UNISDR Science and Technology Conference on the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030
27-29 January 2016, Geneva International Conference Centre

Concept note
Side Event: Science and Technology for Addressing Gender Inequality of Disaster Risk

1. Overview

In the past decade, disasters have continued to exact a heavy toll across the world with over 700 thousand lives lost, 1.7 billion people affected and economic losses of US$ 1.4 trillion1. The increasing effects of climate change exacerbate disaster risks and disproportionately affect the most vulnerable. UNISDR assessed that in the past 10 years 87% of disasters have been climate related, and this number is expected to grow.

The effects of disasters are rarely gender-neutral. Research shows that women are more at risk of being affected by disasters and their aftermaths. In 1991 the cyclone in Bangladesh killed 140,000 people. Within the age group 20-44, the female death rate was 71 per 1000, compared to 15 per 1000 for men. The Indian Ocean Tsunami in 2004 was reported to have killed more than four times more women than men and in some areas the only direct fatalities from the tsunami were women and girls (Hines 2007).

Women and girls will be particularly affected by this expected increase in extreme weather events. The multiple discriminations that women face – in education, health care, employment, and control of property – are key underlying drivers that inevitably make women more vulnerable in crises and post disasters situations. In addition, the socioeconomic losses associated with disasters is often more pronounced for women and girls, as shown during Hurricane Katrina in the USA (Henrici, Helmith et al. 2010). Research has shown women and girls are more likely to experience increased poverty rates, higher rates of sexual violence and a lack of adequate housing in the aftermath of a disaster (Henrici, Helmith et al. 2010).

Little progress has been made in addressing this dramatic gender inequality of risks over the past 25 years. This lack of progress on addressing the underlying risk drivers has been recognized by the international community and new normative framework. The Sendai Framework for Disaster Risk Reduction (DRR) 2015-2030 calls for a paradigm shift through dedicated action to tackle underlying disaster risk drivers and as a matter a principle including gender in all policies and practices.

The role of science and technology in assisting with the eradication of poverty including through addressing the underlining risks has particular relevance to the issue of women and

1 Care =: talking emergencies in an era of climate disruption: reducing risk and building resilience for the poor and vulnerable.

girls in science. Women and girls are often some of the poorest in a community (Mrkić, Johnson et al. 2010) and as such, potentially have the most to gain from increased educational opportunities in general and science-based education in particular. These opportunities can then add to further economic and social benefits in the future. Furthermore, gender aware inputs from women at appropriate levels of seniority can influence the direction of scientific and technological breakthroughs to the benefit of women and girls coming along behind them.

This side event aims to explore ways and concrete initiatives that could be promoted to foster women and girls' access to and use of science and technology in DRR. In addition, this side event presents an opportunity to look at the impact that the current lack of representation by women in the science and technology field has on the achievement of DRR targets at the national and global levels.

Information compiled by UNESCO suggests that only 30% of scientists or researchers globally are women (UNESCO 2010). This lack of representation at both research and higher decision making levels means that, too often, the views and priorities of women and girls aren't included in science and technology policy. This exclusion is normally driven by a number of factors including education levels, cultural issues and political hurdles and poverty (UNESCO 2007). Women make up of the scientific workforce varies by region. It ranges from 18.9% in Asia; 34.0% in Europe; 34.5% in Africa; 39.2% in Oceania and 45.2% in Latin America and the Caribbean (UIS, 2015).)

This side event will seek to build on the work already being carried out by networks around the world to increase representation of women and girls in science and technology within disaster risk reduction.

This side event will consider the following discussion points:

1. Provide an opportunity to showcase the current best practice for enhanced role of women in science and technology and in using science and technology in the DRR field.
2. Discuss the challenges in replicating those best practice and explore concrete mechanisms and opportunities to ensure more inclusion and representation of women in science and technology for DRR policy and practice at the national and global levels.
3. Identify areas within the Science and Technology road map document which may facilitate such inclusion.
4. Discuss the establishment of "Women and girls in DRR Science" platform.

2. Stock taking

The Sendai Framework for Disaster Risk Reduction 2015 – 2030 provides guidance on identifying the problems facing the inclusion of women and girls within mainstream DRR policy (UNISDR 2015) and even some tools needed to address this;

> *35a(i) - Women and their participation are critical to effectively managing disaster risk and designing, resourcing and implementing gender-sensitive disaster risk*

reduction policies, plans and programmes; and adequate capacity building measures need to be taken to empower women for preparedness as well as to build their capacity to secure alternate means of livelihood in post-disaster situations;

Indeed, specific mention of women and science in the framework provides a unique opportunity to build on the role of science for the better inclusion of women in DRR policy and to develop a way forward for ensuring an increased level of involvement by women scientists;

19g - Disaster risk reduction requires a multi-hazard approach and inclusive risk-informed decision-making based on the open exchange and dissemination of disaggregated data, including by sex, age and disability, as well as on easily accessible, up-to-date, comprehensible, science-based, non-sensitive risk information, complemented by traditional knowledge;

Using these positive steps within the Framework as a starting point, the side event at the Science and Technology conference will discuss and propose strategies for the inclusion of women and girls within the main science and technology roadmap.

3. The way forward.

This side event will identify the necessary steps over the course of the Sendai Framework (2015 – 2030) to discuss how best to ensure its implementation enhance the role of women within DRR science and technology and at the same time address the disproportionate impact of disasters on women and girls.

What should the next 15 years look like and how can we provide a clear link to the ST roadmap.

1. Ensure women and girls in disaster affected communities are adequately served by the developments within science and technology in order to increase their awareness of disaster risks and therefore reduce the risks associated with disasters.
2. Develop an inclusive, gender responsive DRR roadmap that will interest and engage girls and women within science, education and the professional scientific community.

How do existing networks play a role and what is the relationship with the proposed platform?

1. We will utilise existing networks to build on the messages within Sendai and the outcome of the S&T conference. This will begin before the conference but agreement on processes for effective collaborative work will be agreed during the conference itself.
2. We will adopt a collaborative approach to engage gender-focused networks such as Gender Disaster Network (GDN), UNESCO L'Oréal network, with science-specific groups and organisations such as UNISDR and its Science and Technology Advisory Group (STAG) and ICSU from within the DRR field, and link these with external initiatives such as the Athena SWAN Charter, which recognises commitment to

advancing women's careers in Science, Technology, Maths and Medicine (STEMM) employment in higher education to develop maximum opportunities and impact.

Top three priority investment areas

1. Encourage communication and partnerships within current networks and organisations, develop greater visibility of gender inclusion within the broader DRR science realm (through the development, research and implementation phases), and identify role models.
2. a) Develop tools, build capacities and support policies regarding collection and use of sex and age disaggregated data and supporting development of gender analysis of risks;
3. Support development of early warnings and early actions systems that are gender responsive and support indigenous solutions to DRR through increased technical capacities being it software and hardware this enabling their recovery and resilience.

Suggested immediate next steps

1. Assist with the development and promotion of a gender responsive roadmap before and during the conference. This roadmap must facilitate the identification of opportunities for women within DRR science and develop mechanisms to achieve their realisation.
2. Promote research that builds understanding of the different needs faced by sections of a community, such as the needs of women during and after a disaster.
3. Build interest in establishing a platform, developing the launching a strategy for Women in DRR integrated in the broader Science and Technology Platform through the creation of a group dedicated to the advancement of women in DRR science and technology.

4. References

Arnold, M. (2006). "Disaster Reconstruction and Risk Management for Poverty Reduction." Journal of International Affairs **59**(2): 269-279.

Henrici, J., A. S. Helmith and J. Bruan (2010). "Women, Disasters, and Hurricane Katrina". Institute for Women's Policy Research - Fact Sheet, Institute for Women's Policy Research.

Hines, R. I. (2007). "Natural Disasters and Gender Inequalities: The 2004 Tsunami and the Case of India." Race, Gender & Class **14**(1/2): 60-68.

JICA (2015). "Policies and Actions for Gender and Diversity in Disaster Risk Reduction ― Building Back Better with Participation of Women and High Risk Groups", Japan International Cooperation Agency.

Mrkić, S., T. Johnson and M. Rose (2010). "The World's Women 2010 - Trends and Statistics", The Department of Economic and Social Affairs of the United Nations Secretariat.

Neumayer, E. and T. Plümper (2007). "The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981 - 2002." Annals of the Association of American Geographers **97**(3): 551 - 566.

UNESCO (2007). "Science, Technology and Gender - An International Report", United Nations Educational, Scientific and Cultural Organization.

UNESCO (2010). "Women's and Girls' Access to and Participation in Science and Technology", United Nations Educational, Scientific and Cultural Organization.

UNISDR (2015). "Sendai Framework for Disaster Risk Reduction 2015 - 2030". UNISDR, The United Nations.

UIS Fact Sheet. 2012. Number 23. *Women in science*.
http://www.uis.unesco.org/FactSheets/Documents/sti-women-in-science-en.pdf

Annex

19d - *Disaster risk reduction requires an all-of-society engagement and partnership. It also requires empowerment and inclusive, accessible and non-discriminatory participation, paying special attention to people disproportionately affected by disasters, especially the poorest. A gender, age, disability and cultural perspective should be integrated in all policies and practices, and women and youth leadership should be promoted. In this context, special attention should be paid to the improvement of organized voluntary work of citizens;*

32 - *The steady growth of disaster risk, including the increase of people and assets exposure, combined with the lessons learned from past disasters, indicates the need to further strengthen disaster preparedness for response, take action in anticipation of events, integrate disaster risk reduction in response preparedness and ensure that capacities are in place for effective response and recovery at all levels. Empowering women and persons with disabilities to publicly lead and promote gender equitable and universally accessible response, recovery, rehabilitation and reconstruction approaches is key. Disasters have demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of a disaster, is a critical opportunity to "Build Back Better", including through integrating disaster risk reduction into development measures, making nations and communities resilient to disasters.*

36a(i) - *Women and their participation are critical to effectively managing disaster risk and designing, resourcing and implementing gender-sensitive disaster risk reduction policies, plans and programmes; and adequate capacity building measures need to be taken to empower women for preparedness as well as to build their capacity to secure alternate means of livelihood in post-disaster situations;*

Priority Action 4 - *Experience indicates that disaster preparedness needs to be strengthened for more effective response and ensure capacities are in place for effective recovery. Disasters have also demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of the disaster, is an opportunity to «Build Back Better» through integrating disaster risk reduction measures. Women and persons with disabilities should publicly lead and promote gender-equitable and universally accessible approaches during the response and reconstruction phases*