

# Making Science and Technology Attractive to Girls

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# OUTLINE OF PRESENTATION.

- Can women do Science, Technology, Engineering and Mathematics (**STEM**)?
- Why Science?
- What are women's challenges?
- What can we do to get girls to STEM?

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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 disenabling 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 ,0
- Fear      Able      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 :



