



Gender Still an Issue in Developing Countries

Conference Review by Jayantee Naugah

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CONFERENCE DETAILS

Date: 17–19 April 2014

Title: ADD-GASAT International Conference

Location: Mauritius

REVIEW

The ADD-GASAT International Conference was held in Mauritius from 17–19 April 2014 and it was indeed a great experience for the 125 participants, of whom ten came from overseas, namely from India, the UK, South Africa, Pakistan and Nigeria. The theme of the conference was **Challenges and Opportunities 2025 – Legacy for Future Generations**, and it aimed at promoting the exchange of knowledge among social and natural science communities, national institutions, women, youth and other civil society groups involved in gender issues, entrepreneurship and sustainable development. The presentations focused on three thematic areas, namely Capacity Building, Sustainability and Resilience and Culture. Over 50 abstracts were received and the conference recommendations were formulated into a Declaration of Intent which is to be submitted to policy makers as an NGO input to global platforms such as the UN Post-2015 Development Agenda and the UN SIDS Conference, to be held in September 2014 in Samoa. This review will focus on the papers that dealt with gender issues and the education of women in developing countries.

Knowledge has become the central focus of and the driving force for human development. The paper presented by Prof. Stella Erinosh from Nigeria provided an overview of the educational profile of girls/women in science and technology education in sub-Saharan Africa, examining how far they are on track to contribute to the development process and highlighting emerging conditions in education that are challenging or influencing the overall contribution of women to sustainable development.



The greatest challenge to development in Africa is creating the human capital that is required to assure sustainability. By not fully recognising the economic, social and environmental contributions of women and investing in them to get them mainstreamed into the development agenda, the continent has continued to experience drawbacks in maintaining the gains. The role of science and technology in improving the quality of life is also well recognised. African governments have therefore declared their intention to [develop strategies](#) for accelerated socio-economic transformation based on harnessing science, technology and innovation (STI) for sustainable development. In view of these commitments, many African governments have substantially increased their investment in education and advanced rights to education, though not many nations have yet witnessed a dramatic improvement in quality of life and/or development. There still exist great challenges in the educational system that shapes the opportunities of women to quality and sustainable education. It appears that the more things are changing, the more they appear to remain stagnant.

In her study of the low participation rate of girls in science in four schools in Mauritius, Dr Jaya Naugah, the Co-Chair of the ADD-GASAT Conference, argued that changes in the teaching of science would be crucial to increasing the uptake of science by girls; for example, a variety of strategies could be used to engage them in science and improve the status of science at national level. Science was still being taught in a rote-learning fashion with very little activity-based teaching – approaches that are remote from the realities and experiences of girls. Data from interviews showed that these girls were interested in people-oriented topics; therefore it was imperative for teachers to draw on their interest in biology, chemistry and physics by making use of examples and techniques that are contextual and girl-friendly if they are to enhance their participation in science beyond the compulsory level. Furthermore, attention was drawn to the way science teachers are trained, and their teaching styles in schools once training is completed must be fully scrutinised. Science-teacher educators will have to face the challenges of preparing teachers who can understand the subtleties and nuances of gender effects on girls' science learning and teaching. Pedagogy of science was found to be the most important factor in the alienation of girls from science; teacher-centred learning acts as a barrier to learning science.

Dr Sue Dale Tunnicliffe's paper on building resilience was entitled "Talking science – A project in rural Bangladesh to increase self-esteem of women through heightening their awareness of their knowledge of science and technology from everyday lives and talking to their children". This paper outlined a pilot project of the Commonwealth Association of Science, Technology and Mathematics Educators (CASTME) in a village for destitute women in rural Bangladesh. A paradigm shift, occurring particularly in Western education, recognises increasingly that the first teachers of children are usually their mothers and carers, most often women. These first teachers play a crucial role in a country's ability to produce scientifically and technologically literate citizens. In a number of world societies, literacy among women is still being developed. In many developing countries, education at primary level is not yet universal for all children and girls have less primary education than boys do. However, although the women may not read and write, they are very capable when it comes to the first two strands of literacy, which are talking and listening. Furthermore, as home care practitioners and often also as workers in their community, they are proficient in aspects of everyday and community science and technology. However, they do not always know about the everyday science and technology they meet and use in their lives such as cooking, weaving or growing vegetables. These women are the first teachers of children. If they talk with their children about what they are doing and

point out changes such as the difference between cooked and uncooked rice, children can make important science and technology observations and acquire the everyday language of the phenomena. This provides a sound foundation for future learning.

Dr M. Madhou and others from the Mauritius Research Council, in their paper on the status of women's participation in the science and technology sector in Mauritius, presented some concrete examples of knowledge transfer between researchers and women entrepreneurs and the challenges being faced by women in participating in the science and technology sector. Enrolment figures at secondary and tertiary level were analysed, as well as professional workforce data from 1990 to 2012. These showed that there are low rates of enrolment in science and technology at secondary and tertiary levels, especially for subjects such as physics, engineering and computing, and for doctoral studies. In the professional science and technology (S&T) workforce, male workers dominate the scene, being 40% to 90% more numerous than female workers. They expressed the need to integrate more women in the professional S&T workforce by enhancing their opportunities to participate at decision- and policy-making level, creating incentives to attract women into a wider spectrum of scientific professions, ensuring adequate female representation in different decision-making structures including scientific boards and committees, and promoting gender equity in capacity-building programmes.

To enable women entrepreneurs to lead their small, medium-sized and microenterprises, a need was identified for support in the form of establishing a framework to assist in the identification and adoption of appropriate technology and by providing financial, training, technical and social assistance. Clustering of women's groups with research groups should be used as a means of empowering potential women entrepreneurs and encouraging innovation. From the perspective of policy formulation, it is highly recommended that gender-disaggregated data be collected before and after policies and programmes are implemented, that research be undertaken to support the integration of gender considerations in policy development, and that the input of women into STI policymaking at all levels be promoted from grassroots to national policy levels.

Prof. Mike Watts from the UK explored some of the wider cultural and other aspects of the nested series (Naugah & Watts, 2011); the philosophical clash between modern Western science and local knowledge and customs; the influence of national imperatives on community practices; the social roles of teachers, parents and peers; and the impact of culture and identity. To do this he invoked the metaphor of a 'cultural double helix' (Kanhadilok & Watts, 2014), wherein modern Western science is seen as a parallel strand to but separate from indigenous knowledge and traditions, and where the role of science educators (of all kinds) is to seek out and exploit the 'bonds' that bridge these two strands. He discussed a range of such 'bonds' that are relevant not just in Mauritius but to all cultures and societies. He used data from the UK, other international contexts and – of course – Mauritius to illuminate and explore ways forward in science education that will promote greater participation in science and enhance scientific literacy.

Prof. Usha Rani from India made a presentation entitled "Self-Help Group of Women Beneficiaries and Adoption of Science and Technology" by low-income rural women in India, and her study showed how these women have improved their lives as regards matters such as contraception and HIV/AIDS and STDs by the use of new technologies.

Students (mostly girls) from secondary schools presented their projects on sustainability issues; this was very encouraging as it gave the audience hope that there are girls who are starting to assert themselves and find ways of meeting the environmental challenges facing a small island like Mauritius. On the whole, the conference was very enriching and the recommendations on the topics discussed above will be submitted to the policy makers at the appropriate platforms.

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