

Women in Research in Africa

AREF 10th Anniversary Impact Evaluation

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Context

Women in Africa are making significant strides towards greater representation and impact in scientific research, yet systemic challenges persist. While over 50% of science graduates at the bachelor's level in sub-Saharan Africa are women, these numbers drop at higher levels, with only 43% pursuing master's degrees and just 28% reaching the PhD level.¹ This decline is driven by entrenched socio-cultural norms, as well as the "glass ceiling"² which limits opportunities for women to advance into leadership positions and high-impact research roles. Many women also face the double burden of professional aspirations and disproportionate domestic responsibilities, a reality that restricts their career progression.

Despite these barriers, African women scientists continue to rise, innovate and lead. The Africa Research Excellence Fund (AREF) is committed to levelling the playing field, ensuring equal gender representation across its programmes and providing specialised leadership training to empower women as both researchers and trailblazers.

Reach & Impact

Recognising the inequitable access to career development for women researchers, AREF has set ambitious gender equality goals:

- 50% women representation in all AREF programmes.
- At least one dedicated women-focused programme each year.
- One-third women participation in AREF's College of Experts, building a strong pipeline of female leaders in science.

Over the past decade, AREF has made tangible progress towards these goals, demonstrating its unwavering commitment to gender equity in science and driving meaningful change.



[1] Fisher M, Nyabaro V, Mendum R, Osiru M. Making it to the PhD: Gender and student performance in sub-Saharan Africa. PloS one. 2020 Dec 14;15(12):e0241915.

[2] Babalola OO, du Plessis Y, Babalola SS. Insight into the organizational culture and challenges faced by women STEM leaders in Africa. Social Sciences. 2021 Mar 19;10(3):105

Advancing the participation of African women in research

"Women need special consideration, because I would have not qualified if they [AREF] did not consider my career break [during the screening of applications].

[During] my 9 months [of RDF placement] in the UK. I was able to come back to Nigeria after 4 months to see my family."

Senior Lecturer, Nigeria, RDF 2021, AREF Seed Fund Recipient 2022

"I must appreciate the efforts that AREF is and continues to make to increase capacity for research in Africa and in particular for women who not only face myriads of challenges but have to compete in the same field with the male counterparts who do not share these challenges."

Research Director, Kenya, Women in Research Leadership Programme, 2022

"I think what AREF is doing is fantastic. I've also seen that they do have some programs just for women and that is definitely [going to] make a difference in Africa."

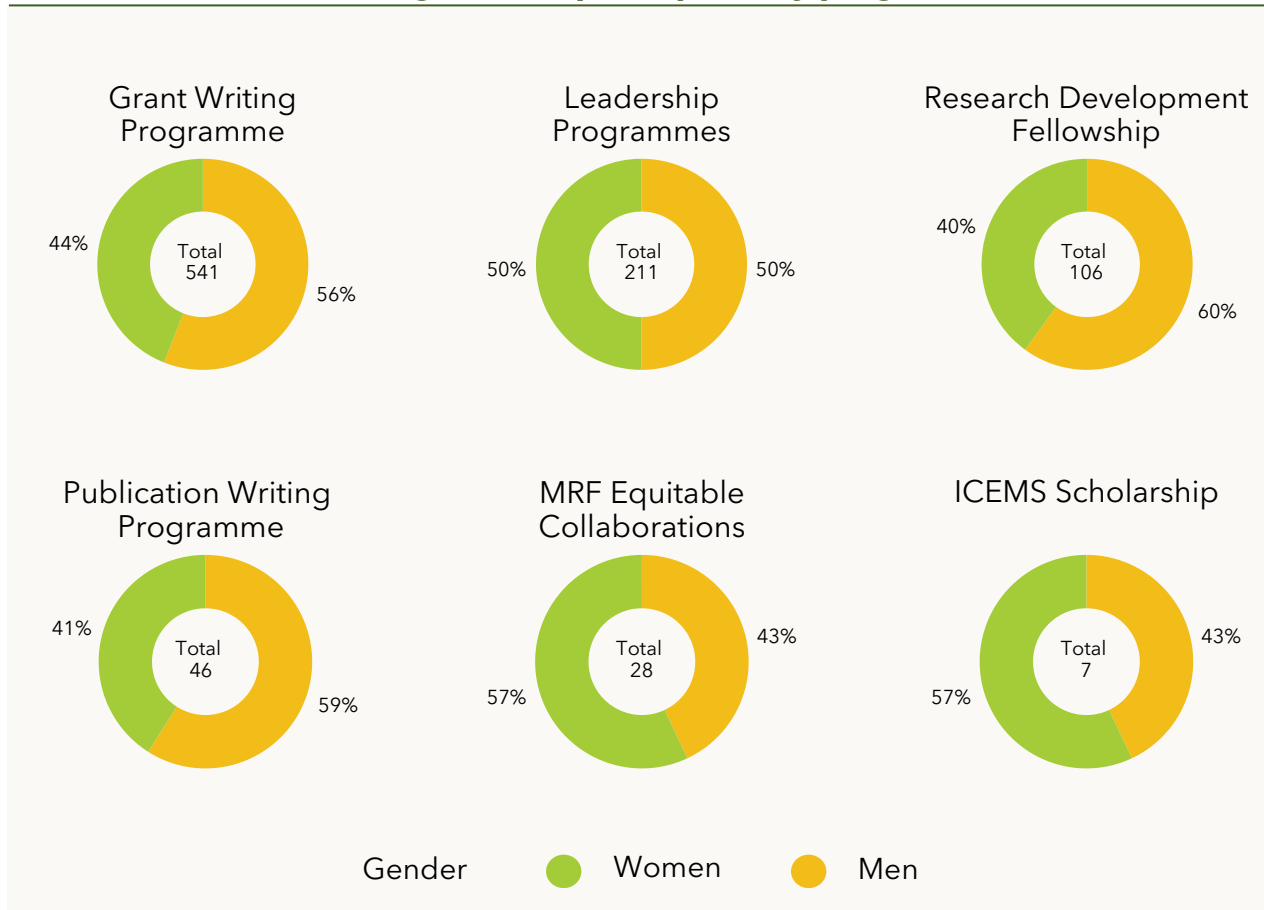
Senior Lecturer, Zimbabwe, RDF 2021, AREF Seed Fund Recipient 2022

Over the past decade, AREF's commitment to empowering women has yielded remarkable successes:

- Women now constitute 46% (435) of all AREF participants, up from just 14% in 2015, marking steady annual growth towards equal gender representation.
- Two women-focused programmes have been introduced:
 1. Women in Research Grant Writing, with 43 participants since 2021.
 2. Women in Research Leadership, engaging 20 participants since 2022.
- Of the twelve Seed Fund awards issued by AREF, seven were won by women. 52% of AREF alumni serving as faculty members are women, a testament to AREF's impact in nurturing leaders.

The figure below shows the participation of women in AREF by programme type.

Overview of number and gender of participants by programme

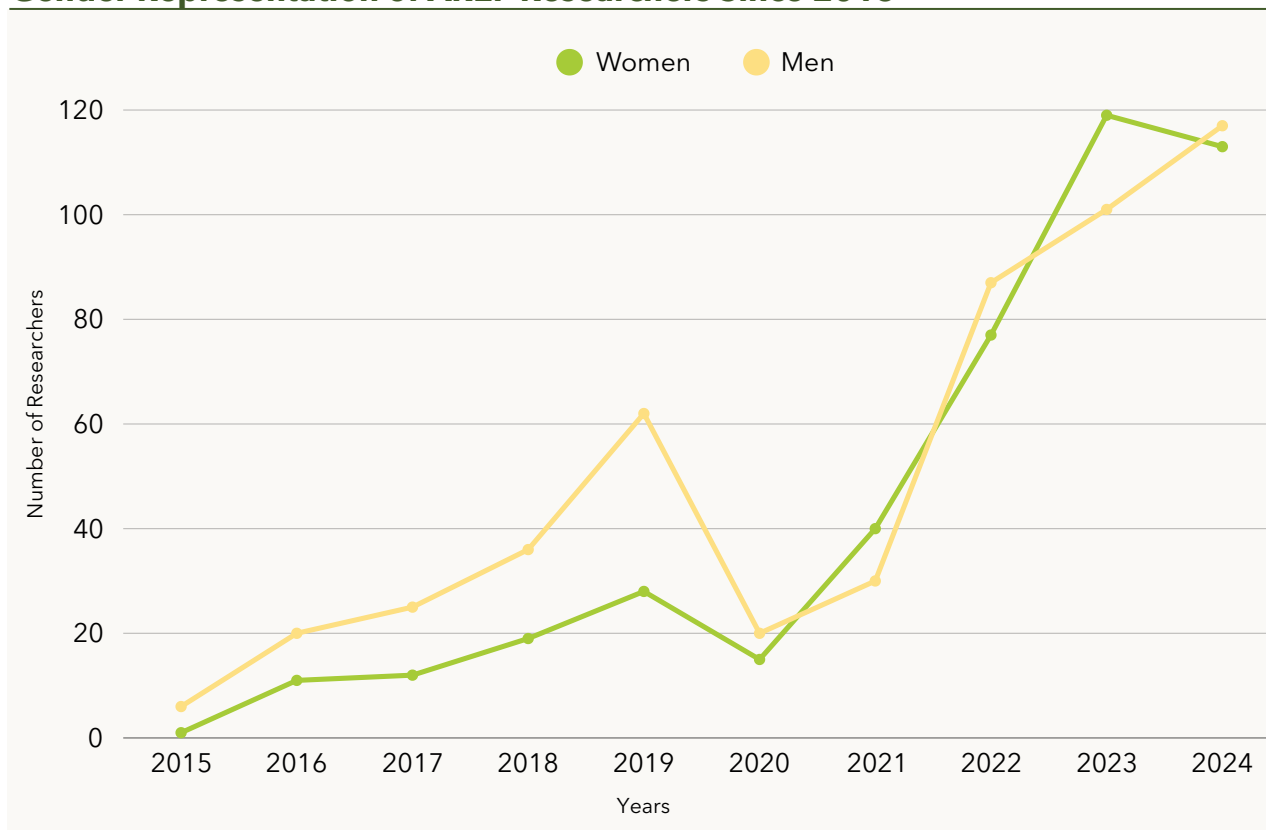


This chart clearly illustrates significant strides toward gender equality within AREF programmes over recent years. Notably, from a position of initial underrepresentation, women's participation has risen dramatically, overtaking male participation by 2023. This reflects AREF's successful commitment to empowering women researchers.

Several programmes exemplify this positive shift: Our Leadership Programme demonstrates perfect gender balance, highlighting inclusivity at the programme level. Meanwhile, the MRF Equitable Collaborations and ICEMS Scholarship programmes stand out for their proactive support for women, showcasing women's participation at 57%.

Overall, the upward trend in women's involvement, culminating in their majority representation in recent years, demonstrates AREF's effective and ongoing implementation of gender equality strategies, fostering an equitable research environment.

Gender Representation of AREF Researchers Since 2015



The graph illustrates the gender representation of AREF researchers from 2015 to 2024. Initially, men researchers outnumbered women, with numbers steadily increasing for both genders through 2019. A noticeable drop occurred in 2020, affecting both groups, but from 2021 onward, there was significant growth in representation for both genders. In particular, women researchers experienced a rapid increase, surpassing men in 2023. By 2024, the number of women researchers slightly exceeded that of men, reaching an all-time high. This trend highlights progress towards gender balance in recent years within AREF programme participation.



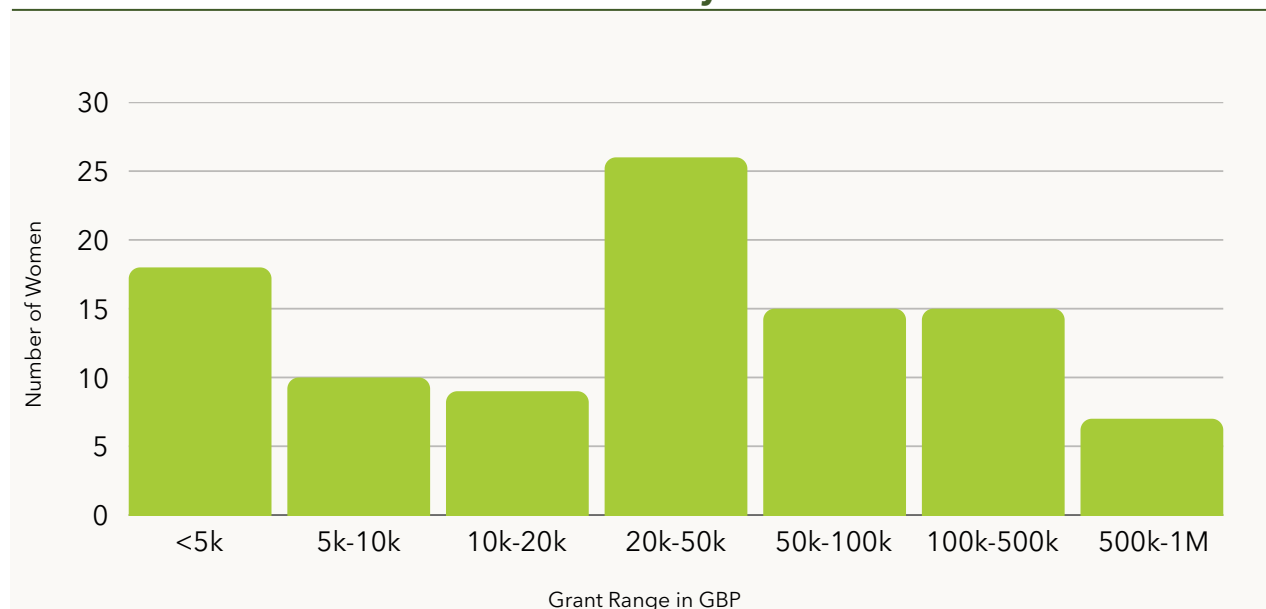
Accomplishments of AREF Women Alumni¹

At the start of their AREF journey, 84% (103) of women were MSc/PhD students or early career researchers, while only 13% (16) were in mid-career roles. By late 2024, 41% (50) were now in mid-career roles and 2% had reached senior positions. Despite positive career progression, women continue to progress at slower rates than their male peers. For example, nearly one-third of men moved from early to mid or mid to senior roles within five years, compared to just one-fifth of women.

Women alumni are also increasing their publication output and impact, with a median of 12 publications before AREF participation, rising to 29.5 after participation. While positive, this still lags behind men (13 and 36, respectively), with minor gender differences in h-indices² (11 in men, 8 in women) and 68% of women publishing a paper after their AREF programme compared to 77% of men.

About a third of women alumni have successfully secured at least one grant since completing an AREF programme, with a combined value of nearly £60 million across 105 individual grants (as reported in the impact evaluation survey). Most grants received were valued at under £50,000, with both the number and value of grants increasing steadily over time. The highest amount of funding attracted by an AREF woman alumnus was USD 50,000,000 (£40,049,660).

Breakdown of Grants Awarded to Women by Value



[1] Estimates were derived from an impact survey based on 282 alumni of which 44% are women.

[2] The h-index is an author-level metric that measures both the productivity and citation impact of the publications by an author.

Experiences from AREF's women-specific programmes

Candid conversations with women alumni reveal the persistent challenges facing women researchers in Africa. From balancing domestic responsibilities and seeking spousal approval for career advancement to gaps in mentorship and leadership opportunities, these obstacles can often stifle career growth.

"[When] there is an opportunity and somehow a [female researcher] is not [told of] that opportunity because they think [she will] not be able to travel because she has young children."

Senior Research Officer, Cameroon, WiRL and TL 2022

"When I'm supervising female students, I find that sometimes we agree on certain milestones that they need to achieve but they seem to not be moving [in] the way that I would have expected."

Senior Lecturer, Zimbabwe, RDF 2021, AREF Seed Fund Recipient 2022.

This is where AREF's women-specific programmes make a difference. By providing safe, flexible spaces, these initiatives empower women to share their experiences, build supportive networks, and find practical solutions. Participants consistently highlight the transformational benefits which include:

- **Safe Spaces for Dialogue:** Opportunities to openly discuss personal and professional challenges without fear of judgment.
- **Inspiring Role Models:** Access to women mentors who instill confidence and showcase pathways to success.
- **Practical Strategies:** Tools to navigate leadership roles in men-dominated fields, empowering women to excel as researchers and innovators.

"[Women only leadership courses] are empowering for women researchers. Sharing experiences and supporting each other makes it easier to navigate the research and leadership roles amongst other things expected of a woman by the society."

Survey respondent, ECR graduated in 2018 from PhD, Zimbabwe

Impact Story: From Struggle to Research Leadership

Introduction: This impact story highlights Dr. Rachael Dangarembizi's transformative journey from overcoming adversity to leading groundbreaking research in Africa.

Background: Dr. Rachael Dangarembizi's path into scientific research was a response to social and health inequalities. "I am part of the children or the generation whose parents and uncles were the ones who were wiped by the HIV pandemic when it was at its peak," she recalls. Despite these challenges, she remained committed to her education, ultimately earning a PhD in neuroscience from University of The Witwatersrand, Johannesburg. However, as she advanced in her career, she encountered structural and systemic barriers that hindered scientific research on the continent. Limited research funding, high operational costs, bureaucratic challenges, and minimal industry support restricted her ability to contribute meaningfully to neuroscience. "My background had given me the urgency to change things and end suffering. My training had given me the agency, but although both urgency and agency are required to bring about change, I still found that the environment was not fully conducive."

The Role of the AREF Towards Leadership Programme: Dr. Dangarembizi's breakthrough came with her participation in the AREF Towards Leadership Programme. "From being a victim of my circumstances to being a leader and a change maker, I don't look at my challenges the same way I did three years ago." Within a year, she secured a UKRI grant, establishing Africa's first lab dedicated to brain injury and cryptococcal meningitis research. "So far, I've successfully established the first lab, and currently the only lab in Africa, actually, that focuses on brain injury and cryptococcal meningitis."



Impact on Research and Capacity Building: Dr. Dangarembizi has fostered the next generation of African scientists, particularly women. "Two years after joining AREF, I now lead a 12-member team of young and energetic doctoral and postdoctoral researchers, most of whom are women." She advocates for a more equitable and inclusive research landscape. "Lastly, the Towards Leadership Programme helped me to develop a voice and confidence as a woman to be able to speak strongly and unapologetically against inequality and discrimination."



A Symbol of Transformation: Dr. Dangarembizi likens her journey to the Zambezi River. "This to me reminds me of the power and potential in young African scientists... With the right level of support, we have the skills, we have the knowledge, we definitely have the drive and the impetus to drive the African Health Research Agenda."

Conclusion: Dr. Rachael Dangarembizi's story illustrates how targeted support can catalyze groundbreaking research and capacity building.

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Looking Ahead

While AREF has made great strides, there is still work to be done. Women have expressed the need for increased mentorship from women leaders, child-supportive care for long-term programmes like the Research Development Fellowship (RDF), and application processes that account for career disruptions caused by caregiving responsibilities.

“Childcare support for travellers - because there are situations where someone might be unable to attend [a conference/fellowship] because they have to ensure their kids are supported before they leave. If it's possible for [children] to come along with [female researchers] that might be useful.”

“The [female to female] mentorship thing that was done is wonderful. I think women need more women to [mentor] each other.”

Senior Research Officer, Cameroon, WiRL and TL 2022

Conclusion

Supporting women in research goes beyond achieving equality; it is about unlocking the full potential of African science. Diverse voices bring unique perspectives and innovative solutions that benefit everyone. With AREF's continued commitment, the future of women in African health research is brighter than ever. Together, AREF is paving the way for a more equitable and just Africa, where women researchers are empowered to break barriers, lead boldly, and create lasting impact through their work.

