



## Response of the World Meteorological Organization (WMO) to the OHCHR Questionnaire in relation to Human Rights Council Resolution A/HRC/RES/38/4 on human rights and climate change

1. Please describe the impacts of the adverse effects of climate change on the full and effective employment of the human rights of women and girls. Where possible, please share specific examples and stories.

In numerous communities, because of social roles and constraints and physical differences, women and men play different roles. They can thus be affected differently by weather and climate and may provide, access and use weather and climate information differently. In response, weather and climate services need to be designed and communicated in gender-sensitive ways. Women also have an important role to play in the weather, water and climate sciences and hold profound knowledge of the ecological environment.

WMO wishes to emphasize the need to study the effects of weather and climate on both women and men, with the latter being significantly understudied. Likewise, weather and climate information and services need to be targeted to the gender-specific needs and capacities of both women and men.

The following are a few examples illustrating the distinct ways in which women and men are affected by climate:

**Disaster Risk Management.** Women and children suffer disproportionately from natural disasters, especially if they are less mobile and have less access to communications than men. For example, more women than men died in the Indian Ocean Tsunami in 2004 because they were less likely to know how to swim and long clothing hampered their movement. In Bangladesh, female casualties from the flood-related effects of Cyclone Gorky in 1991 outnumbered male ones, partially due to insufficient access to information and early warnings. Women tend to take care of children and the elderly, thus often staying behind in the case of evacuations.

Men are equally vulnerable due to their occupation (e.g. fishermen) or social roles. For instance, higher mortality has been registered among men during storms, emergency relief efforts and post-disaster rebuilding as gender norms promote risk-taking behaviour by males. During “slow onset” disasters (e.g. droughts, land degradation), women’s workload increases (i.e. their responsibility to provide water and to manage livelihoods), which reduces the time available for response and prevention activities.

**Agriculture and Food Security.** With climate change expected to increase the intensity, frequency and uncertainty of climate disruptions, women farmers may be disproportionately affected. This will especially be the case if women lack equal access to/understanding of weather and climate services, which if used, could result in better resource management and appropriately timed crop plantings. Forecasts delivered through mobile technology do not reach large groups of women as there are 200 million fewer women with mobile phones than men globally. Television and radio forecasts are often delivered at times of the day when women are busy with family chores. Special effort is required to reach out to networks of female farmers, given that women often act on weather forecasts and climate projections in a different way than men.

Given that women account for a high share of the agricultural labour force, ensuring gender inclusive access to, and use of, weather and climate forecasts is vital. Women offer important capacities for increasing climate resiliency. They hold key knowledge in natural resource management, and are effective at mobilizing communities to respond accordingly to climate and weather forecasts, a critical component of climate change adaptation strategies in the agricultural sector.

**Water:** Huge gender imbalances and inequalities exist in water and climate change in terms of the distribution of burdens and benefits as well as access to information and knowledge. Lack or low level of rainfall affects people's agricultural production capacity and a decline in agricultural sector particularly affects women who are responsible for approximately 75% of household food production in sub-Saharan Africa. Women suffer more than men and their responsibilities increase during and after flooding. For instance, women face additional challenges collecting water, and cleaning and maintaining houses after flooding. Due to climate change, gathering and transporting water takes increasingly longer hours, especially in drought-prone areas. It is also a task that robs girls of precious time which they could otherwise dedicate to education and other productive activities.

**Health:** Men and women have different levels of exposure to extreme heat due to gender differences in occupation and the division of household chores. According to the World Health Organization (WHO), pregnant women have higher risk of malaria infection and are much more vulnerable to water-borne diseases, such as cholera and diarrhoea. Elderly men face increased health risk due to social isolation.

Gender differences are also found in vulnerability to the indirect and longer-term effects of weather and climate-related hazards. Droughts in developing countries bring health hazards through reduced availability of water for drinking, cooking and hygiene, and through food insecurity. Women and girls disproportionately suffer health consequences of nutritional deficiencies and the burdens associated with travelling further to collect water. Loss of biodiversity can further compound insecurity as many rural women depend on non-timber forest products for income, traditional medicinal use, nutritional supplements in times of food shortages, and a seed bank for plant varieties needed to source alternative crops under changing growing conditions.

Urban populations also have distinct vulnerabilities to weather and climate related health hazards. Limited access to land in rural areas, conflict and unemployment forces increasing numbers of women into living in marginalized urban areas and slums, often situated on ground with particular environmental risks, such as hillsides and low-lying land making them particularly vulnerable to hazards, such as landslides and flooding.

2. *Please describe any relevant commitments, legislation and other measures that you have taken to promote a gender-responsive approach to climate change mitigation and adaptation at the local, national, regional and international level and to ensure the full and effective enjoyment of the human rights of women and girls impacted by the adverse effects of climate change. Please include relevant mechanisms used to promote accountability and/or implementation.*

In collaboration with UN partners, the World Meteorological Organization (WMO) convened the **Conference on the Gender Dimensions of Weather and Climate Services** (Geneva, 5-7 November 2014). The event raised awareness of the gendered impacts of weather and climate and showcased good practices on how to equally empower women and men to build safer, stronger and more resilient societies through the provision and use of gender-sensitive weather and climate information. A key outcome of the event was the formulation of actions and mechanisms for making weather and climate services more gender-sensitive so that women and men can make equally informed decisions in the areas of agriculture and food security, disaster risk reduction, water resources management and public health.

The **Conference Statement**, sector-specific recommendations and multiple examples of the gendered impacts of weather, water and climate are available in the [Conference Report](#). The latter also contains a toolkit with recommended actions based on input provided by speakers and participants (see Annex 2).

As a follow-up to the Conference, WMO integrated the Conference outcomes to the extent possible in international platforms and processes. It further updated its [Gender Equality Policy](#) to include a set of provisions aimed at ensuring that weather, hydrological and climate services are gender-sensitive (paragraph 4.4). A full set of actions on gender-sensitive service provision was further formulated for all WMO structures (Secretariat, Constituent Bodies, and Members) in the [WMO Gender Action Plan](#).

Most recently, WMO embarked on an initiative to raise awareness on the gendered impacts of climate at the regional and national level, downscale existing knowledge and good practice, and devise regional mitigation strategies. As a first step, the **50<sup>th</sup> session of the Greater Horn of Africa Climate Outlook Forum (GHACOF)** was dedicated to the promotion of gender-sensitive climate services (Kigali, Rwanda, 27-28 August 2018). Co-organized by WMO and the Intergovernmental Authority on Development's Climate Prediction and Applications Centre (ICPAC), the two-day meeting brought together climate scientists, researchers, decision-makers and users from key socio-economic sectors. Following a panel on the global state of knowledge, a series of interactive discussions took place between users and service providers in the following sectors: agriculture and food security, livestock, disaster risk management, health, water and energy, conflict early warning, and the media. The focus was on collecting regional stories and examples on the distinct ways in which women and men are affected by weather and climate in the Greater Horn of Africa. Replicable good practice and know-how were shared and regionally-specific recommendations and actions formulated for each sector. A summary report, including sector-specific recommendations, is currently being developed.

WMO intends to continue using such regional mechanisms to generate further knowledge, prompt regional and national action, as well as develop guidance for Members on the provision of gender-sensitive weather, hydrological and climate services.

3. *Please share a summary of any [relevant data](#) that captures how the adverse effects of climate change have affected women and girls, taking into account multiple and intersecting forms of discrimination.*

The "Gendered Impacts of Weather and Climate: Evidence from Asia, Pacific and Africa" Study (to be published) confirmed that the gendered impacts of weather and climate are the result of the interaction of physical climate impacts with societal stressors, such as poverty, labour division, occupational segregation, lower access of women to resources, low rates of participation of women in community, local and national decision-making, etc. The Study was the outcome of a research project jointly implemented between WMO and the Graduate Institute of International and Development Studies. Based on 16 national and 2 regional case studies, the report identified:

- **Rural women** as the most vulnerable due to gender inequalities intersecting with economic status/location and poverty.
- **Older women and women with disabilities** as the most vulnerable during and in the aftermath of disasters.
- **Pregnant and lactating women** as at higher risk during disaster and post-disaster situations because of poor access to or low-quality of health services in public shelters and in the aftermath of disasters.
- **Widowed and divorced women**. Generally women's marital status was found to be a critical factor in determining access to adaptive strategies.

The [Caribbean 2017 Hurricane Season: An Evidence-Based Assessment of the Early Warning System](#) Report contains a chapter on "Review of Gender Specific Issues in Early Warning Systems." It identified **single-headed (female) households**, including the

very young and elderly, as the most vulnerable. The review was conducted as part of the Climate Risk and Early Warning Systems (CREWS) Initiative, a collaboration between WMO, the World Bank Global Facility for Disaster Reduction and Recovery (GFDRR) and the United Nations Office for Disaster Risk Reduction (UNISDR).

The review found that both genders received the warning messages sent by the authorities. However, there were differences in how men and women responded related to how the different genders use time, household structure (for example, households headed by women, intergenerational families, and so forth), income level and differences regarding risk perception. These variables did not always stand alone. When they intersected, the situation of women with regard to early warning response became more problematic.

4. Please *describe mechanisms and tools, which can be used to measure and monitor the impacts of climate change on the full and effective enjoyment of the human rights of women and girls.*

**Gender analysis** and the **collection of sex-disaggregated data** are critical for identifying the differentiated impacts of weather and climate as well as for designing targeted interventions and providing gender-responsive information and services. Understanding gendered roles and responsibilities in different contexts highlights how climate change will exacerbate existing, and generate new, gendered vulnerabilities, which is a prerequisite to identifying the different needs of men and women for weather and climate services to enable adaptation.

**Improved targeting of early warning messages** and **improved understanding of risk with a gender differentiation**. The differential roles, relationships, responsibilities and perceptions of women and men affect how they respond to risk knowledge, monitoring risk, receiving messages and being able to take action on messages received. For example, the Caribbean review mentioned above recommended that **gender bureaus be included** in discussions to identify the best communication channels and language prior to an emergency.

**Promote and encourage cross-disciplinary research** (e.g. on health, climate and gender). Also improve research into the weather and climate needs of gendered livelihood activities: for example, women may grow different crops than men and the information required to enable sustainable production in the context of climate change may therefore differ from what is currently being produced.

**Increase the involvement of women in weather and climate services**. Women are typically underrepresented in national and international institutions that are involved in the generation of weather and climate services, which means that the different views and opinions of women and men are not represented in the generation of products. At the same time, women at the grassroots level can be marginalized from accessing and using weather and climate services.

**Increased collaboration and integration between organizations**. Given the range of actors involved in the provision, communication and use of weather and climate services in different sectors, together with the specific understanding of gender, enabling gender-sensitive weather and climate services typically requires collaboration and partnership between different organizations at different levels.

For more, see Conference Statement (page 12-19) and Toolkit (Annex 2) of the [Conference on the Gender Dimensions of Weather and Climate Services Report](#).

5. Please *identify and share examples and good practices and challenges in the promotion, protection, and fulfillment of the human rights of women and girls in the context of the adverse effects of climate change. Please include examples that highlight multilateral cooperation, gender mainstreaming, gender responsive approaches, and the full,*

*meaningful and effective participation of women and girls in relevant decision-making processes.*

WMO has created [a webpage dedicated to sharing good practice on the provision of gender-sensitive weather and climate services](#). The following five initiatives are currently featured:

- Women's Weather Watch (Fiji);
- Enabling Women to Access Meteorological and Climatological Information during the Rainy Season (Senegal);
- Targeted action to increase women's participation in METAGRI Roving Seminars and "train the trainers" workshop for female extension workers (Nigeria);
- Women Leadership Circles for Agriculture and Natural Resource Management (Kenya);
- Gender Power (GPOWER) (Kenya).

6. *Please provide any additional information you believe would be useful to support efforts to integrate a gender-responsive approach into climate action at the local, national, regional and international levels for the full and effective enjoyment of the rights of women and girls.*

N/A