FEMALE UNDERREPRESENTATION IN SPACE SCIENCE:
A CASE STUDY OF THE AFRICAN REGIONAL CENTER FOR SPACE SCIENCE AND TECHNOLOGY EDUCATION

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Underrepresentation of women in STEM
The potential benefits of tackling the gap

Narrowing the gender gap in STEM has multiple benefits:
The Space field

• Space is a critical sector for reaching sustainability within many areas

• There is a lack of data on the (under)-representation of women in space
Space for Women Project
The Regional Centres
ARCSSTEE-E

- Inaugurated in 1998

- Partner Institution: Obafemi Awolowo

- Countries from where the participants came from: 17 of the 24 English speaking countries
Our Research Question: Why so few women at ARCSSTE-E?

- To what extent are women involved in space field today?
- What is the situation women face while pursuing a space related career?
- What initiatives are currently in place in the regional centers and what could be added?
Methods

Our focus: experiences of women pursuing STEM careers in Nigeria

Primary source of data:
5 qualitative, semi-structured interviews: senior staff and female professors and students at ARCSSTE-E → snowball sampling.

1 survey:
Female alumnae: similarities among experiences and reflections of the senior staff and teachers - students.
Theories - Data analysis

Gender theory:
I. a person’s motivation is ultimately gendered,
II. experience of female students differs from that of their male counterparts.

Social justice theory:
unequal distribution of resources and representation of women → design of institutions of higher education

Code I: motivation
Code II: discrimination
Code III: institutional obstacles

Post-colonial theories:
unequal power relations → structural difficulties in academia for institutions in the global South.
## Results I

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<td>Omolarar**</td>
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Results II

Gender Gap

- 14-40% women among students in ARCSSTE-E
- 20% of the total staff is female
- Women in senior members’ positions: rather the exception, not supported
- Upward trend in female participation: impact of new UN strategies in favouring women for new positions
Results III: Applications

Applications

ARCSSTE-E receives a crucially lower amount of female applications.

- Different reasons:
  - little interest
  - pressure by family and environment,
  - ‘a global phenomenon’

- Problem: difference in perceiving this by the actors.
Results IV: Lack of role models
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“During the summer camp in Abuja, I was once told by a young girl how to draw a rocket, how to make a satellite. We did a lot of things. And I told them, you can do these things, and, in fact, the mothers that came were so surprised.” (Uchinna, Nigeria)

Half of our respondents were inspired by a role model
Results V: Issues of discrimination

“The male students, they think they are superior and that they have superior brains” (Yemisi)

“In Nigeria and Africa at large [discrimination] is a very serious problem. We have this mindset that a girl and a boy are not supposed to work together and knowing that engineering and science at large is a man’s cause, so it has always made them to believe that is not for girls.” (Uchinna)

9 respondents reported experiences of day-to-day discrimination based on their gender
Results VI. Existing projects?

- Mentorship
- Self-help groups
- Outreach programmes
Results VII. Lack of awareness

“If you are good, you are good. If you are wise, there are no limits for you. If you are a lady - women have the same opportunities.”

(Koinsola)
Recommendations

- more research needed
- raising awareness for gender related policies
- supporting existing programmes
- training programmes
- more collaboration
«Achieving gender equality and empowering women and girls is the unfinished business of our time, and the greatest human rights challenge in our world.»

António Guterres, 2018 International Women’s Day