



UNESCO Regional Office for Southern Africa

Building the critical mass of women in STEM to enhance Sustainability Science Post 2015

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Global Paradigm Shift



- ✓ The World's economies are undergoing transformation or accelerating to knowledge-based industries
- ✓ The role of government is changing. The democratic process is making the decision-making process more complex.
- ✓ Africa's economies are growing but need agility and inclusivity
- ✓ Skills development is wise investment to increase economic growth
- ✓ Africa must Innovate using SETI to transform its rich human and natural resources into capital goods, processes and services through value addition for sustainability and shared prosperity

Sustainable Development Goals (SDGs) : Facts and figures

1. Has 17 Goals with 169 targets
2. **Overarching goal 1** is: End poverty in all its forms everywhere
3. **End Goal 17** is: Strengthen the means of implementation and revitalise the global partnership for sustainable development
4. **9 out of 17 goals** require direct input of science technology and innovation (2, 3, 4, 7, 9, 11, 13, 14, 15)
5. Food, Health, Water, Energy, Resilient structures, Human settlements, Climate change impact, Oceans and marine resources, Ecosystem and biodiversity
6. **Goal 5**: Achieve gender equality and empower all women and girls

Africa's reality

UNESCO's Report 2015

- Over 50% of the world's population is in Africa
- Africa has the world's lowest 2nd school enrolment of 40% with only 11% in technical skills programmes in 2010
- 81 out of 146 countries (20% in Africa) have more women being illiterate with very few reaching the target by 2015
- Low gender parity at primary school with Angola and Eretria not meeting the EFA goal in 2015
- Many governments have neglected skills S&T training and the disadvantaged lose out most
- Less than 20% of African countries have nation STI policy and governance strategy
- Skills for urban youth provides opportunity for a better future

Africa's reality-Challenges of the African Woman

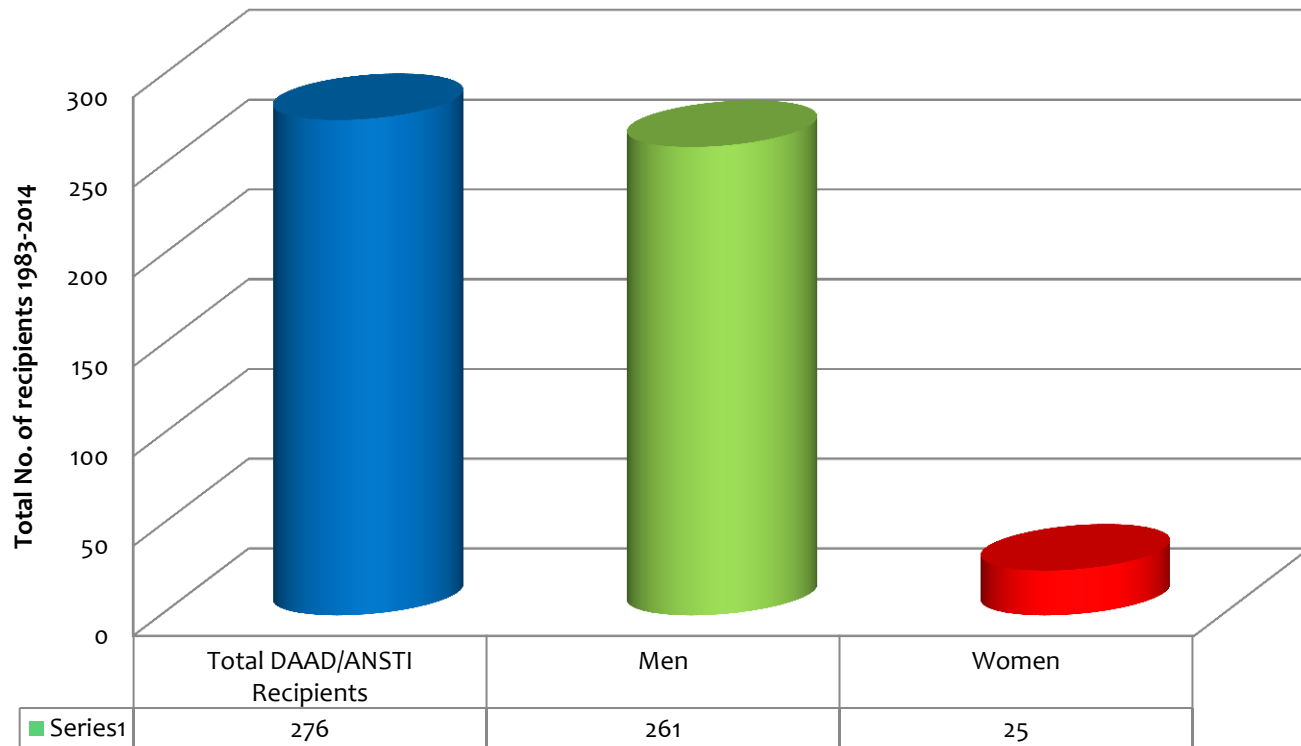
- Discrimination and suppressed motivation
- Family responsibilities.
- Few role models
- Limited affirmative actions of governments and higher education institutions
- Gender inequality
- Less represented in decision making



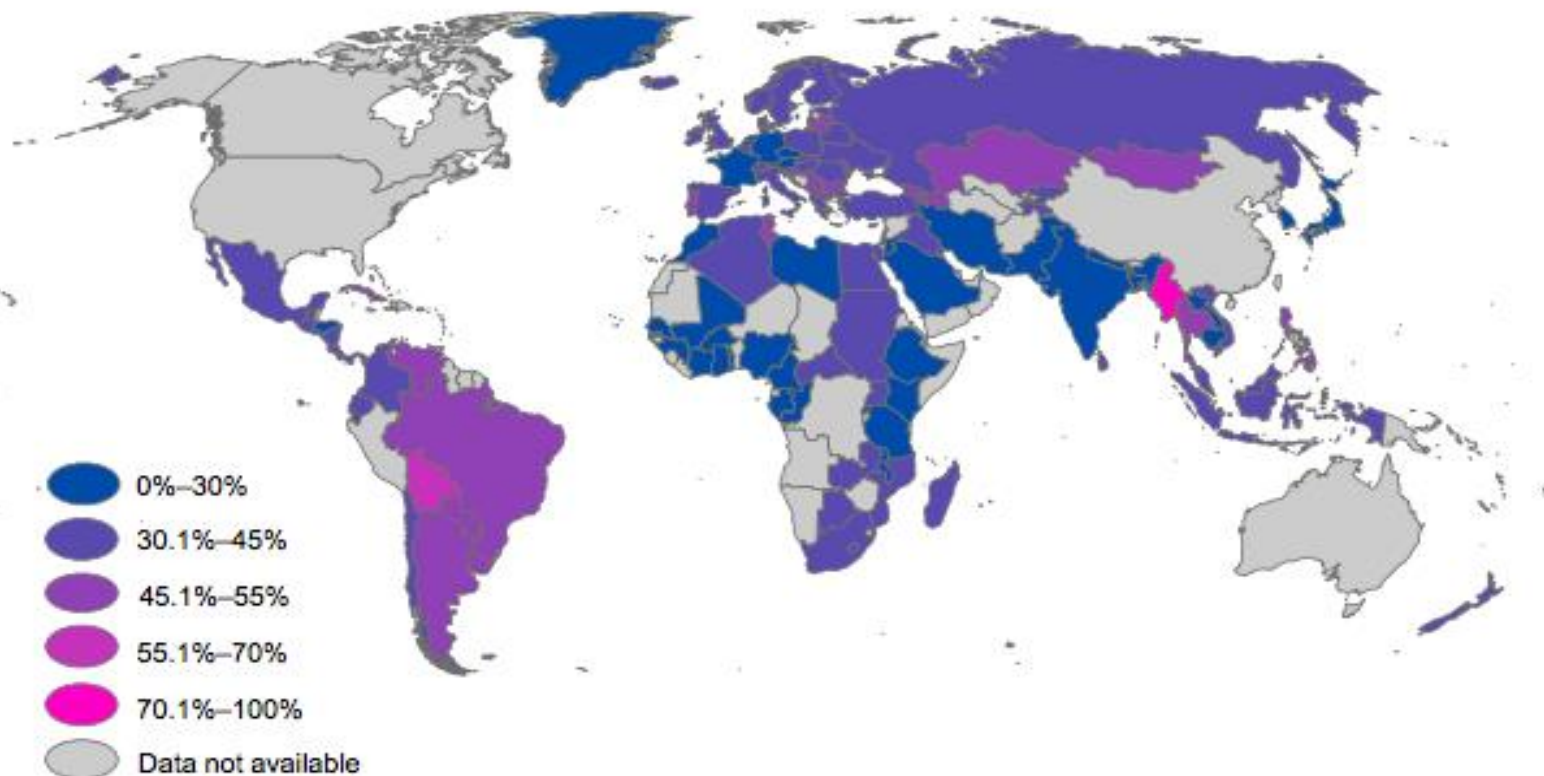
Statistics



- Few women scientists, even fewer engineers and women in leadership positions in the management of S&T institutions. ANSTI/DAAD Alumni only **9%** over 21 years (1983-2014), despite affirmative action



Women in SITE



Women as a share of total researchers , in 2010 (UIS, 2012): Courtesy GenderInSITE, 2015

Questions



- What can Africa do to meet the demands for quality science and engineering education?
- What strategies and actions are needed to accelerate women's access and participation in science, engineering and technology.
- How can African countries increase the number of women in science, engineering and technology in readiness for post 2015 SDG agenda?
- What policies at community, national, Regional and international are required?

Africa's Imperatives

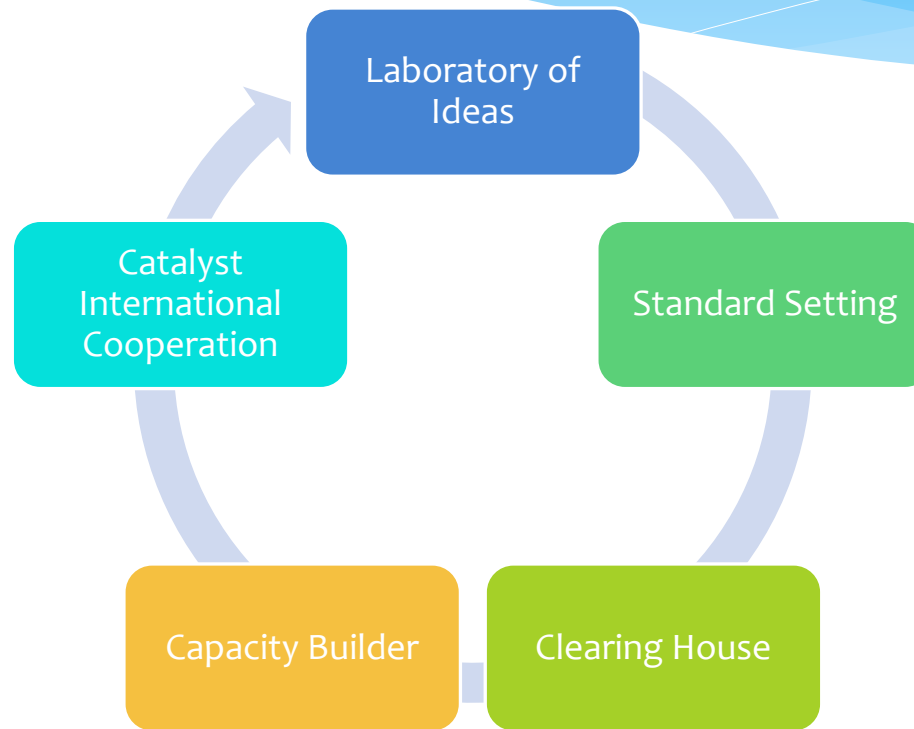
Need for paradigm shift



- ✓ Africa's capacity to compete on the global market depends on her ability to innovate using STI to transform its natural and human resource capability into value added goods, processes and service.
- ✓ Africa requires a well-educated, innovatively-trained and resilient critical mass of experts in STI with equal access
- ✓ Strategic policies and actions for promotion of women in STEM to enhance value addition for human capital development, economic transformation and shared prosperity
- ✓ Africa's biodiversity must be preserved to enhance sustainability and climate change mitigation



UNESCO's 5 Action Response



UNESCO-Strategic Objectives Science Programme

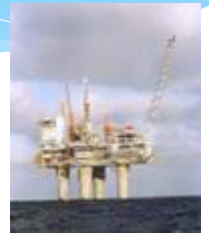
- * SO 4: Strengthening science technology and innovation and policies- nationally, regionally and globally
- * SO5: promoting international scientific cooperation on critical challenges to sustainable development
- * The plan of action for MP 2 including IOC is around six main line of actions with special emphasis on Africa, Gender LDCs and SIDS , youth and indigenous people; S_S, N-S cooperation, partnerships MBDP and UN DaO



Science Sector Strategic Priorities 2014-2017



1. Strengthening STI policies governance and the science policy-society interface
2. Building institutional capacities in science and engineering
3. Promoting knowledge and capacities for protecting and sustainably managing the oceans and coasts
4. Fostering international science collaboration for earth systems, biodiversity and disaster risk reduction
5. Strengthening the role of ecological sciences and biosphere reserves
6. Strengthening freshwater security



Priority Gender, Priority Africa, SIDS, Youth, IP, S-S N-S cooperation, UNDAU

SC-Work Plan 2015 -2017

Policy Advice



STI and knowledge for the sustainable socio-economic development of Africa

Strategy Objective 1: *Technical assistance to member states in STI Policy system and governance for sustainable socio-economic transformation of Africa*

Scope: *Global Africa with emphasis on selected African countries*

Foresight Plan: *Reposition STI in Post 2015*

UNDAFs and DaO

Objectives of UNESCO's Sustainability Science

1. Create the platform for debate and interact to identify niche areas for Africa's capacity development in readiness for SGDs.
2. Strengthen governance structures and enhance foresight planning relating to biodiversity ecosystem and oceans
1. Create needed human capital in judicious exploitation or conservation of the continent's natural resources
2. Monitor and evaluate trends in Africa to advise governments on effective utilisation of its natural and human resources
3. Link up experts in Africa and globally to share ideas and develop partnerships for promotion of sustainability science post 2015.

Building institutional capacity in science and engineering



Human and institutional capacity development through awards of postgraduate scholarships and short courses

Promoting knowledge and capacities for protecting and sustainably managing the oceans and coasts



ANSTI-UNESCO Project 1980-2015

- * STI Policy Design and Implementation
 - * Mapping STI System and Governance
 - * Mainstreaming gender in national STI Policies
- * Strengthening Capacity in teaching , learning and research in STEM



- * Workshops



- * Mentoring Female STEM in schools and Universities



ANSTI-UNESCO Flagship Project 1 1980-2015

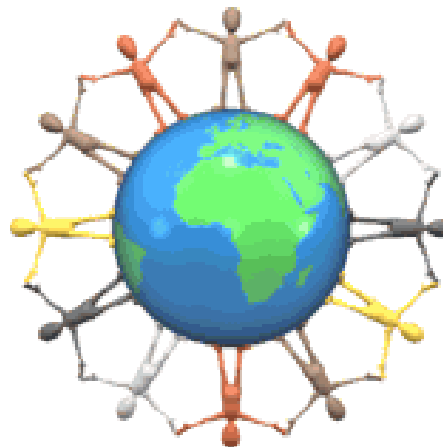
- * DAAD award of scholarships for postgraduate training (250 PhD, 50 MSc)
- * Capacity building in emerging new technologies



- * Travel grants



- * Staff exchange



ANSTI-UNESCO Flagship Project 2

UNESCO/ L'Oreal FWIS 2010-2015

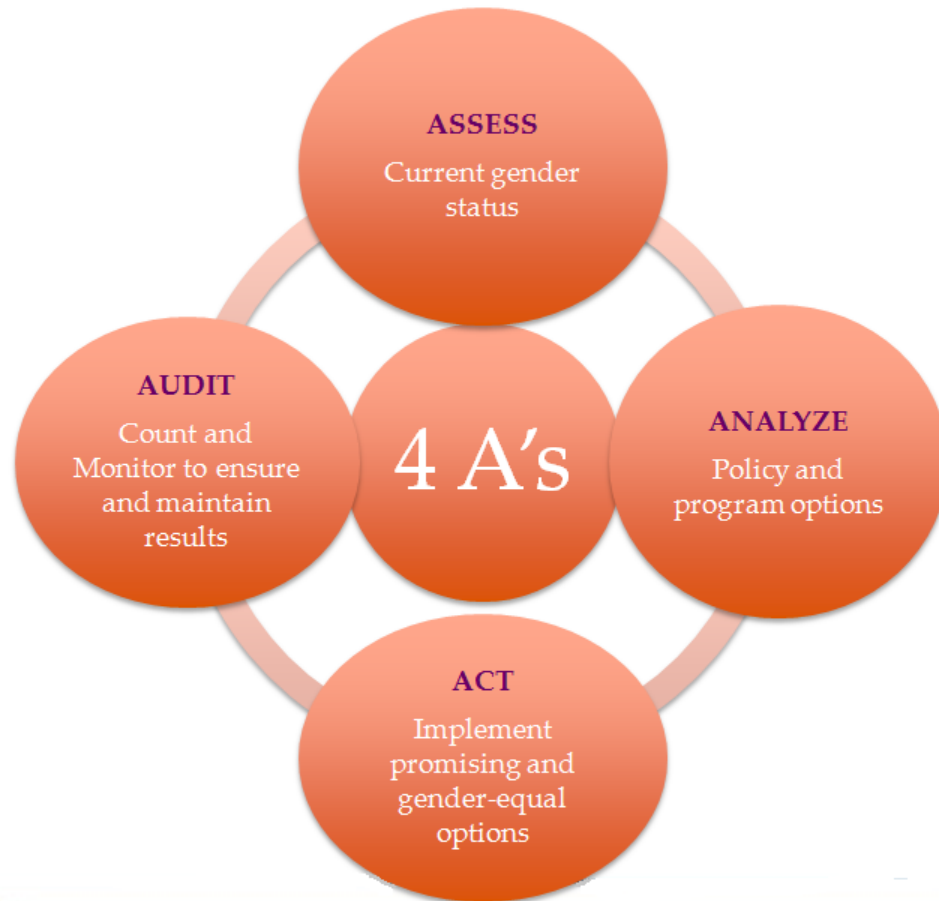
- UNESCO/L'Oreal Fellowships award for women in science in Africa
- International Laureates
- Regional (SSA): 10 FWIS awards for distinguished women scientists and engineers to pursue PhD and post-doctorial research each year (45 awards so far)

UNESCO-ANSTI Project

- 30-35 participants each year from several of 197 ANSTI Member Institutions for Gender in SITE Training
- ANSTI-GenderInSITE Project
- 12 – 15 countries each year from 37 African Countries in Sub-Saharan Africa from ANSTI
- Biannual Conference of Vice Chancellors and Deans of Science and Technology &T (COVIDSET2015)



ANSTI-Gender Assessment in SITE



Joint Action on Sustainability Science

1. Design/review STI Policies at all levels – Africa's value addition
2. Upgrade Scientific institutions in Science and engineering and enhance community participation
3. Strengthen institutional capacity and create the critical mass of skilled youth to enhance employability
4. Support and develop tools for disaster risk management – mathematical modelling prediction
5. Link member states to funding opportunities

Expected Outcomes

- Robust policy systems and governance strategies for enhancing SDGs sustainability science based on evidence
- A critical mass of African scientists/advocates created to provide leadership on Sustainability Science
- Synergy developed between Africa and global Experts on sustainability science for enhanced South –South, North-South collaboration
- Prosperous peaceful continent with value addition to its natural and human resources for shared prosperity for all

Synergy of Actors to Advance Gender in SuS

