



United Nations  
Educational, Scientific and  
Cultural Organization

Organisation  
des Nations Unies  
pour l'éducation,  
la science et la culture



# **Proceedings of the Capacity Building Workshop on Gender Mainstreaming in Science, Technology and Innovation Policymaking**

**Hosted by the African Technology Policy Studies Network (ATPS)  
in collaboration with UNESCO Regional Office in Kenya,  
5<sup>th</sup> -6<sup>th</sup> September 2013**

---

Submitted by:  
Prof. Kevin Chika Urama, Executive Director  
African Technology Policy Studies Network (ATPS)  
3rd Floor, The Chancery, Valley Road □ P.O. Box 10081-00100 Nairobi, Kenya  
Phone: +254 20 2714092/168/498 □ Fax: +254 20 2714028  
Email: [executivedirector@atpsnet.org](mailto:executivedirector@atpsnet.org) □ Website: [www.atpsnet.org](http://www.atpsnet.org)  
Date: 26 November 2013



Dr. Peggy Oti-Boateng, Senior Programme Specialist, UNESCO and Professor Kevin Chika Urama, ATPS Executive Director join Trainee Delegates and Faculty in a group photograph.

## **Acknowledgment**

I wish to thank UNESCO for offering the African Technology Policy Studies Network (ATPS) the opportunity of building the capacity of women and mainstreaming gender in STI policy formulation and implementation in Kenya through training of trainers (TOT) initiative. The initiative fits well into the ATPS African Women Forum for Science, Technology and Innovation (AWFST) Program which seeks to empower women in STI policy making, implementation, monitoring and evaluation activities as well as give them the voice to participate in charting sustainable development pathways at the local, national and international levels. I thank the delegates who were carefully selected from different works of life for their interest, devotion and useful contributions during the training and wish them well as they apply what they have learnt from the training in their work place and other related areas. I am also grateful to my colleagues at the ATPS secretariat for the effective coordination and delivery of the training.

**Prof. Kevin Urama**  
Executive Director, ATPS

## Table of Contents

<b>Acknowledgment .....</b>	<b>3</b>
<b>List of Acronyms.....</b>	<b>5</b>
1.0 Introduction and Rationale.....	6
1.1 Training Objectives.....	7
1.2 Approach and Methodology.....	7
1.3 Expected outputs and deliverables .....	8
<b>2.0 Opening Remarks and Course Modules .....</b>	<b>9</b>
2.1 Concepts and Definitions.....	9
2.2 The State of STI Environment in Africa – Imperatives for Successful Gender mainstreaming in STI Policymaking.....	10
2.3 Understanding the Tools, Procedures and Processes of STI Policymaking: implications for gender mainstreaming .....	11
2.4 Institutional Arrangements for Successful Gender Mainstreaming in STI Policymaking .....	11
2.5 Gender mainstreaming in STI Policy Development.....	11
2.6 Gender Management Systems for STI Policy Making.....	12
2.7 Gender Advocacy and Lobbying for STI Development .....	12
2.8 Good Practices in Participatory Monitoring and Evaluation.....	13
<b>3.0 Participatory Sessions and Discussion.....</b>	<b>14</b>
3.1 Challenges of Gender Mainstreaming in STI Policymaking in Africa in Practice .....	14
3.2 Policy Gaps Analyses: What needs to be improved for effective gender mainstreaming in Kenya’s STI policy? .....	16
<b>4.0 Conclusions and Recommendations .....</b>	<b>17</b>
<b>References .....</b>	<b>20</b>

## List of Acronyms

ATPS	African Technology Policy Studies Network
AfDB	African Development Bank
AU	African Union
AWFST	African Women Forum for Science Technology and Innovation
AWARD	African Women in Agriculture Research and Development
CPA	Consolidated Plan of Action
ECA	Economic Commission for Africa
GMS	Gender Management Systems
GPRS	Growth and Poverty Reduction Strategies
IA	Institutional Arrangements
IMP	Issue Management Plan
IPRs	Intellectual Property Rights
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation
NACOSTI	National Council for Science Technology and Innovation
NGO	Non-governmental Organization
NSI	National System of Innovation
PAR	Participatory Action Research
PM&E	Participatory Monitoring and Evaluation
RRA	Rapid Rural Appraisal
R&D	Research and Development
SETDEV	Science, Ethics and Technological Responsibility in Developing and Emerging Countries
SDGs	Sustainable Development Goals
STI	Science Technology and Innovations
ToT	Training of Trainers
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNECA	United Nations Economic Commission for Africa

## 1.0 Introduction and Rationale

Capacity building in Science, technology and innovation (STI) is critical to the economic and social development of Kenya. The importance of gender mainstreaming in STI policymaking, programmes and projects in Africa cannot be underestimated. Although Kenya has a national gender policy, its implementation has faced several challenges. The policymaking processes of Kenya, particularly in STI remain skewed towards the adult males, with women and girls under-represented at all levels of governance and policymaking processes.

Female participation in STI policymaking in Africa in general, and Kenya in particular, has been hindered by many exogenous factors such as cultural norms, traditions, and male chauvinism, lack of adequate political will to implement existing policies, etc., and also more endogenous factors such as lack of capabilities amongst Kenyan women to assume certain positions, and female stereotypes, attitudes, and lack of confidence to assume leadership roles in public offices, etc. In institutions of higher learning and research, gender disparities exist with fewer females taking up careers in STI and research compared to their male counterparts. The disparities in the representation of females in STI research and innovation research and policies in Kenya are further exacerbated by the fact that most females prefer to assume passive or supportive roles in research and innovation programs, even when such programs are specifically designed for females. For example, the Kenyan National Commission for Science, Technology and Innovation (NACOSTI) and the ATPS mounts programs specifically designed for women in science and technology but few women take up these opportunities in leadership roles. Gender disparities also exist in the Kenyan works force, with fewer females in STI related employment and Managerial positions in technical and science based careers. Most institutions lack gender policies and do not allocate resources towards gender mainstreaming.

Thus, building the capacity of women and mainstreaming gender in policy formulation and implementation is vital to achieving Kenya's Vision 2030 and the millennium development goals (MDGs) in Kenya. The workshop noted that gender mainstreaming starts from self-awareness, training and empowerment. Both genders (male and females) ought to take proactive roles in empowering themselves through sharing best practices and actively participating in the development of strategies for formulation and implementation of STI policies. On the other hand, capacity building in STI policy processes through training can equip women scientists, policy experts, planners and decision makers with knowledge, and necessary soft skills for active engagement, monitoring and evaluation.

The workshop was organized within UNESCO's framework to enhance capacity in self-driven national STI policy reform and evaluation in line with the African Consolidated Plan of Action (CPA) and; to strengthen gender equality perspectives in science policy design and promotion of women in science. The workshop was strategically timed during the period of consultation for Devolution in Kenya and development of the Post 2015 Sustainable Development Goals (SDGs), to enable Kenyan women build capacity and be equipped with necessary knowledge, skills and confidence to effectively contribute to the evolving policies in the country. Gender mainstreaming in STI must take centre stage in the development of Post 2015 if a

sustained and inclusive economic transformation is to be achieved in Africa and in particular Kenya.

The critical role of STI, and the importance of gender mainstreaming for, economic and social development of Kenya (and Africa in general) were well articulated at the UNESCO/AfDB/AU/UNECA 1st African Ministerial Forum on STI, Human Capital Development, Youth Employment and Inclusive Growth hosted by the Government of Kenya in April, 2012. The conference noted that building the capacity of women and mainstreaming gender in policy formulation and implementation is vital to achieving Kenya's Millennium Development Goals (MDGs) and Vision 2030. Women need to be empowered through sharing best practices and actively participating in the development of strategies for formulation and implementation of policies geared towards elevating their status in STI and research.

### **1.1 Training Objectives**

The overall objective of the workshop was to train professional women on policy formulation and implementation strategies geared towards gender mainstreaming and sustainable development. The specific objectives were to:

1. Assess the policy environment for development and application of gender mainstreaming strategies in STI in higher education and research;
2. Provide training for trainers (TOT) on gender responsive STI policy formulation/review, implementation, monitoring and evaluation for twenty- (20) participants that were selected in collaboration with UNESCO;
3. Provide training and supervise the training of trainers, through at least two capacity building workshops for thirty (30) mid-career women in STI policy review and implementation;
4. Develop an action plan for gender mainstreaming in STI within institutions of higher learning and research and;
5. Produce a reference manual and guidelines for gender mainstreaming in STI.

### **1.2 Approach and Methodology**

In order to address the stated objectives above, an assessment of the policy environment for gender mainstreaming in institutions of higher learning and research was conducted prior to the workshop. Examples of indicators that were assessed include; existing policies for gender mainstreaming of STI in institutions of higher learning and research in Kenya and its environs. These were generated through desk studies, policy mapping and consultations where necessary and shared with participants prior to the training workshop.

The actual Training of Trainers (TOT) on gender responsive STI policy formulation, monitoring and evaluation adopted multiple approaches to stakeholder participation so as to ensure active participation of each stakeholder in the training, dialogue, identification of gaps and prioritization of strategies for gender mainstreaming of STI in Kenya. The training was undertaken using various tools and approaches such as: baseline understanding of gender related concepts, the gender score card, the gender equality wheel, gender lens for policy development and review, gender neutral language guidelines, gender quizzes, and the overall policy formulation

process, and facilitated group works among others. Participants were also guided during the training workshop on the development of an action plan on gender mainstreaming in STI in institutions of higher learning and research. This was based on standard practices and case examples from existing STI policies in Africa, including Kenya and Uganda as case studies.

A draft reference manual and guidelines for gender mainstreaming in STI policy development/review, implementation and monitoring was also developed to facilitate the training. The contributions and outcomes from the training will be used to improve the manual further.

### **1.3 *Expected outputs and deliverables***

The training was designed to achieve the following outputs and deliverables:

1. A brief report indicating the work plan and training methodology;
2. Soft copies of the training manual and action plan;
3. The actual training of trainers workshop for at least 30 participants drawn from academia, government, policy makers, private sector and research; and
4. A proceedings report of the training;

## **2.0 Opening Remarks and Course Modules**

The opening remarks by Prof Kevin Urama, Executive Director, ATPS and the Director of UNESCO Regional Office, Nairobi, Mr Mohamed Djelid represented by Dr Peggy Oti-Boateng, both underscored the central role of women in STI for development and the need for gender mainstreaming in Kenya to ensure that an inclusive and sustainable growth is achieved. Speaking on the behalf of the Director of UNESCO Regional Office in Nairobi, Dr. Oti-Boateng expressed UNESCO's is pleasure to be part of the important capacity building workshop on Gender mainstreaming in STI policy in Kenya, reaffirming the commitment of the UNESCO Regional Office in Kenya to support the Government of Kenya in its development processes, especially in STI policy formulation and implementation. She emphasised UNESCO recognition of the importance of education, science, and culture in the development of national human capital for inclusive growth and sustainable development and the need to ensure gender equity.

Dr Edith Kirumba, on the other hand, observed that delegates have been carefully drawn from different STI sectors including universities, research institutions, private sector organizations, the media, government ministries and commissions, and the civil society, to ensure that the rich experiences of females in these sectors could be harnessed during the training.

### **2.1 Concepts and Definitions**

Prof. Urama took the delegates through basic concepts of science, technology and innovations, defining each of term, and how they are linked together within and innovation system. He underscored the need for delegates to consider gender mainstreaming as a multi-pronged and integrated approach in which females seek to build their capacity in all the fields of scientific and technological endeavours to equip them appropriately for effective participation in the STI policymaking processes.

Defining science as the observation, identification, description, experimental investigation, and theoretical explanation of phenomena, or "knowledge, especially gained through experience", Professor Urama clarified for delegates that science should not be perceived as an elite subject. He stressed that scientific research has been part of human experience from millennia, and most people engage in aspects of scientific enquiry on daily basis. However, for knowledge gained through such experiences to be classified as modern science, it has to be based on a systematic study, based on observation, experiment, and measurement, and can lead to the formulation of laws to describe these facts in general terms, regarding phenomena. He stressed the need for both "tacit" and "codified" knowledge to be utilized in policymaking and policy implementation, and encouraged delegates to demystify science in their discourse to encourage young girls to effectively engage in scientific and engineering fields of study. He stressed, that so far, science has been used esoterically as a foreign and very difficult subject of enquiry, often perceived to be too hard for girls. This leads to many girls opting out of science and engineering in Schools. He encouraged delegates to use examples of African women who have achieved high levels of excellence in science and engineering as role models for girls to encourage uptake and enrolment in science and engineering in Africa.

Technology, on the other hand, he described as based on the application of science, a technical method of achieving a practical purpose, or the totality of the means employed to provide objects necessary for human sustenance and comfort. In other words, technology is simply the application of knowledge, including the skills necessary to deploy principles, procedures, and processes that can be used to modify, manipulate and otherwise produce changes in the specific features of the physical world to serve human or social purposes. The concept of innovation on the other hand, pertains to the introduction of new products, processes and services and to organizational and societal renewal. Together, Science, Technology and Innovation (STI) forms the engine of development, especially when combined together in an effective system of innovation. While *science* is reasoned investigation or study of phenomena, aimed at discovering enduring principles among elements of the phenomenal world by employing formal techniques such as scientific method, *technology* is often a consequence of science and engineering, intuition, inspiration and serendipity. On the other hand, innovation is a design for instrumental action, often occurring in a system of interactions amongst actors within the system, i.e. in a National System of Innovation.

For gender mainstreaming in STI policymaking to be sustainable, there is need for equitable representation of females in all aspects of the national system of innovation and STI policy making. These include the national institutions, their incentive structures and their competencies, that determine the rate and direction of technological learning (or the volume and composition of change generating activities) in a country. A fundamental requirement would be increasing the enrolment of females in science and engineering to ensure skill development for effective participation in STI policymaking. Gender mainstreaming policies should address capacities and representation of women in the basic educational system, communication infrastructure, financial institutions, and legislative and macro-economic settings: including patent law, taxation corporate governance rules and trade policy, general enabling policy environment, etc.

## **2.2 The State of STI Environment in Africa – Imperatives for Successful Gender mainstreaming in STI Policymaking**

The second lecture given by Professor Urama, mapped the STI environment in Africa with a focus on Kenya, the key challenges and opportunities for gender mainstreaming in STI policymaking in Africa, and Kenya in particular. Amongst the challenges identified include:

- The public perception of STI in Africa as a elitists and male subject;
- The focus of STI Policy in Africa, mostly on issues of low interest to females;
- Funding for policy development often drives policy development processes, mostly by Consultants
- Poor culture of STI data collection & standardisation, making monitoring and evaluation challenging;
- Lack of coordination of National Systems of Innovation & poor collaboration amongst actors in the innovation system;
- Lack of enabling policy environment for STI capacity building in general and gender mainstreaming, in particular,

- Inappropriate knowledge systems with education systems designed, among others.

### **2.3 Understanding the Tools, Procedures and Processes of STI Policymaking: implications for gender mainstreaming**

The third lecture delivered by Prof. Urama was designed to equip the farmers to better understand the tools, procedures and processes of STI Policymaking and the implications for gender mainstreaming through policy entrepreneurship. The tools covered include the research tools such as the RAPID Framework, Policy Mapping; Communication Tools; Knowledge Management & Learning, monitoring and evaluation; and tools for Policymakers, and Development partners as well and policy evaluation tools; understanding policy entrepreneurship; stakeholder mapping, force-field analyses, develop communication strategies and policy briefing, and policy outcome mapping.

### **2.4 Institutional Arrangements for Successful Gender Mainstreaming in STI Policymaking**

The next lecture delivered by Dr. Nicholas Ozor, Senior Research Officer of the ATPS, explored the role of institutions and institutional arrangements for effective gender mainstreaming in STI policymaking and implementation. Institution is any collectively accepted system of rules (procedures, practices) that enable the smooth functioning of an organization. As structures and mechanisms of social order and cooperation governing the behaviour of two or more individuals/groups/organizations, institutional arrangements include habits, practices, norms and rules regulating relations and interactions among people. Dr. Ozor emphasized the need for appropriate institutional arrangements that does not discriminate amongst males and females in STI policymaking in Africa. Institutions exist in formal and informal forms: Formal forms include constitutions, laws, policies and property rights while informal institutions come in the form of taboos, sanctions, traditions and codes of conduct. Overall, the main purpose of institutions is to reduce uncertainty in relationships and hence create order.

### **2.5 Gender mainstreaming in STI Policy Development**

The next lecture delivered by Dr Edith Kirumba, Post-Doctoral Research Officer, ATPS, discussed the basic concepts of gender, gender roles, gender relations, gender discrimination, gender stereotypes; gender division of labour, gender equity, gender analysis, gender responsiveness and gender mainstreaming.

While one's gender is natural, gender roles, gender relations, gender discrimination, gender stereotypes; gender division of labour, gender equity, gender analysis, gender responsiveness and gender mainstreaming are often culturally and socially constructed.

Key factors for enhanced gender mainstreaming in Kenya include:

1. Political will: – the will to question and change current gender relations, societal structure, processes and policies;
2. Commitment to regional and global gender mandates;
3. Constitutional and legislative support:- government policies should have a gender action plan containing clear goals and objectives, broad guidelines on

- engendering government policies, programmes, and projects; Gender analysis including qualitative and quantitative fact finding;
4. Support and consensus on empowerment;
  5. Training/capacity building,
  6. Monitoring and evaluation – clear strategy for review of existing policies and administrative procedures;
  7. Development of Indicators –
  8. Research and development - Gender analysis for data gathering in different sectors;
  9. Awareness creation, knowledge management and networks

## **2.6 Gender Management Systems for STI Policy Making**

A Gender Management System (GMS) is a network of structures, mechanisms and processes put in place within an existing organisational framework to guide, plan, monitor, and evaluate the process of mainstreaming gender. A GMS advances gender equality by promoting political will, forging stakeholder partnerships, capacity building and sharing good practices, assisting governments and non-state actors in implementation of international and national commitments; strengthening national women's machineries; and creating an enabling environment for gender aware plans and programmes. Core principles of a GMS include (i) gender analysis which is the collection and analysis of gender disaggregated data; (ii) gender training; (iii) Gender management information system that acts as a central repository of gender information and a performance appraisal system; (iii) gender empowerment to address imbalances and enhance participation; and (iv) gender integration which involves systemic, holistic approach and transformation of structures and accountability. Effective implementation of a GMS require the establishment of a lead agency such as the ministry of gender to be the initiator, coordinator, monitor and evaluator, advocate, media relations and reporting; a gender management team that should be all inclusive to provide leadership; an inter-ministerial steering committee to serve as a lead agency and gender focal points/units; gender focal points including administrative and technical staff; parliamentary gender caucus comprising of gender aware male and female Members of Parliament, and representatives of stakeholder groups.

## **2.7 Gender Advocacy and Lobbying for STI Development**

Advocacy is an on-going process aimed at changing of attitudes, actions, policies and laws by influencing people and organizations with power, systems and structures at different levels for the betterment of those affected by the advocacy issue. Lobbying, on the other hand, is the art of persuading and influencing other people to see things/issues your way. Effective gender mainstreaming requires both lobbying and advocacy in various areas of the policy endeavour: property rights, access to credit, access to land, decision making and leadership, citizenship family law, gender and culture and gender and reproductive health rights, etc.

The lecture delivered by Dr. Edith Kirumba, discussed the different stages and skills required for effective lobbying and advocacy, including: stakeholder analyses, prioritisation of message, leadership structure and management, communication style and protocols, information gathering and analyses, goal setting, development

of SMART objectives on the issue / problem; identifying direct and indirect targets; resource mobilisations, action planning, implementation, negotiation/bargaining skills, monitoring and evaluation, etc. It was stressed that effective presentation skills (to gain Attention (A), hold Interest (I) arouse Desire (D) and obtain Action (A)) are key to successful advocacy and lobbying. Channels of communication may include: use of Mass Media (print, electronic or social), use of champions and policy fixers, mass demonstrations/civil disobedience, use of music and drama, good timing, use of workshops/conferences, creation of appeal, use of public rallies/meetings, use of professional lobbyists or popular personalities and use of religious groups, etc. While many gender advocates have emerged in the past decade, many challenges including lack of resources, poor presentation skills, poor sensitisation on subject matters, opposition/resistance to change, bureaucracy, poor packaging, access to high level audiences, timing of advocacy and lobbying, cultural stereotypes/beliefs, limited opportunities, breaking norms and lack of confidence, persists.

## **2.8 Good Practices in Participatory Monitoring and Evaluation**

Participatory monitoring and Evaluation is a process by which stakeholders at various levels engage in reviewing a particular project, program or policy, share control over the content, the process and engage in taking or identifying corrective actions. The final lecture delivered by Dr. Nicholas Ozor, expounded on the meaning and role of PM&E in STI policymaking, in general. PM&E draws from various participatory research traditions including Participatory Action Research (PAR), Rapid Rural Appraisal (RRA) Participatory Rural Appraisal (PRA), among others. It is used for different purposes and in different sectors to among others provide accountability of project and programme expenditure to funding agencies, review implementation of projects/programmes, provide public accountability of local and national government programmes to communities, strengthen organizations or institutional learning, understand and negotiate stakeholder perspectives, provide information at different levels and empower local people and partners in the field so that they own and contribute to the field of development.

Key principles of PM&E identified include: flexibility and adaptability to local contexts; iterative based on continues learning and adaptation, realistic (technically and in terms of time and budget); analytical and not “target driven” targets but instead be “vision driven and use indicators defined at local/national levels but useful for different audiences.

The steps involved include defining the purpose and scope; define the M&E questions that will guide the identification of indicators by identifying audiences/ stakeholders, formulating the M&E questions and choosing the indicators and/or specific statements and analysis for answering M&E questions. (Indicators); establishing baselines and milestones for quantitative and/or qualitative indicators; establishing how you will obtain and store the data to answer the information needs (Methodology); Negotiating responsibilities/timing and identifying how are you going to use the data and information collected.

### **3.0 Participatory Sessions and Discussion**

The final session was a facilitated discussion on good practices in gender mainstreaming in STI. Breakout sessions considered key questions posed by delegates and elicited the following responses on:

#### **3.1 Challenges of Gender Mainstreaming in STI Policymaking in Africa in Practice**

*Sexual discrimination:* - Preference of males over females in African culture which informs social roles and responsibilities of females, access to resources, political power, education and in all sectors of the human endeavour. The field of science and engineering is for example, largely dominated by males. This can be overcome through role modelling (use of established females as role models to share their experiences and how they managed to breach the stereotypes); recognition of and awards to women in science and technology to incentivise achievement and desire for achievement amongst females. Delegates commended the efforts being made by the ATPS and UNESCO through their Africa Women Forum for Science and Technology (AWFST) innovation challenge awards, and the UNESCO Laureates awards to women in science. These initiatives should be strengthened and up-scaled.

*Public Perceptions, belief system, preferences and cultural stereotypes:* There is a general perception in African society that females are “the weaker sex” compared to their male counterparts. Hence they should not be saddled with ‘tough’ jobs and leadership responsibilities. This perception is often engrained in the female child in the nurturing process and religious doctrines to the extent that even the females prefer to be treated as such in society, hence psychologically complying with the stereotype that effectively discriminates against women. It is for example cultural in Africa for girls to expect their boyfriends to take care of their needs and wife their husband. In effect, they hand over the power of leadership to the males in society from a young age. This can be addressed through re-orientation and confidence building amongst the females of Africa, re-education and role modelling, etc. Many females in Africa and around the world have excelled in all fields of endeavour including high leadership positions (President of countries, Prime Minister, Cabinet Ministers, Directors, and Nobel Prize Winners, Chief Executive Officers of leading multi-national companies, amongst others). These success stories need to be celebrated to incentivise achievement amongst the female child in Africa.

*Gender roles and responsibilities in society:* Mostly, family chores and other household responsibilities (cooking, cleaning, nursing children, etc.,) are left in the hands of females in Africa households, in addition to the natural responsibilities of carrying pregnancy, childbearing, etc. These effectively preclude most females from pursuing hard sciences and high public offices in early stages of their carrier. Most hard sciences (engineering, bio-sciences, etc.,) require significant amounts of time inputs in the Laboratories, construction sites, etc., which may not be very conducive for females especially when they still have to meet their social duties.

*Attitudinal and behavioural traits:* The issues discussed above has led to a largely subservient attitude amongst most Africa females, basically in submission to the

cultural, religious and social status ascribed by society. There is a tendency of women and girls to remain seated quietly take back seats in development and policy dialogues, failing to seize opportunities to contribute actively in the process even when accorded such an opportunity in law. The National Council for STI in Kenya and ATPS shared examples of opportunities offered to females to lead STI research program in calls for proposals specifically targeting females, but in the final analyses, most female applicants partnered with males as research/project collaborators, assuming nominal leadership of the initiative. In a typical case of the ATPS facilitated AWFST program in which calls for proposals were issued in parallel for the African Youth Forum on Science and Technology (AYFST) and AWFST members, it was further observed that the youth program (mostly dominated by males) was more successful than the AWFST program. Delegates agreed that this is often psychological but also social, institutional and economic barriers discussed in this section contribute to the challenge.

*Peer Pressure and Conformity Syndrome:* Females in Africa are now mostly less assertive of their rights, often trying to stay within the socially defined roles and responsibilities. Most females, for example lack interest in studying hard sciences not because they do not have the required intellectual capacity to do so, but largely because of social stereotypes. It was noted the recently passed laws of the republic of Kenya provides significant opportunities for gender empowerment and mainstreaming, and Kenyan females have to step up the game to proactively participate in policy processes at all stages to ensure that their concerns are adequately represented in the implementation policies and programs at all scales. Women should not shy away from engagement in public policy debates.

*Lack of Collaboration and Cooperation amongst Females:* It was noted that the female folk are more likely to seek friendships and research cooperation/alliances with the male counterparts. While this may be a justifiable strategy for various reasons (example mentorship and support, knowledge sharing, and building social capital, it is equally important for females to build own networks and alliances to discuss and champion issues that are of interest to the female gender only. STI policymaking is a crowded space with many lobby groups, diverse interests and limited resources (time, money, participatory capacity, etc.). It is therefore imperative that each group needs a clear strategy to make their voices heard and taken into account in the policy process. Years on innovation histories research show that cooperation, collaboration and networking are critical for successful impact on STI policy at all scales.

*Lack of female to female empowerment and mentorship programs:* It was note programs on STI mentorship amongst women are few in Africa. Mentions were made of the AWFST programs, the AWARD program and few community based empowerment schemes, but these initiatives are Donor driven and often lack the necessary funding for up-scaling. For gender mainstreaming to be fully effective in Africa, these programs need to be adequately funded and up scaled. Such mentorship programs should for example provide a strategy for career counselling, opportunity searching, knowledge sharing, etc.

*Lack of a common sensitization strategy:* It was noted while many gender based non-governmental organisations are increasing, there is yet to be a coordinated

sensitisation and advocacy strategy for gender mainstreaming in Kenya. Each project, program, or organisation are doing their own things based on funding specifications and hence lack the collective force that a coordinated strategy could deliver. It was noted that UNESCO and ATPS could for example assist in lobbying the government of Kenya for such a coordinated action program to be put in place.

*Lack of financial support:* It was noted that female programs often receive smaller budget allocations in most countries, women are paid less in formal employment, and viable female programs such as the AWFST and AWARD programs often receive less funding from Donors than mainstream subjects such as climate change, health delivery, etc.

Many other challenges were identified, including socio-cultural factors e.g. stereotyping, patriarchy and the misunderstanding between men, and the belief that gender mainstreaming is all about women; tokenistic involvement of women in policy consultations; low interest in gender based research by male counterparts, education systems and institutions, heterosexuality versus homosexuality implications of relationships within gender, etc.

### **3.2 Policy Gaps Analyses: What needs to be improved for effective gender mainstreaming in Kenya's STI policy?**

Based on the challenges discussed above, the delegates identified key areas of needs for effective gender mainstreaming in Kenya's STI policy:

*From tokenism to real commitment at all levels:* Delegates noted that Kenya's draft STI policy mentions gender only once and provides no clear strategy for addressing gender issues in STI development in Kenya. On the contrary, the Uganda policy which was also reviewed by delegates during the training exercises has a full section on gender with clear programs and strategies for implementation identified. For gender mainstreaming to be effective in Kenya, there is need to:

- Develop a clear policy on gender equity with a clear implementation strategy;
- Proactively engage females (women and girls) in all policy dialogues and consultation processes involved in developing policies and programs. Proactively sensitise the public and government Ministries and agencies on relevance of gender mainstreaming in STI for sustainable and equitable development in the country;
- Review the educational system and curricula at all levels to build capacity for the respective gender to match the expected goals;
- Intensify supports for women and girls in science- projects/programs through funding, publications, commercialisation;
- Acknowledge, celebrate and reward women of excellence in STI. This could be in the form of excellence awards, appointments to key positions of responsibility, scholarships, etc.,
- Allocate sufficient funds to gender mainstreaming activities at all scales and put in place an effective monitoring and evaluation programs.
- Capacity building and sensitization to improve the culture of low enrolment/perception of STI;
- Create more opportunities/or legal frameworks to enhance women participation in leadership, and other key decision making processes;

- Give scholarships in sciences specifically to young females as a way of enhancing participation in STI; and
- Provide business platforms and incubation facilities that include women enterprises.

*Political Will:* it was noted that even if all the above are done, political leadership and political will to implement policies and programs remain a key necessity.

#### **4.0 Conclusions and Recommendations**

The participants drafted a policy statement on gender and equity for submission to the National Commission on Science technology and Innovation (NACOSTI) and relevant government agencies for their consideration as an input to the STI policy review, which was ongoing (Box 1):

**Box 1: A Joint Policy Statement on Mainstreaming Gender in Kenya's STI Policy**

We, the delegates of the training workshop on mainstreaming gender in Kenya's STI policy, convened by the African Technology Policy Studies Network (ATPS) and its Partner, the UNESCO Regional Office in Africa, this day being 05 – 06 September 2013;

- Having reviewed the existing draft of the said policy document, as well as other STI policy documents of neighbouring countries in the eastern Africa region;
- And recognising the important role of gender in STI development in Kenya, as well as in achieving inclusive and sustainable development in Kenya;
- Hereby requests the government of Kenya to:
- To mainstream and actively involve women in all STI related programmes and activities, and in decision making in order to ensure that impacts are spread across all sections of society.

**Suggested strategic actions for implementation of the above policy statement include:**

- Review the STI policy and its implementation programs to ensure equal participation and equitable distribution of opportunities and benefits of STI for women and men;
- Design and initiate affirmative action initiatives to ensure the inclusion of women and men in STI related programmes, activities, and in decision making and planning;
- Design and implement sensitisation of the general public and key stakeholders (policy makers, research, civil society, local communities, academia, faith based organisations, NGOs, students etc.) on the relevance of gender mainstreaming in STI;
- Incentivise STI education and training for females at all levels of schooling (primary, secondary and tertiary), including public and private sector institutions in order to facilitate the participation of women in STI;
- Review the educational curricula at all levels to build capacity for achievement of gender mainstreaming and to match the expected gender goals and objectives of government and other institutions;
- Facilitate entrepreneurship training to women and girls to enhance their ability and capacity to innovate, utilise, and commercialise STI;
- Conduct regular information dissemination and outreach activities to popularise gender mainstreaming in STI through the use print and electronic media that relays information effectively to targeted audiences;
- Provide financial and material resources towards the realisation of gender mainstreaming in STI through government, institutional and local level arrangements;
- Integrate a culture of routine gender analysis and gender monitoring and evaluation to ensure that up to date statistics and information on gender is generated and applied in planning and decision making;
- Create forums (e.g. use of TV and Radio) to initiate public debates and dialogues on gender mainstreaming and the role of societal norms in encouraging or discouraging gender equity

## **6.0 Conclusions**

The training workshop has provided knowledge and skills to delegates on the basic concepts of science, technology and innovation, policymaking, its processes and procedures, as well as the institutional frameworks, monitoring and evaluation frameworks required for effective mainstreaming of gender at all levels of the STI policymaking process. Through a series of interactive lectures and facilitated participatory learning modules, the workshop provided hand-on skills for delegates to be able to review identify opportunities for policy engagement, articulate strategies for mainstreaming gender issues at each stages of the process, form partnerships and networks to effectively engage the process and mainstream gender issues for a more inclusive STI policy development in Kenya. Through the hands on exercises and break out group discussions delegates identified the challenges and opportunities for gender mainstreaming in the ongoing consultation process of Kenya's STI policy, and also how to overcome the challenges identified in future. Existing institutional platforms for continued engagement, including the African Women Forum on Science and Technology (AWFST), AWARD and other programs were also identified.

In a joint resolve to take proactive action, the delegates proposed a policy statement for submission to the National Commission of STI in Kenya and other relevant Ministries. The delegates also urged the ATPS to liaise with UNESCO to produce and widely disseminate a policy brief on the subject, and find avenues for more resources to further implement the training in the 47 counties of Kenya, and if possible in other African countries. A review of the workshop form returned an overwhelming satisfaction by the delegates in its relevance (100%) planning (100%), course content (100%), course delivery (95%), and time allocation to modules (87%). Few delegates expressed desire to see the course program expanded into a full week course offered on regular basis at the ATPS, while all delegates recommend that the course should be replicated in Kenya's 47 countries, and to relevant Ministries, National Commissions and Agencies of government.

## References

- Urama, K., O. Ogbu, W. Bijker, A. Alfonsi, N. Gomez ,N. Ozor, , (2010) *The African Manifesto for Science, Technology and Innovation*. Prepared by The African Technology Policy Studies Network (ATPS) under the auspices of the Science, Ethics and Technological Responsibilities in Developing and Emerging Countries (SETDEV) Project
- Urama, K., N. Ozor, O. Kane and M. Hassan (2010) *The State of Science, Technology and Innovation in sub Saharan Africa*. United Nations Educational, Scientific and Cultural Organization (UNESCO) Science Report 2010. UNESCO Publishing