Earth Observation Technology: A Sustainable Tool for Women To Monitor The Environment

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Presenters: Basutl Gerty Bolo (PhD student)
Botswana International University of Science & Technology
Email:basutibolo@gmail.com
Botswana

- **Size**: 582,000 sq km, Semi-arid environment.
- **Estimated Population**: 2 million.

**Livestock**

**Wildlife/Tourism**

**Mining**

**Farming**
BIUST is:

- A center of excellence and a world class research Institution.
- The Science, Engineering and Technology University of choice in the African continent.
Introduction

- Space Science Technology
  - Women in Science
- Earth Observation Systems & applications
- How women & Girls can be inspired into Space sector
Why need women in Space

- Space is a tool for sustainable development.

- Women represent over half the world population (UNESCO Institute for Statistics (UIS))

- Reduce Gender gap, women make up 28% of scientific researchers worldwide (UNESCO Institute for Statistics (UIS))

- Address Gender equality in Sustainable Development Goal 5. (SDG 5).
Women in Science

Equality countries - parts of South America & Central Asia,

Inequality countries - India, France, Germany, Japan etc

THE GENDER GAP IN SCIENCE
WOMEN AS A SHARE OF TOTAL RESEARCHERS, 2010 OR LATEST AVAILABLE YEAR

Note: Data in this map are based on HC, except for Congo and India (based on FTE).
Space science PgD graduates 2006 - 2017

UN/ARCSSTEE Postgraduate by gender (Balogun. 2017)
Why Earth Observation

- Identify
- Monitor
- Classify
- Measure
- Forecast

Environmental objects
Earth Observation Technology

Observing Systems
Global Earth Observation System of Systems

INTEGRATED
Space-based System
Air-based System
Cryosphere-based System
Land-based System
Ocean-based System

Data Management System

Health
Disasters
Forecasts
Energy
Water
Climate
Agriculture
Ecology
Oceans
Physical Monitoring

Earth Observation Application on the Environment

Earth Observation Satellite Images monitoring
Land cover change_ Sumatra , Indonesia

Image Credit: Wijedasa et al., 2012.
How women & Girls can be inspired into Space sector
STEM “the Drive” for Girls & Women in Space Education
STEM & Space sector

**Space Medicine**

**Exosphere**
- Thermosphere
- Mesosphere
- Stratosphere
- Troposphere
- Earth

**Space Engineering**

**Ionospheric Physics**
STEM & Space sector

Space Biology

Space Law

Space Applications
Women Astronauts, Space Scientist & Space engineers role models

“The Drive” for Girls & Women in Space

Space craft - piloting

Space scientists

Astronauts

Astronauts
Recommendations

✓ Create opportunities for women & girls such as scholarships, clubs, competitions etc.
✓ Engage developing countries by including them in Space outreach.
✓ Host conferences and meeting in those countries without Space centers to inspire them.
✓ Form Regional Space Women Committee to collaborate on Space sector issues.
Recommendations

✓ Women should not have limited opportunities such as Age, experience, etc.

✓ Space programs should be introduced in curriculum from primary schools in order to educate girls at an early stage.

✓ Include all women and men to for gender equality.
Thank You!

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Lead with gender awareness

Empower women