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Commission on the Status of Women

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Agenda item 3 (a)

Follow-up to the Fourth World Conference on Women and to the twenty-third special session of the General Assembly entitled “Women 2000: gender equality, development and peace for the twenty-first century”: implementation of strategic objectives and action in critical areas of concern and further actions and initiatives

Key policy initiatives and capacity-building on gender mainstreaming: focus on science and technology

Moderator’s summary

1. On 23 February 2011, the Commission on the Status of Women convened an interactive expert panel on the theme “Key policy initiatives and capacity-building on gender mainstreaming: focus on science and technology”. This interactive panel was part of the Commission’s consideration of the priority theme “Access and participation of women and girls in education, training, science and technology, including for the promotion of women’s equal access to full employment and decent work”.

2. Ms. María Luz Melon, Vice-Chair of the Commission, moderated the session. The panellists were: Ms. Sesae Mpuchane, Professor, University of Botswana; Ms. Hagit Messer, President, Open University, Israel; Ms. Londa Schiebinger, Professor, Stanford University, United States of America; Mr. Bunker Roy, Founder and Director, Barefoot College, India; and Ms. Anne Miroux, Director, Technology and Trade Logistics Division, United Nations Conference on Trade and Development.

3. Science and technology is an important tool to accelerate the achievement of the internationally agreed development goals, including the Millennium Development Goals. Participants highlighted the importance of science and technology for economic growth, recognizing that it contributes to increased productivity and competitiveness, and therefore to job creation and the overall development of nations. Women’s full participation in the production of science and technology is both an economic imperative and an issue of social justice. Women

make critical contributions as actors in fields such as science, information technology and medicine, in different capacities, such as researchers, teachers and practitioners.

4. Girls and women continue to be underrepresented in science and technology education and employment. While women have gained greater access to education at all levels, including tertiary education, they have not yet reached parity in science and technology disciplines, with variations by sub-field. Progress has been slow and the situation is being described as a “leaky pipeline”, where there is a continual attrition of women at each stage of the academic and career ladders. Women are conspicuously absent at the decision-making level. For example, the membership of national academies of science remains overwhelmingly male in science and technology disciplines. Women also continue to be paid less than men for work of equal value. An encouraging sign has been women’s enthusiasm for emerging science and technology disciplines that are interdisciplinary and more visibly connected to societal issues, for instance environmental engineering.

5. Gender stereotypes are a root cause of horizontal and vertical occupational segregation, including in science and technology. A widely held belief is that boys and men are naturally better than girls and women at science and technology. This belief has a negative impact on women’s participation in science and technology, both in education and in employment. Within the educational system, gender stereotypes may cause girls to underperform — a phenomenon known as “stereotype threat” — and stifle their interest in mathematics and science. Teachers play an important role in encouraging children to pursue certain courses of study, but in some cases both male and female teachers may hold gender biases and treat boys and girls differently. Similarly, biases, whether conscious or unconscious, are at play in the employment realm, and may negatively affect women’s recruitment and career progression in science and technology fields.

6. A range of measures have been put into place to challenge gender stereotypes in science and technology education. Many government initiatives focus on making science and technology attractive to girls, so as to increase their interest in pursuing studies and careers in these fields. Exposure to female role models, for instance through mentoring programmes, visits of women scientists and engineers to schools, or university research chairs created especially for women, help girls to picture themselves in science and technology careers. Programmes also exist to inform girls about careers in science and technology, and to provide them with so-called job shadowing opportunities. In addition, teaching girls about “stereotype threat” can help to diminish its impact. Science camps for girls and inclusion of science in primary education can also have a positive impact. Some programmes have sensitized family and community members and policymakers to the relevance of science and technology careers for girls, including parents, teachers, and local and religious leaders.

7. Targeted measures are needed in science and technology employment to overcome gender biases which may hinder the recruitment and promotion of women. Measures such as the establishment of quotas or gender-balance targets have been effective in increasing the proportion of women, particularly at the senior level. Participants also stressed the importance of including both women and men in researcher selection and evaluation bodies. In addition, awards and prizes

specifically for women scientists or engineers can both motivate them and make their contributions more visible.

8. Another impediment to women's participation and career progression in science and technology employment is the unequal sharing of responsibility within the household. Women continue to be the primary caregivers for children and other dependents, which makes it difficult for them to respond to the demanding nature of science and technology careers, including the need for geographic mobility. Poor work-life balance hinders career progression, and contributes to women leaving science and technology fields. Extending scholarships to enable women with children to complete their studies, or providing dedicated funds to help female scientists and engineers to return to work after a career break, are some of the measures put in place by Governments to help to level the playing field. However, there remains an unmet need for affordable childcare, and increasing investment in such services is critical to facilitate women's participation and career progression in science and technology.

9. Women's participation in science and technology may also be increased through non-formal training, which can be a powerful means of reaching out to traditionally excluded groups of women. Governments have, for instance, provided extension services to rural women to enhance their skills in farm production, processing and enterprise, and trained illiterate women to become birth attendants. Much non-formal training is provided by civil society organizations. The Barefoot College in India, with its method of "learning by doing", has trained illiterate, older rural women to become "solar engineers", who then installed solar panels and lanterns in their villages. This initiative has contributed to their empowerment, and elevated their status in the community and in their villages. Demonstrating women's capabilities and achievements can be a powerful tool to overcome gender stereotypes.

10. Laws and national strategies can help in fostering women's participation in science and technology, together with specific policies and programmes in a comprehensive approach. All national science, technology and innovation policies should visibly address gender equality aspects as a cross-cutting issue, and greater coherence is required among the laws, policies and programmes that affect women's and girls' participation in these areas. For example, initiatives to attract girls to scientific studies can be accompanied by measures to tackle obstacles in gaining access to and progress in employment in these areas, such as elimination of the gender pay gap. Having in place a national institution devoted to the promotion of gender equality in science and technology can contribute to better focused national efforts towards this end. Policy frameworks for the empowerment of women help in creating a supportive environment for women in science and technology.

11. Increasing the participation of women and girls in science and technology requires the involvement of multiple stakeholders. At the national level, the impact of government action can be strengthened through partnerships with other actors, in particular the private sector and non-governmental organizations. Participants highlighted the crucial role that non-governmental organizations play in initiating innovative projects, and stressed that Governments should provide funding, and scale up successful pilot projects. Collaboration with the media is also useful to provide a more attractive image of science and technology for women and girls. International cooperation is critical to address the lack of capacity and funding that

some countries face. Opportunities to strengthen partnerships among countries should be further explored, including South-South and triangular cooperation.

12. Technology plays a key role in empowering women. Devices such as multifunctional platforms — a diesel engine that powers tools and provides electricity — have helped women to reduce the time and labour spent on productive activities, and resulted in women's increased income and status in the community. Technology, in particular information and communications technology, has enabled women to play a more active role as citizens.

13. Women's access to technology is, thus, a crucial issue that requires attention. Throughout the world, women's access to technology remains inadequate, and this is especially the case for women belonging to ethnic minorities, those living in rural and remote areas and older women. More efforts are needed to increase attention to the issue of women's access to technology, and to increase investments in technology that benefits women, such as telecentres in rural areas, affordable information and communication technology for micro- and small enterprises, greater access to information and communications technology for women in general, and to technology related to food production.

14. Technologies should benefit women and men equally. Public investments in research and development may affect women and men differently. Impact analyses should be more regularly conducted when setting research priorities. It is also important that the process of technology design be user-driven and participatory, to fully take into account the specific needs and priorities of women. One country, for instance, collected women's practical suggestions on how to improve the technology they use. Integrating gender analysis throughout all stages of technology development can help to improve the products, and ultimately benefit both women and men.
