Presentation

Some of the activities and outputs are explained in detail below:

3.1 DISSEMINATION WORKSHOPS IN HARARE

This workshop was held on 21 June 2022 at the University's campus in Harare. It was attended by the University's senior management, including the Pro-Vice Chancellor responsible for Academic Affairs, Deans of faculties, the Registrar, the Bursar, Lecturers, and the Director of Quality Assurance. As students were on vacation, they were not represented at the workshop. The University management received the results and recommendations positively and was ready to take up the recommendations.

A second dissemination workshop was hosted at WUA on 9 and 10 November 2022 targeting WUA administrative and academic staff and external stakeholders including representatives from other Universities, the Ministry of Higher and Tertiary Education, the Ministry of Primary and Secondary Education, non-governmental organisations with an interest in gender equality in education and UN agencies. The workshop was poorly attended by external stakeholders, as they stated that the workshop's timing made their attendance difficult because of other year-end commitments.

The output of these workshops is a PowerPoint presentation with study findings.

3.2 RADIO PROGRAMME

The project team participated in the commemoration of the 2021 International Day of Women and Girls in Science by disseminating preliminary findings from the study on Classic 263 radio channel, a national radio station. The research team members were connected virtually to the radio and to DSTV audio

channel 893 national radio station. The focus of the conversation was to share findings from this study about the challenges women can experience pursuing post-secondary studies in various science disciplines and opportunities, strategies and best practices that have been implemented at Women's University in Africa to address these challenges. The programme generated significant interest among the public, especially on issues of culture, stereotyping as well as the finding that the two Ministries responsible for Education (basic/secondary and post-secondary) do not work in a coordinated manner.

3.3 WEBINAR

The project team hosted a webinar to facilitate dissemination of results to policy makers and relevant staff members in tertiary institutions with a focus on gender responsive pedagogy. The webinar was titled, 'Gender Responsive Pedagogy: Towards Inclusive Science Programmes in Zimbabwe'. It was informed by the research findings. The background was that addressing gender inequality in science education requires an approach that ensures both girls and boys, women and men not only gain access to and complete education cycles but are equally empowered through education. A gender responsive pedagogy is a critical aspect of this process because it responds to the specific needs of girls and boys through the teaching and learning process and ensures that girls, boys, women and men are able to fulfil their potential in science. Pedagogy includes what is taught and how it is taught. Lesson planning, teaching instruction, classroom management, performance evaluation and assessment are all incorporated in the gender-responsive pedagogy (Mlama et al., 2005). Generally, pedagogy relates to the profession of teaching, educating or instructing. Nabbuye (2018) has noted that gender-responsive pedagogy can make girls engage and excel in STEM fields where they gain relevant skills to enable them to compete in the labour market in line with post 2015 Sustainable Development Goals. The research team saw immediate need to create awareness on how lecturers should treat boys and girls, men and women during instructional hours and for the Zimbabwe Council for Higher Education, as a regulatory board, to consider this an urgent policy issue for enforcement in all universities in the country.

To this end, the webinar aimed to create awareness on gender responsive pedagogy in university education in general and in science disciplines in particular. This webinar came as an output and a response to Objective 4 of the project that is to "Proffer recommendations and share lessons and best practices with key stakeholders in Zimbabwe for the reduction of barriers preventing women's full participation in Science fields in the country's higher education institutions.**"** At this webinar, which brought together critical stakeholders in the higher education sector in Zimbabwe, issues of gender responsive pedagogy for inclusive learning practices in Zimbabwe's tertiary institutions were interrogated. Key issues tackled include why gender responsive pedagogy in Zimbabwe's institutions of higher learning and in science should be implemented; challenges of implementing this approach and how to implement it for optimum results. The expected outcome of the webinar was improved gender equality outcomes as a result of enhanced gender transformative practices in universities.

The webinar was heavily subscribed with 86 participants attending from Women's University in Africa, Zimbabwe Open University (ZOU), University of Zimbabwe (UZ), Zimbabwe Ezekiel Guti University (ZEGU), Midlands State University (MSU), Great Zimbabwe University (GZU), Africa University, Zimbabwe Council of Higher Education, Ministry of Primary and Secondary Education, UN Women, UNESCO, Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development, WUA alumni and civil society organisations that include Education Coalition of Zimbabwe. Staff members from universities included lecturers and directors of quality assurance.

Issues raised during the webinar centred on attitudes of lecturing staff towards gender mainstreaming in general and gender responsive pedagogy in particular, lack of capacity to do so, lack of political will and absence of a policy framework guiding gender responsive pedagogy. The position taken was that the research team crafts a policy position paper for consideration by the Zimbabwe Council for Higher Education for enforcement by all tertiary institutions. It was proposed that this policy position will make it mandatory, during curriculum review at higher education institutions in the country, for ZIMCHE to consider gender issues and that no new programme will be approved for roll out at HEIs in Zimbabwe without clear cut steps included on how gender responsive pedagogy will be implemented at their institution. This process will also include old courses being re-designed for significant learning and transformation as well as planning effective learning experiences. The team developed the policy brief as will be discussed later.

Following this webinar, the team in partnership with ZIMCHE, Harare Institute of Technology, University of Zimbabwe and INASP developed a proposal on 'Gender Responsive Teaching and Learning in Higher Education in Zimbabwe: Delivering a curriculum to meet the needs of all learners.' The problem informing this proposed project stemmed from this study's research findings, which established that teaching practices are one of the major impediments to attendance and retention,

reporting that female students' achievements and abilities are routinely under-estimated by male teachers and fellow students. This is often due to:

- Prevailing **pedagogical practices** that reinforce gender inequalities in the classroom, a result of educators' lack of awareness of issues of inclusion, or of teaching and learning practices that reinforce gender norms
- Female students are often **discouraged from taking a leadership** role within the classroom, or from progressing in what may be perceived as 'male subjects.
- Course materials and case studies frequently reinforce traditional **gender stereotypes**.

By not considering gender within teaching and learning, universities risk constraining women's participation and interaction in class, limiting their opportunities to learn and compete for grades, and their successful graduation and attainment of jobs after completing their studies.

The project developed will be implemented over an initial period of two years. During this period, the team will train, support and mentor groups of lecturers in gender responsive teaching methods in order to change what they teach (their course content) and how they teach it (their teaching methods) to construct more gender equitable learning spaces. At the same time, the project will nurture a digital community of lecturers across the country, supporting them with online training, resources and peer-to-peer support. The project will support the integration of a gender-equitable lens into teaching and learning using a blended approach. Further information about this proposed project can be obtained by contacting this project's PI.

The team is mobilising resources for the implementation of this proposal.

3.4 DRAFT MANUSCRIPT FOR PUBLICATION

The research team is in the process of finalising a journal article for publication with International Journal of Higher Education Research, an open access journal. The title of the manuscript is "Beyond Access: Towards Gender Transformative Higher Education in Zimbabwe". It argues that Gender Transformative Higher Education requires strategies and programmes that intentionally challenge inequalities in gender roles and power dynamics both in the education system and in communities. Gender Transformative Education can be achieved through an array of actions at all levels. The following points emanating from our study offer robust ideas and strategies for stakeholders to pursue:

i) Policy Transformation

University leaders need to put gender equality at the heart of education sector plans, budgets and policies.

ii) Pedagogy Transformation

Lecturers are the cornerstone of the higher education system. Their very role as educators marks them out as change agents and role models. For them to make the most of these roles, tertiary institutions need:

a) Lecturer induction/training on how to actively promote gender equality in their teaching practices. Lecturers need to be able to examine their own gender biases and identify and challenge inequalities in the lecture room.

b) Reformed curricula, including gender transformative modules and teaching and learning materials.

c) Peer learning and exchange mechanisms, through which lecturers can learn from each other, share experiences and support each other in their efforts to deepen transformative lecture room practices.

iii) Transformation of the Teaching and Learning Environment

Through our project, we established a secure learning environment can play a significant role in the recruitment and retention of students across all disciplines. Students need to feel secure in their learning environment – on campus and online. To ensure this safety, university regulations and codes of conduct must include actions to prevent sexual harassment and gender-based violence. This can be done, for example, by ensuring availability of safe and university-run transport services, on-campus accommodation, security services, and a day care centre for children of students and staff as the study established.

iv) Embracing Students' Voice and Agency

Listen to the voices of students by including them in decision-making. Some of the examples cited include a Student Executive Council (SEC) policy in place that provides for the president to be female and for gender balance in the council; key university committees at departmental and faculty level to include students; a student affairs committee in place, as well as student representatives in gender equality committee, fees revision committee, Senate and Council.

v) Transformation of Stakeholder Engagement

Strengthen institutional partnerships with government, civil society, women's movements and the private sector. Structural change, especially at the institutional level, requires bold partnerships to review and reform processes that lead to gender-based exclusion. Our monitoring visits established that work being done by the Gender and Diversity Centre is flagged out including partnership with women's rights organisations that include the Zimbabwe Women's Resource Centre and Network (ZWRCN) and Christian Aid; establishment of a Feminist Knowledge Hub at the University in partnership with UN Women under the Spotlight Initiative; gender capacity strengthening of Zimplats and TelOne.

vi) Transformation of Evidence/Knowledge Generation

Gender transformative education strategies and intervention packages must be informed by a nuanced understanding of the gender roles and norms, and underlying power relations specific to the local context. This process requires:

- Regular gender audits to help understand what works, what does not work and how to scale-up workable strategies and intervention packages. This evidence can then be used to advocate for sustained investment.

- Shifted perspectives on how progress is viewed and measured. This nuanced understanding of progress will require moving beyond assessment of learning outcomes and current measures of gender equality to measure changes in gender norms and attitudes in universities. For example, monitoring changes in women and girls' individual agency or tracking community perceptions around the acceptability of females in male dominated trades and vice versa; measuring female performance in male dominated disciplines; levels of deferments, drop-outs and change of programme.

- Leaders within higher education systems to be equipped to apply gender analysis, and to understand and unpack gender inequality and how it manifests in the education system.

3.5 POLICY BRIEF

As discussed earlier, the team developed the policy brief entitled, "A Case for Development of Minimum Gender Responsive Curriculum Development Standards for Zimbabwe's Higher Education Institutions (HEIs)". This policy brief recommends that ZIMCHE develops and implements Minimum Gender Responsive Curriculum Development Standards to guide both private and public universities in the development and review of curriculum. The brief states that those responsible for reviewing regulations for new university programmes will use this instrument to assess the gender responsiveness of new teaching materials. Implementation of this policy will ensure that new university programmes are not approved for roll out without clear cut steps included on gender responsive pedagogy. This process will also include old courses being re-designed for significant learning and transformation as well as planning effective learning experiences. Additionally, the brief recommends that ZIMCHE includes gender responsive pedagogy in its quality assurance capacity building programme for quality assurance directorates. Quality assurance directorates will then cascade the training to academic staff in their respective universities. The training can cover among other things, how gender should be introduced to the curriculum and how it can be incorporated into course content, resources and pedagogy, gender balance in examples used in class; invitation of female speakers where there are few books authored by women; language used in class; classroom management and set up, that is, where people sit and how they interact; making sure that in each group there are female students, avoiding females sitting alone and away from male counterparts; equal participation in class; ensuring female leaders participate

in group discussions and female students are actively involved and participating in class; and use of blended learning activities to bring understanding.

3.6 PRACTITIONER GUIDE ON GENDER RESPONSIVE STEM EDUCATION

A guide on Gender Responsive STEM Education was also developed. The objective of the guide is to share a broader understanding of the theory and practice of gender responsive STEM education to support its effective development at various levels. The guide is a useful resource for policy makers, those responsible for curriculum development and review, lecturers and university administrators. It has the following modules:

1. Understanding Gender issues in Higher Education;
2. Gender Analysis and Gender mainstreaming in Higher Education;
3. Gender responsive STEM pedagogy: Learning and assessment;
4. Developing gender responsive STEM resources

The guide will be peer reviewed before its dissemination and publication for use by the relevant stakeholders. It is hoped that the guide will be published within the second quarter of 2023.

3.7 MPHIL THESIS

An MPhil student registered with the University of Zimbabwe, who was part of the project is working on her thesis titled, 'Addressing Gender Disparities in the Uptake of Science Related Degree Programmes at Women's University in Africa: Towards a Gender Responsive Model of Inclusion". Her MPhil registration was affected by COVID 19, hence she is still analysing data for her thesis.

3.8 TEACHING AND LEARNING CONFERENCE - DURBAN UNIVERSITY OF TECHNOLOGY

The project PI, in collaboration with PIs from two other Breaking Barriers projects, presented on research findings from their studies in a panel presentation at the Durban University of Technology's Annual Learning and Teaching Imbizo Conference from the 22nd to the 25th of November 2022 in Durban, South Africa. The panel presentation was entitled "Equity, Diversity and Inclusion in STEM Studies: Making African Universities More Inclusive Through Gender Responsive Pedagogies". The conference theme was, "Time for Universities to Grow Up? Envisioning and Creating New Futures and Widening Debates on Critical Higher Education Imperatives".

3.9 BROWN BAG ON 25 JANUARY 2023

A brown bag presentation of the findings of the project was conducted to a broad range of stakeholders, particularly members of other Breaking Barriers projects and Gender in STEM projects, on 25 January 2023.

4. PROJECT OUTCOMES

The project through its recommendations contributed to changes in policy and practice regarding gender issues at the Women's University in Africa, which led to an improvement in female students' enrolment in STEM disciplines, regular training of staff on gender for improved capacity to mainstream gender in their day to day activities and expanded policy capacities of the researchers, as detailed below.

4.1 Changes in behaviours and actions at WUA

Guided by project recommendations, WUA has renewed its thrust on promoting gender equality through first of all resuscitating its Gender Equality Committee that had been dormant since the inception of the University. Under this committee a sub-committee, 'Women in Science Taskforce Committee' was established. The terms of reference of the University's Gender Equality Committee are as follows:

- To ensure students and staff awareness of gender.
- To ensure integration of gender perspectives in all university programmes.
- To review and maintain existing policies for gender sensitivity.
- To facilitate gender equality and women empowerment programmes through partnerships with external organisations.
- To monitor and evaluate the implementation of the WUA Gender Policy.

Membership includes:

- Chairperson as appointed by the Vice Chancellor
- Pro-Vice Chancellors
- Director Quality Assurance
- Director Research and Postgraduate Centre
- Information Technologist
- Registrar
- One Representative elected by each Faculty
- Student Executive Council Representatives

- Director-Marketing and Public Relations

The Women in Science Taskforce (created as a recommendation from the project), a sub-committee of the WUA Gender Equality Committee's Terms of Reference are to:

- Recommend the design and implementation of initiatives to promote Women in Science in the University
- Develop an action plan for the implementation of the initiatives with clear objectives, targets, milestones and deliverables
- Develop specific monitoring and evaluation tools or instruments
- Monitor progress on implementation of gender mainstreaming initiatives in science disciplines
- Produce reports for consideration by the Gender Equality Committee

Membership includes:

- Pro-Vice Chancellor, Academic Affairs
- Registrar
- Director Quality Assurance
- Director Research
- Information Technologist
- Two female students from the Faculty of Science
- Dean of the Faculty of Science
- IDRC project principal and co-principal investigators

The taskforce developed an action plan, whose progress is presented in the table below:

Table 3: Status of Achievement of Action plan for the Women in Science Taskforce Committee

Objective	Strategies	Indicator	Status
Improve the uptake of science programmes by female students at WUA	• Increase the number of science programmes to choose from	Number of new science programmes introduced	4 (BSc Honours in Health Services, BSc Honours in Nursing Science, MSc in Midwifery Education and MSc in Public Health
	• A focal person/department responsible for gender in the University	Focal person or department responsible for gender established	Gender and Diversity Centre Director in place
	• Promote gender sensitive infrastructure development	Infrastructure sensitive to the needs of female students	Toilets with showers for female students and a convenient shop were constructed
	• Development of a WUA gender policy and Gender Mainstreaming Strategy	Gender policy and Mainstreaming Strategy in place	Draft gender policy in place and gender equality promotion included as a stand alone pillar in the University's 2023-2027 strategic plan
	• Update the University's Sexual Harassment Policy	Updated Sexual harassment policy in place	Draft updated sexual

			harassment policy in place
	• Full fledged gender audit of the institution	Gender audit report	In progress
	• Training of staff on gender mainstreaming	Improved skills to mainstream gender Positive attitudes towards gender issues More female students in science programmes	Gender mainstreaming training of all university staff was conducted
	• Training of lecturers in gender responsive pedagogy	Participation of women in science disciplines	GRP training of lecturers was conducted
	• Design a simple, specific framework on gender responsive pedagogy for use by all lecturers	Participation of women in science disciplines	Guide was developed
	• Mentorship programme for female science students	Mentorship programme in place	Mentorship programme in place through the STEM Centre
	• Partnerships with the private sector on science	MOUs in place with the private sector	MOU with STEM Power in place

In order to widen the scope of choice for students who want to enrol in science disciplines, the University developed regulations for new science programmes in the following areas:

- BSc in Palliative Care
- BSC in Emergency Medical Care
- BSc Honours in Health Services Management
- BSc Honours in Nursing Science
- MSc in Midwifery Education
- MSc in Public Health

The regulations were submitted to ZIMCHE for approval. Regulations for the following programmes were unconditionally approved: BSC in Palliative Care, BSc in Emergency Medical care, BSc in Health Services Management and MSc in Midwifery Education while MSc in Public Health and BSc in Nursing Science were conditionally approved.

The University has also entered into a partnership with Harare Polytechnic to start Engineering degree programmes using infrastructure and equipment at the Polytechnic. The University is in the process of developing regulations for these programmes.

The University signed a Memorandum of Agreement with STEM Power, an international non-governmental organisation whose aim is to enrich hands on practice in STEM fields. Under this agreement, STEM Power donated an Electronic and virtual lab as well as funds to support the lab with staff and consumables. The lab staff are responsible for student mentorship. From this, the University has established a STEM Centre which will see the engendering of the country's industrialisation processes through the active involvement of WUA students, who are mostly female. The STEM centre initiative is also a drive aligned to the nation's National Development Strategy's thrust on increasing the uptake of STEM disciplines by female students. The STEM centre is creating a friendly environment where students come up with innovative solutions to real life problems in various sectors. So far, the STEM centre has developed functional prototypes that include a greenhouse monitoring system, a

smart traffic management system, and a soil moisture monitoring and automated irrigation system. These projects were pitched at the WUA STEM centre launch, Harare Agricultural show and several career guidance platforms. Farmers have shown keen interest in the agriculture related innovations, namely, the greenhouse monitoring system and the soil moisture monitoring and automated irrigation system and are looking forward to the introduction of the products on the market. The STEM centre is also working on an automated boom gate for the University's main campus, over speeding automobile detection and notification device, environmental management solutions, self-serving shop and smart-traffic management system.

The University developed a gender policy which is in draft form, awaiting University council approval. In addition, the University updated its Anti- Sexual harassment policy in line with recent global trends and developments. The University developed its 2023-2027 Strategic Plan which has a renewed thrust on gender equality. The strategic plan has a stand alone pillar on gender equality promotion. Below is an extract on Gender Equality Promotion from the Strategic Plan:

We commit to deliver on our aspirational agenda to provide gender-sensitive and socially responsible education and training in an environment of principled inquiry, tolerance and equity. Gender-sensitivity in everything we do will be our marker of distinction.

SPECIFIC OBJECTIVES	TARGETS
Promote women at the workplace and enhance female student enrolment Build a culture for gender sensitivity Establish networks for women scholars	At least 50% of decision making positions occupied by women. > 85% female student enrolment at ZNQF Levels 8, 9 and 10. Wide range of policies promoting gender equality. At least two functional networks of women scholars created.

Strategies

1	Formulate and continuously review policies that promote gender imperatives in the institution.
2	Review and improve our arrangements to support personal and career development of all female staff.
3	Support and encourage women to get into managerial positions in the University.
4	Ensure that the University remains an attractive place to work for women considering the work environment, work-life balance, childcare, and salary.
5	Build networks of women scholars and monitor their functionality.
6	Create scholarships for female students.
7	Enhance undergraduate and graduate admissions to optimise opportunity for female applicants. Develop alternative entry pathways for women applicants who do not meet conventional entry requirements through recognition of prior learning
8	Conduct leadership training for female staff.
9	Ensure that curricula address gender competencies
10	Increase the number of STEM disciplines and female uptake of these disciplines.
11	Develop and conduct research that focuses on issues of interest to women

The University has established a Gender and Diversity Centre ((*https://www.wua.ac.zw/*) whose objectives are to:

1. Address the gender disparities in higher education in Zimbabwe and in Africa;
2. Provide opportunities of research, innovation and development in areas of vital concern to women in Africa;
3. Produce and deliver new body of evidence and a compelling narrative meant to deepen and influence gender informed policy making and practice in Africa
4. Open up a permanent network to academic women on a global scale, which would strengthen existing academic structures and enrich the contents of their disciplines;
5. Link the education of women to poverty reduction in Africa;
6. Build the capacity of women to participate effectively through leadership and gender sensitivity and mentoring; and
7. Enhance gender mainstreaming in the nation and the region.

Through the Gender and Diversity centre, the University has started to influence external organisational practices in gender mainstreaming and promotion of gender equality. In 2021, the centre was engaged by a private company that specialises in mining to train its staff and its gender forum in gender mainstreaming. In 2022, the centre was also contracted by TelOne(Private) Limited, a company that provides connectivity and digital solutions for the purpose of training and institutionalisation of gender equality to help create a gender sensitive workplace, ensure that gender equality is inculcated throughout the organisation supported by requisite budgets and ensure gender equality in TelOne policies. The scope of work involved:

- Conducting a gender audit of TelOne and recommending appropriate interventions identified through the audit by coming up with a gender mainstreaming strategy
- Training of 1670 TelOne employees across the whole country

- Developing a Gender Forum Framework, Gender training manual as well as Gender Mainstreaming Toolkit and checklists specific to TelOne

The University entered into an agreement with UN Women for the establishment of a Feminist Knowledge Hub. The overall purpose of the hub is to strengthen feminist knowledge production, dissemination and networking for movement building. Specifically, the Hub aims to:

- Capacitate the women's movement in evidence generation, feminism and its principles for improved feminist organizing,
- Promote the co-creation of African feminist knowledge between academia, civil society, the private sector and communities and promote their networking for a strong movement building.
- Enhance the visibility of African feminist research, theories and practice.

The Hub, through the WUA Gender and Diversity Centre conducts a number of activities including:

- hosting periodic dialogue sessions on critical feminist theories, debates and methodologies;
- offering feminist and research related short courses to enhance feminist knowledge and practice as well as evidence-based programming respectively;
- providing a Resource Centre with physical and virtual resources on feminist knowledge (e.g videos, books and articles).
- conducting collaborative feminist research for dissemination to a wider community

The establishment of the Feminist Knowledge Hub seeks to achieve the following outcomes:

- Strengthened capacity among civil society actors to implement evidence-based programming and advocacy
- Increased African feminist knowledge generation
- Increased feminist knowledge access and use among academics, students, CSOs and CBOs who lobby for gender equality

4.2 IMPROVED STAFF CAPACITY

Training of staff all University staff in gender and academic staff in gender responsive pedagogy was conducted by the University through its Gender and Diversity Centre resulting in changed attitudes and practices within the University with regard to implementing gender responsive pedagogical practices in their classroom teaching.

4.3 IMPROVED CAPACITY OF THE RESEARCH TEAM ON STAKEHOLDER ENGAGEMENT AND DIALOGUE

Following submission of the policy brief, ZIMCHE approached the University to spearhead the introduction of a programme in Higher Education Leadership and Management under which GRP issues are covered in detail. The programme is aimed at equipping students, who are mostly university staff with substantive knowledge of higher education as a field of study with a view to prepare them for responsible positions in higher education administration, leadership, management, governance, teaching, research and policy analysis. The overall programme is focused on preparing college and university leaders and managers. The regulations for the programme were developed and submitted to ZIMCHE for approval before roll out.

5. LESSONS LEARNT

a) Projects of this nature require sufficient time to set up, implement, and nurture and monitor the project for project effectiveness and impact.
b) The project implementation period coincided with events that required the project to be highly adaptable in order to remain effective. Innovation and flexibility in project implementation were important lessons learnt.

6. PLANNED ACTIVITIES

The following are some of the planned activities.

6.1 Monitoring Gender Related Developments

The team proposes to monitor the gender related developments in the University during the first quarter of 2023.

6.2. Participation at the INORMS Conference-30 May-2 June 2023

The team, together with other Breaking Barriers grant recipients submitted an abstract to participate at the INORMS conference in Durban from 30 May to 2 June 2022. The conference is running under the theme, 'Towards a Utopia in Research and Innovation Management". The abstract was accepted and the presentation will be under the broad topic "Responsible research: Enablers and Barriers to Women's Participation in STEM".

6.3 Participation at the Gender Summit: Africa in Ghana

The Gender Summit, Africa will be held in Accra, Ghana in early June, 2023. This will be a good platform to widely disseminate the research findings hence the team has plans to take part in the 2023 summit.

6.4 Publications

The team is planning to publish the Practitioner's Guide, as well as the manuscript on top of developing other material for publication.

7. CONCLUSION AND RECOMMENDATIONS

The project has led to the repositioning of Women's University of Africa as a leader in the promotion of gender equality and fostering equity in university education in Zimbabwe through dialoguing with ZIMCHE on gender responsive pedagogy, the agreed position between the University and ZIMCHE to introduce a programme on Higher Education Leadership and Management as well as engagement with diverse stakeholders through the Gender and Diversity Centre activities. The research made significant contributions towards looking beyond access to higher education to understanding and addressing the systematic and systemic barriers within the university system that prevent women's participation in STEM disciplines. These barriers must be addressed if gender equality in these disciplines is to be achieved. The study's finding also illustrated the need for a collaborative and multi-stakeholder approach towards improving participation by females in STEM disciplines.

- **Project extension**

Interventions of the magnitude of the Bridging the Gender Equality Gap in Science at Women's University in Africa require longer implementation periods, a minimum of 5 years for sustainable results. The project has achieved significant successes in terms of change of policy, attitudes, and practices within the University as well as among critical stakeholders within the Higher Education sector in Zimbabwe. However, more results could be achieved through pilot implementation of the Practitioners' Guide as well as roll out of the project on **Gender Responsive Teaching and Learning in Higher Education in Zimbabwe: Delivering a curriculum to meet the needs of all learners.'** It is in this context that the team recommends future support for an addition research project, where all the project's initiatives would be rolled out and monitored. This follow-up project would allow the team to monitor the performance of WUA on gender mainstreaming in general and in uptake of science programmes in particular. It will also allow tracking of retention and performance of female students in science disciplines; implementation of the policy brief recommendations by ZIMCHE and piloting of gender responsive pedagogy guidelines within WUA, the University of Zimbabwe and Harare Institute of Technology. This funding could be for a two to three year period.

REFERENCES

GoZ (2018) Vision 2030: Towards a Prosperous & Empowered Upper Middle Income Society by 2030

GoZ (2020) National Development Strategy 1 (2021-2025)

Gudyanga, A. (2016). Zimbabwean Female Participation in Physics: Factors of Identity Formation Considered as Contributing to Developing an Orientation to Physics by Female Students. Journal of *Education and Practice Vol 5 (26) pp 159-171.*

Iwu, R.U, & Azoro. A.V. (2017) A Study on the barriers to participation of females in Science, Mathematics and Technology education in Imo State: The way forward. *Educational Research and Reviews.* Vol.12(17):832-838.

Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (2019-2023) Strategic Plan

National Science Foundation (2011). Science and Engineering Indicators. Retrieved from http://www.nsf.statistic/seind

Women's University in Africa (2010) Annual Report

Women's University in Africa (2016-2020) Transformational Strategy

Women's University in Africa (2023-2027) Transformational Strategy

World Economic Forum (2016) Human Capital Report

8. APPENDICES

8.1 APPENDIX 1: CONSENT FORM

UNIVERSITY OF ZIMBABWE

This informed consent form is for stakeholders who we are inviting to participate in a research titled "Bridging the Gender Equality Gap in Science at Women's University in Africa, Zimbabwe".

Name of Principal Investigator: Sunungurai Dominica Chingarande
Name of Organization: University of Zimbabwe (UZ)
Name of Sponsor: International Development Research Centre (IDRC)
Name of Project: Bridging the Gender Equality Gap in Science at the Women's University in Africa (WUA), Zimbabwe

This Informed Consent Form has two parts:

- **Information Sheet (to share information about the study with you)**
- **Certificate of Consent (for signatures if you choose to participate)**

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Introduction
Example: I am ---, working for the University of Zimbabwe. I am doing research on 'Bridging the Gender Equality Gap in Science at Women's University in Africa, Zimbabwe.' I am going to give you information and invite you to be part of this research. You do not have to decide now whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.
This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, feel free to ask me.

Purpose of the research
Women have achieved near-parity in several fields but with persisting gaps in Science. They continue to remain underrepresented among Science graduates in Zimbabwe. The continued gender disparities in higher education and in Science disciplines in Zimbabwe saw the birth of WUA in 2002, with a specific mandate to address gender disparities in education. We want to review, learn from and improve on WUA's interventions to reduce systemic barriers to a greater participation of women in Science -related disciplines at the University and beyond. We believe that you can help us by telling us what you know both about gender disparities in Science disciplines in Zimbabwe in general and at WUA in particular. We want to understand the nature of systemic barriers and their consequences on the engagement of women in Science fields at WUA and in Zimbabwe's institutions of higher education to inform measures of addressing the barriers. We also want to learn about the practical and policy interventions by WUA (in its administration and Science related faculties) to mitigate these barriers to inform future interventions aimed at reducing the barriers preventing women's full participation in Science fields in the country's higher education institutions.

Type of Research Intervention
This research will involve your participation in a group discussion/in-depth individual discussion that will take about one hour.

Participant Selection
You are being invited to take part in this research because we feel that your experience with WUA and in the higher education sector in Zimbabwe can contribute much to our understanding and knowledge of gender disparities in Science disciplines in Zimbabwe in general and at WUA in particular.

Do you now know why we are asking you to take part in this study? Do you now understand what the study is about?

Voluntary Participation and Right to Refuse of Withdraw
Your participation in this research is entirely voluntary. It is your choice whether to participate or not. You are free to change your mind later and stop participating even if you agreed earlier. If you decide not to take part in this research study, do you now know what your options are? Do you know that you do not have to

take part in this research study, if you do not wish to? Do you have any questions?

Procedures
We are asking you to help us learn more about gender disparities in Science disciplines in Zimbabwe and at WUA. We are inviting you to take part in this research project. If you accept, you will be asked to participate in a discussion with 7-8 other persons with similar experiences/ individual interview. This discussion will be guided by myself. The group discussion will start with me making sure that you are comfortable. We can also answer questions about the research that you might have. Then we will ask you questions about gender disparities in Science disciplines and give you time to share your knowledge. The questions will be about the nature of systemic barriers and their consequences on the engagement of women in Science fields at WUA and in Zimbabwe's institutions of higher education as well as the practical and policy interventions by WUA (in its administration and Science related faculties) to mitigate these barriers. We will also ask you to share personal experiences but you do not have to share any information that you are not comfortable sharing.

No one else but the people who take part in the discussion and myself will be present during this discussion. The entire discussion will be recorded, but no-one will be identified by name on the recording. The information recorded is confidential, and no one else except members of the research team will have access to it. The recording will be destroyed immediately after transcription of the data.

Duration
The research takes place over a period of three years. The group discussion/in-depth interview with you will be held once and will take about one hour.

If you decide to take part in the study, do you now know how much time the interview will take? Do you now know how much time the discussion will take? If you agree to take part, do you can stop participating during the course of the discussion? Do you know that you may not respond to the questions that you do not wish to respond to? Do you have any more questions?

Risks
There is a risk that you may share some personal or confidential information by chance, or that you may feel uncomfortable talking about some of the topics. However, we do not wish for this to happen. You do not have to answer any question or take part in the discussion/interview if you feel the question are too personal or if talking about them makes you uncomfortable.)

Benefits
There will be no direct benefit to you, but your participation is likely to help us find out more about how to increase the uptake of Science disciplines by women..

Reimbursements
You will not be provided any incentive to take part in the research. However, we will give you reimburse your travel expenses (only for alumni FGD participants).

Confidentiality
We will not be sharing information about you to anyone outside of the research team. The information that we collect from this research project will be kept private. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except IDRC, the research sponsor.

<u>The following applies to focus groups:</u>
We will ask you and others in the group not to talk to people outside the group about what was said in the group. We will, in other words, ask each of you to keep what was said in the group confidential. You should know, however, that we cannot stop or prevent participants who were in the group from sharing things that should be confidential.

Sharing the Results
Nothing that you tell us today will be shared with anybody outside the research team, and nothing will be attributed to you by name. The knowledge that we get from this research will be shared with you and the University before it is made widely available to the public. Each participant will receive a summary of the results. There will also be small dissemination meetings. Following the meetings, we will publish the results

so that other interested people may learn from the research.

Who to Contact
If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact the Principal Investigator, Sunungurai Dominica Chingarande, University of Zimbabwe, Faculty of Social Studies, +263 242333553/ sunungurai1@yahoo.co.uk.

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

Part II: Certificate of Consent

I have been invited to participate in research about gender disparities in Science disciplines at WUA, Zimbabwe. The foregoing information has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Print Name of Participant_____
Signature of Participant _____
Date _____

If blind: Thumb print of participant

Print name of witness_____
Signature of witness _____
Date _____

Statement by the researcher/person taking consent
I have accurately read out the information sheet to the participant, and to the best of my ability made sure that the participant understands the research process. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this informed consent form has been provided to the participant.

Print Name of Researcher/person taking the consent_____
Signature of Researcher /person taking the consent_____
Date _____

8.2 APPENDIX 2: FOCUS GROUP DISCUSSION FOR STUDENTS

Bridging the Gender Equality Gap in Science at the Women's University in Africa, Zimbabwe

Focus group discussion with Students

Entry Requirements and Fee Structure

1. Can you comment on entry requirements for Science students and whether they are friendly to female students (*probe for availability of affirmative action policy)*.

2. How affordable are the fees in Science disciplines? *(probe for scholarship programs for female students in Science)*

Modules & programs

1. What are your experiences in Science programs at WUA? (*Probe for the specific modules, programs that were Science related*)

2. What policy statutes, rules and regulations meant to promote the participation of female students in Science programs exist at WUA? (*probe for specific policies, rules and regulations)*

3. What is the retention and completion ratios of the Science programs for female students compared to male counterparts (*probe for the size of the classes at the beginning and at the end*)

(For female students only)

1. What are some of the challenges you are facing in Science programs?
2. How are you dealing with the challenges? Are there appropriate mechanisms to deal with such challenges? (*probe for the mechanisms and their effectiveness*).
3. How do you feel to learn together with female students in Science programs? (*probe for subtle stereotyping sentiments*)
4. How accessible to you are Science reading material at the University?
5. How accessible to you are Science infrastructure and facilities at the University?

6. How are you being treated by male students and staff in Science programs? (*probe for subtle stereotyping sentiments)*

7. How different are the experiences of female students in Science disciplines at WUA *(probe for intersectionality issues)*

8. What unique challenges do female students in Science disciplines face compared to students in other disciplines?

9. In your view, is WUA doing enough to address gender disparities in Science and programs? (*Probe for what the institution has and has not done to address this gender disparity*)

For male students only

1. How do you feel to learn together with female students in Science programs? (*probe for subtle stereotyping sentiments*)
2. How do female students perform in Science assessments as compared to male students?
3. In your view, what challenges do female students face in Science disciplines?

4. In your view, is WUA doing enough to address gender disparities in Science and programs? (*Probe for what the institution has and has not done to address this gender disparity*)

Staff

1. Can you give the ratio of the teaching staff in Science related programs? (how many female lecturers as compared to male lecturers?
2. What are the male lecturers' attitude towards female students studying Science disciplines?
3. In your opinion does the lecturers' language in lectures promote female students' participation in Science programs?
4. How friendly were the instructional methods to students?

Infrastructure

1. How does WUA teaching and learning infrastructure promote the participation of female students in Science programs? (*probe for what is in place and how it enhances or inhibits teaching and learning of female students in Science programs)*

2. What infrastructural considerations has WUA put into place to ensure efficient roll out of Science related programs to female students?

8.3 APPENDIX 3: IN-DEPTH INTERVIEW GUIDE FOR ALUMNI

Bridging the Gender Equality Gap in Science at the Women's University in Africa, Zimbabwe

Entry Requirements and Fee Structure

1. Can you comment on entry requirements for Science students and whether they are friendly to female students (*probe for availability of affirmative action policy).*
2. How affordable were the fees in Science disciplines? *(probe for scholarship programs for female students in Science)*

Modules & programs

3. What were your experiences in Science programs at WUA? (*Probe for the specific modules, programs that were Science related*)
4. Are you aware of the existence of any WUA policy statutes, rules and regulations that mainstream Science modules and programs? (*probe for specific policies, rules and regulations)*
5. What was the completion ratios of the Science programs for both female and male students (*probe for the size of the classes at the beginning and at the end*)
6. Do your timetables take into account existing gender roles and interests of both female and male students?

(For female alumni only)

7. What were some of the challenges you faced in the Science programs?
8. How did you deal with the challenges? Were there appropriate mechanisms to deal with such challenges? (*probe for the mechanisms that were in place and their effectiveness in dealing with the challenges*).
9. How did you feel to learn together with female students in Science programs? (*probe for subtle stereotyping sentiments*)
10. How accessible to you were the Science reading material at the University?
11. How accessible to you were Science infrastructure and facilities at the University?
12. How were you treated by male students in Science programs? (*probe for subtle stereotyping sentiments)*
13. Do you think the experiences of female students in Science disciplines were the same *(probe for intersectionality issues)*
14. In your view, is WUA doing enough to address gender disparities in Science and programs? (*Probe for what the institution has and has not done to address this gender disparity*)

For male alumni only

15. How did you feel to learn together with female students in Science programs? (*probe for subtle stereotyping sentiments*)
16. How did female students perform in Science assessments as compared to male students?
17. In your view, what challenges did female students face in Science disciplines?
18. In your view, is WUA doing enough to address gender disparities in Science and programs? (*Probe for what the institution has and has not done to address this gender disparity*)

Staff

19. Can you give the ratio of the teaching staff in Science related programs? (how many female lecturers as compared to male lecturers?
20. What were the male lecturers' attitude towards female students studied Science disciplines?
21. In your opinion did the lecturers' language in lectures promote female students' participation in Science programs?
22. How friendly were the instructional methods to students?

Infrastructure

23. How does WUA teaching and learning infrastructure promote Science programs? (*probe for what is in place and how it enhances or inhibits teaching and learning in Science programs)*
24. What infrastructural considerations did WUA put into place to ensure efficient roll out of Science related programs to female students?

Experiences at the workplace

25. Are you using Science related skills gained at WUA at your workplace? (*probe for the skills)*

26. What Science related challenges are you facing at the workplaces?
27. How are you addressing the challenges? (*probe whether they are using skills acquired at WUA in addressing the challenges).*

8.4 APPENDIX 4: STAFF QUESTIONNAIRE

Bridging the Gender Equality Gap in Science at the Women's University in Africa, Zimbabwe

Internal Self-Assessment Tool for Staff

Department……

A. Expertise and vision

A coherent vision of problems and solutions in the profession/specialty gives structure to expert knowledge. Guided by the following questions, judge your vision and knowledge of gender.

1. Does WUA have a vision of gender equality?
0=Don't know
1=No vision
2=Vague vision
3=Implied in policies
4=Explicit vision

2. To what extent do you implement this vision?
0=Not at all
1=Insufficiently
2=Sufficiently
3=Completely

3. Does WUA have a Gender Policy?
0=Don't know
1=Plans to develop one
2=Working draft
3=No
4=Yes

4. How important is the gender policy for the achievement of WUA's strategic and Operational objectives?
0=Not at all
1=Of limited importance
2=Somewhat important
3=Very important

5. Does WUA's organizational culture differentiate the ways females and males work?
0=Don't know
1=To a great extent
2=To a moderate extent
3=Not at all

B. Technical capacity

For each statement, think about how much you believe WUA is doing that activity.

6. Is there a person or division responsible for gender at WUA?
0=Don't know
1=Yes
2=No

7. Does WUA consistently draw upon a person or division responsible for gender?
0=Don't know
1=To a great extent
2=To a moderate extent
3=Not at all

8. Do staff have the necessary knowledge and skills to carry out their work with gender awareness?
0=Don't know
1=To a great extent

2=To a moderate extent
3=Not at all

9. Do staff have the attitude to carry out their work with gender awareness?
0=Don't know
1=To a great extent
2=To a moderate extent
3=Not at all

10. Is there training of staff in gender planning and analysis?
0=Don't know
1=Inadequate
2=Sufficiently adequate
3=Completely

C. Accessibility and availability of methods, procedures and/or instruments
In the following questions you will judge whether WUA has sufficient tools, methods and procedures to allow for practical implementation of its gender equality principles/Agenda.

11. Do WUA documents (strategy, reports etc) highlight the importance of addressing gender equality principles? If so how frequent
0=Not at all
1=Seldom
2=Often enough
3=Frequently

12. Does WUA have sufficient information on and practice in the use of instruments to conduct a gender analysis and to incorporate the conclusions of this analysis into all stages of the design process of programmes? Based on your answer to the above question, how competent would you say WUA is in this regard?
0=Not competent at all
1=Not competent enough
2=Sufficiently competent
3=Very competent

13. Does WUA provide its staff with sufficient guidance and information on standards and other instruments regarding gender issues?
0=Not at all
1=Insufficiently
2=Sufficiently
3=Completely

14. Have arrangements been made to allow for the free flow and exchange of information and experiences about gender within the organization? If so, how adequate are these?
0=No arrangements
1=Inadequate
2=Sufficiently adequate
3=Completely

15. How well does the programming system at WUA ensure the quality of implementation of its gender equality principles?
0=None at all
1=Insufficiently
2=Sufficiently
3=Very well

16. Are gender needs assessments done as part of academic program planning at WUA?
0=None at all
1=Occasionally
2=Sufficiently often

3=Always

17. Is the quality of mainstreaming of gender equality monitored?
0=None at all
1=Occasionally
2=Sufficiently often
3=Always

18. Is gender disaggregated data collected as standard of recording?
0=None at all
1=Occasionally
2=Sufficiently often
3=Always

19. Are best practices in gender mainstreaming in programmes integrated in other programmes?
0=None at all
1=Not enough
2=Just enough
3=More than enough

20. Is there any accountability mechanism to ensure that gender is included in programme and curriculum design and implementation?
0=None at all
1=Not enough
2=Just enough
3=More than enough

21. Are means (both human and financial resources) available to achieve gender equality aims?
0=None at all
1=Not enough
2=Just enough
3=More than enough

22. Are gender issues systematically budgeted for at WUA?
0=None at all
1=Not enough
2=Just enough
3=More than enough

23. Does WUA offer opportunities (capacity building/training, direct support, backstopping, and literature) to strengthen your knowledge and skills as regards gender issues in your area of expertise?
0=None at all
1=Not enough
2=Just enough
3=More than enough

24. To what extent do specialists and technical experts use their knowledge to improve daily work practices and activities with respect to gender equality?
0=Not at all
1=Occasionally
2=Sufficiently
3=Extensively

25. Are there concrete steps you have made to proactively target women in Science disciplines?
0=None at all
1=Not enough
2=Just enough
3=More than enough

26. Are there concrete steps you have made to proactively target marginalised groups (youth, people with disability, people living with HIV) in Science disciplines?
0=None at all
1=Not enough
2=Just enough
3=More than enough

D. Competence of staff

27. As a member of the organization's staff, you are expected to mainstream gender issues in your work. How well do you fulfill these expectations?
0=Not at all
1=Insufficiently
2=Sufficiently
3=Completely

28. Do you have sufficient knowledge of the issues involved in mainstreaming for gender equality to advise others ?
0=None at all
1=Not enough
2=Just enough
3=More than enough

29. How much do you know about the available tools and methods for gender mainstreaming in your work?
0=Nothing
1=Not enough
2=Enough
3=A great deal

30. How much have you used the available methods and instruments for gender mainstreaming in your work?
0=Not at all
1=Occasionally
2=Sufficiently
3=Extensively

31. How often do you integrate gender explicitly into your work (for example in the choice of activities/assignments, choice of teaching methods, and the approach used)?
0=Never
1=Seldom
2=Usually
3=Always

32. Do you make effective and timely use of external expertise concerning gender (gender consultants, technical support, internally available expertise)?
0=Never
1=Seldom
2=Occasionally
3=Always

E. Culture of the organization

The organizational culture of the organization contributes to how and what work is accomplished. Guided by the following questions, assess how you personally contribute to the organizational culture, how the organization deals with gender in its organizational culture, and how this is expressed in contacts with partners.

33. How much attention do you pay to ensuring respectful working relations between men and women at WUA?
0=Nothing at all
1=Not enough
2=Some

3=Very much

34. Have you undertaken activities to identify any problems related to gender mainstreaming that Science staff may have?
0=None at all
1=Seldom
2=Sometimes
3=Always

35. Does WUA do enough to discourage expressions of gender inequality (for example disrespectful computer screensavers, posters and jokes)?
0=Nothing at all
1=Not enough
2=Enough
3=More than enough

36. Does WUA have an active organizational guidance to promote gender equality and respect for diversity in decision-making, behaviour, work ethos and information? If so, how would you rate its effectiveness?
0=Not effective at all
1=Not very effective
2=Effective
3=Highly effective

37. Does WUA have a sufficient policy to prevent and deal with harassment? If so, how would you rate its effectiveness?
0=Not effective at all
1=Not very effective
2=Effective
3=Highly effective

38. Does WUA know what work related sexual harassment is?
1=Know very well
2=Know enough
3=Know a little bit
4=Don't know at all

39. Do you have knowledge or skills of identifying work related sexual harassment?
1=Know very well
2=Know enough
3=Know a little bit
4=Don't know at all

40. Is work related sexual harassment a serious problem at WUA?
1=Very serious problem
2=Serious problem
3=Somewhat a problem
4=Not a problem at all
5=Don't know

41. Does WUA carry out work related sexual harassment training?
1=Yes
2=No

42. Does WUA reinforce gender sensitive behaviour and procedures to prevent and address sexual harassment?
1=Very much
2=To some extent
3=To a limited extent
4=Not at all

5=Don’t know

43. Are gender issues taken seriously and discussed openly by men and women at WUA?
1=Very much
2=To some extent
3=To a limited extent
4=Not at all
5=Don’t know

44. When a discriminatory or negative statement is made about a particular group (e.g. women, men, and persons with disabilities, certain ethnic groups, older people) to what extent is it considered unacceptable?
1=Very much
2=To some extent
3=To a limited extent
4=Not at all
5=Don’t know

45. Has WUA removed obstacles that would have prevented any functions or positions from being fulfilled equally by women and men? If so, how well has this been done?
0=Not at all
1=Insufficiently
2=Sufficiently
3=Completely

F. Organizational Infrastructure

46. Does WUA have gender sensitive infrastructure e.g. restrooms, toilets, sanitary provisions, ramps for differentially disabled etc?
0=Not at all
1=Minimally sensitive
2=fairly sensitive
3=Very sensitive

8.5 APPENDIX 5: KEY INFORMANT INTERVIEW GUIDE FOR STAFF

Bridging the Gender Equality Gap in Science at the Women's University in Africa, Zimbabwe

Key Informant Interview Guide for Staff

Name of Department:_____
Name of Facilitator: _____
Name of Notetaker:_____
Date :_____(dd/mm/yyyy)
Starting Time_____Ending Time_____Total Time Taken_____

A. ORGANIZATIONAL LEVEL

a. Policy Framework

This section focuses on the nature and quality of your organization's policies in relation to gender.

1. What policies exist at WUA to promote gender equality? (probe for a) the availability of a written sexual harassment policy; a gender policy that affirms a commitment to gender equality, b) whether the gender policy has an operational plan that includes clear allocation of responsibilities and time for monitoring and evaluation; c) whether everyone in the organization feels ownership over the gender policy).
2. In what ways does WUA management take responsibility for the development and implementation of the policies, including the gender policy?
3. What evidence exists to show commitment to the implementation of gender related policies at WUA?
4. How does the strategic planning for organizational activities consider gender issues? (probe for involvement of Gender experts in the planning process?

b. Human Resources

This section focuses on human resources policies and the level and extent of gender equality in hiring considerations and personnel related matters (performance assessment).

1. What is the level of representation by women and men at all levels of the organization? Specify giving numbers

Level	**Female**	**Male**
Council		
Executive Committee		
Management		
Senate		

2. What proactive strategies are being implemented to recruit or promote women at WUA?

State the strategy	**Is it working?**	
	Yes	**No**

3. Are there flexible work arrangements at WUA? How is staff encouraged to take advantage of flexible work arrangements (alternate work hours, working from home, etc.)?
4. What is the practice in relation to supporting parenting and care-giving roles of staff (both female and male) e.g. maternity leave, paternity leave etc

5. What is the practice in relation to supporting staff with school-going children while they are away on organizational duty?
6. How has the University dealt with cases of discrimination before?
7. How has the University dealt with cases of sexual harassment before?
8. Do job descriptions for professional positions include a skills requirement related to gender in development?
9. Is there salary equity for similar positions and are measures put in place to deal with wage disparities?

10. What measures exist to ensure gender awareness and sensitization (capacity building in gender) of the following categories of people: a) staff b) senior management? C) council to institutionalize gender equality in their work?
11. How does the University ensure that all levels and departments of the University are responsive and accountable to gender mainstreaming?
12. What reward mechanisms exist for good performance in the field of gender? (probe for whether gender is a measure included in professional staff's job performance criteria)

c. Advocacy, Public Relations, and Communications

This section focuses on the quality and gender sensitivity in your organization's communication and advocacy campaigns.

1. In what ways is gender equality incorporated in WUA's communications, fund-raising and media strategies? (probe for reflection of gender perspectives in WUA publications and knowledge management, for example, brochures, articles, newsletters?

d. Financial Resources

This section focuses on the level of the resources in your organization that are budgeted specifically for gender equality.

1. What budgeting mechanisms exist to take into account the different needs of females and males (probe for a) existence of specific Gender Budget line b) adequacy of financial resources to support implementation of WUA's gender policy at all levels; c) budget for staff training on gender equality and gender analysis

e. Organizational Culture

This section focuses on the level of gender sensitivity in the culture of your organization.

1. How do you describe the culture at WUA? (probe for gender sensitive behavior, for example in terms of language used, jokes and comments made)
2. What mechanisms are used to reinforce gender sensitive behavior and procedures to prevent and address sexual harassment at WUA?

3.Rate the staff attitudes on gender equality issues at WUA?

Not Sure	Poor	Good	Very Good	Excellent

Explain your answer……
…..

4. What do you think WUA should do to fully integrate gender equality (mainstream gender)?
5. Please describe any challenges you have experienced in integrating gender in any aspects of work at WUA.
6. In your view has there been a change in WUA's view and work on gender issues in the past five years?
7. Does management show respect for diversity in work and management styles in your organization?

f. Academic Program Planning & Design

This section focuses on the procedures and methods used by your organization to conceptualize, design, and monitor programs and field projects.

1. Is gender mandated by your organization to be included in all programs?
2. Are gender equality goals and objectives included in program designs?
3. For each program, is there a needs assessment to ensure participation of female students?

g. Program Implementation

This section focuses on programmes.

1. Do your academic programmes include activities that specifically strengthen skills and provide women with equal access to different programmes including Science disciplines?
2. Do your timetables take into account existing gender roles and interests of both female and male students?
3. To what extent is the WUA campus and facilities:
    a. Available to female students who intend to study Science disciplines
    b. Accessible (including physical and social availability)
    c. Acceptable (culturally appropriate, gender sensitive and ethical)
    d. Of good quality

h. Technical Expertise

This section focuses on the level of the staff's expertise in gender analysis and evaluation.

1. Is there a person or department responsible for gender at WUA? Does the person or department have clear Terms of Reference?
2. Are there staff who are assigned responsibility for gender integration in different departments throughout the University?
3. Does WUA consistently draw upon a person or division within the organization who is responsible for gender?
4. Does staff at WUA have the necessary knowledge, skills and attitude to carry out their work to include gender?
5. Is adequate training in gender planning and analysis provided for staff?

i. Partners

This section focuses on the level of gender integration in the organization's relations with partners.

1. Is commitment to gender equality a criterion in the University's selection of partners?
2. Is a gender policy included in the written agreements outlining the University's relationship with partners?

8.6 APPENDIX 6: KEY INFORMANT INTERVIEW GUIDE FOR RELEVANT STAKEHOLDERS

Bridging the Gender Equality Gap in Science at the Women's University in Africa, Zimbabwe

Interview Guide for Professional bodies, Relevant Government Departments and Employers

1. Can you comment on the participation of female students in Science disciplines in Zimbabwe's tertiary institutions?
1. What government policy, provides for female participation in Science disciplines?
2. Are there any support mechanisms from both government and private sector for the female students who are in Science programs? If yes, which ones and how do the support mechanisms operate?
3. What are some of the challenges that women face as both Science students and at workplaces?
4. What challenges are tertiary institutions facing in promoting gender responsive Science programs? *(probe for measures put in place to overcome the challenges)*
5. What challenges are employers facing in promoting gender responsive workplaces to accommodate female Science graduates? *(probe for measures put in place to overcome the challenges)*
6. What are some of the successes so far in promoting the participation of female students in Science programs in Zimbabwe's tertiary institutions? *(probe for reasons and measures put in place for the successes)*