

# Making Science and Technology Attractive to Girls

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# Women as Scientists

## Historical Perspective

- Traditionally – Woman in brewery, baking;  
(fermentation technology)
- Traditional Medicine;  
(indigenous knowledge systems and midwifery)
- Food production and preservation;  
(Agriculture and post harvest technology)
- Basketry, weaving and traditional home design;  
(Mathematics, Geometry and Chemistry)





# The Science Gender Gap

- Real and worldwide phenomenon;
- Degree varies depending on localities and culture;
- Common in schools, public sector STEM careers;
- Research and Development output of girls;
- ICT /internet usage by girls.

Narrowing in some countries but global pace

# Women as Scientists?

## Variability theories.

- an **innate** difference between girls and boys' STEM ability that affects differences in **achievement and participation.**
- **Biological** – genetic, hormonal, structural;
- **Psychological.**

No scientific proof advanced, to date.



# STEM and Development.

# Why the lag? – Stereotypes.

- Socio cultural norms – affect Attitudes, beliefs, aspirations, self assessment;
- ‘Stereotype threat’ influences individual performance, national sex differences;
- Gendered labour division results in gender gaps in STEM interest, participation level and performance;
- May be due to bias – implicit and explicit.

Worse in patriarchal societies.





# What hinders Girls from STEM 1

- A disempowering environment;  
legislation or poor monitoring,  
Education system access, curricula,  
teaching material,  
Teachers' and parents' poor support,  
sexual harassment and violence.
- Multiple roles of girls/women;  
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# What hinders Girls from STEM 2

- Lack of Role Models, Mentors; Lack of
- Fear of Failure Role

# Narrowing the Gap – Botswana schools:

- Primary:



# Broad Strategies – get all involved!:

- International bodies
  - UN, Commonwealth, regional bodies (AU, SADC) etc – Declarations, commitments, guidelines, systems;
- NGOs experience and networks government/people link;
- CBOs –

# NATIONAL STAGE.

- **Legislation** – Government policies on equal access to education/training, hiring, promotion, retention and in STEM programs specifically and provision of infrastructure;
- Institutional **determination/commitment**;
- **Society/family/individual** commitment to STEM;
- Publicise **disaggregated statistics** on women's participation in STEM;
- **Educational activities** – open day, science fairs, competitions,

# NATIONAL 'STAGE' cont.

- **Education** – using all mass media – radio, TV, press,

Let us Change :





