Training Manual on Gender and Climate Change Resilience

MODULE

GENDER AND CLIMATE CHANGE

1

MODULE 1: GENDER AND CLIMATE CHANGE

SESSION PLAN

This module is divided into three sessions. Each session has a detailed technical note, with a set of exercises/ group tasks to be interlinked for enabling a more conducive learning environment.

SESSION A : Human Rights, Leave No One Behind (LNOB), and Gender Equality

SESSION B : Climate Change and Associated Risks, Resilience and Disaster Risk Reduction

SESSION C : Linkages Between Gender, Climate Change and Disaster Risk Reduction (CCDRR)

This module focuses on orientation of the basic concepts related to human rights, gender, climate resilience and disaster risk reduction (DRR). It begins with reinforcing the three universal values of the Sustainable Development Goals (SDGs) framework - the Human Rights-Based Approach (HRBA), Leave No One Behind (LNOB), and Gender Equality and Women's Empowerment. It then moves to outlining the varied impacts of climate change in the Asia region and how it will impact people differently based on the existing societal dynamics and unequal structures. With gender inequalities being the most pervading and persisting around the world, women, in particular, are more likely to be impacted differently by climate change. However, women are not a homogenous group; thus, while gender equality needs to be a cross-cutting theme across all climate change and DRR actions, it is also important to map the influence of various intersectionalities - age, residence, class, race and ability - while examining the linkages between gender and climate change. It is equally important to look upon women not only as victims but as equal partners, actors and contributors in climate resilience action; and appreciate the value that this perspective and approach can add in addressing the climate problem. Therefore, there is a need for strengthening women's participation, leadership and capacities for being the flagbearers of change.

OBJECTIVES OF THE MODULE:
> Understand the importance of adopting a human rights-based approach of leaving no one behind with focus on gender equality for enabling sustainable development;
> Recognize the risks and vulnerabilities due to climate change in the Asia region;
> Acknowledge gender-based vulnerabilities of emerging climate risks and differentiated impacts of climate change on women; and
> Identify the gaps, challenges and needs for a gender-responsive climate action, especially for enabling women as "Agents of Change."

KEY MESSAGES:
> Human Rights are universal entitlements inherent for everyone, irrespective of their nationality, place of residence, sex, national or ethnic origin, colour, religion, language, or any other status.
> Climate change directly and indirectly impacts the realization of human rights of people, especially those who have least caused it resulting in climate injustice.
> A Human Rights-Based Approach (HRBA) to sustainable development considers all dimensions of inequalities in programming and can be truly transformative if implemented.
> Climate risks may lead to pushing back on the development progress made to date, and forcing many into poverty as they also hamper the progress made in achieving the SDGs.
> It is important to work on climate change adaptation, DRR and resilience building with vulnerable groups, keeping in mind the need to address the disproportionate and exuberated impacts of climate change on women and the poor.
> Women and girls are among the most vulnerable groups due to the gender differentiated roles, responsibilities and power structures that exist in most societies.
> Gender inequalities lead to women and girls facing both time and income poverty, as well as loss of lives, livelihoods and assets. Human rights of women, girls and other genders often fail to be realized when climate change and disaster risk reduction policies do not integrate gender dimensions from a human rights-based approach.
> Gender equality is important in its own right; but it is also an important ingredient to the success of adaptation and risk mitigation. Women need to be involved as equal partners and actors in inclusive resilience building processes.

MODULE 1_SESSION PLAN A

3:00:00	HUMAN RIGHTS, LEAVE NO ONE BEHIND (LNOB) AND GENDER EQUALITY

OVERVIEW

At the end of this session, participants should be able to understand and explain the concepts of a Human Rights Based Approach (HRBA) and Leave No One Behind (LNOB) within the sustainable development framework. The participants should also be able to comprehend the significance of gender equality and intersectionalities in the HRBA and LNOB context.

CONTENT

A. Universal Declaration of Human Rights
  - Climate Change and Human Rights
B. The Human Rights-Based Approach (HRBA)
  - Inequalities and the Human Rights-Based Approach

C. Leave No One Behind (LNOB)
D. Gender Equality and Intersectionalities
  - Operationalizing HRBA and LNOB with a Gender Lens

MATERIALS

> PowerPoint presentations
> Apparatus for film viewing on YouTube
> Open space or chess board game
> Gender concept chits

> Whiteboard and marker pen
> Chart papers and pens
> Copy of Handouts

OUTLINE

5 mins.	Sharing of overview and session content.
40 mins.	'Human Rights' web development (See Exercise 1).
15 mins.	PowerPoint presentation or lecture on "Human Rights and Human Rights-Based Approach (HRBA)."
45 mins.	'Power Walk' game (See Exercise 2).
15 mins.	PowerPoint presentation on "Leave No One Behind (LNOB)."
30 mins.	"Gender Concepts" chits (see Exercise 3 and Handout 1).
30 mins.	PowerPoint presentation on "Gender Equality and Intersectionality" (see Handout 2).

GUIDANCE NOTES

Begin the session with sharing the module's objectives and content overview. Tell them you will begin with an exercise that will help them know each other and the basics of the training better. Begin with the "Human Rights Web Exercise" (see Exercise 1). Conclude the exercise with the PowerPoint presentations using technical content on "Universal Declaration of Human Rights," "Climate Change and Human Rights" and "Human Rights-Based Approach." Depending on the trainer, the same activity can also be done in lecture mode, as it will help set a more informal tone to the training session and guide the participants to be in a listening mode. Use the discussion points to further engage in participants in the process.

If there is time and space, take the participants outside for the "Power Walk Exercise" or use the chess board tip (see Exercise 2). Then follow it up with a presentation using the technical content on "Leave No One Behind (LNOB)." Engage the participants while showing the LNOB index and the country results. If there are participants from one or two countries only, then highlight the results of those countries in a separate slide and ask the participants what they think is the actual status of their country with regards to these results.

A critical aspect for gender mainstreaming within HRBA and LNOB is a nuanced understanding of sex and gender-related terminology. Handout 1 brings together some key concepts related to gender, which would be useful in the application of gender mainstreaming processes for gender equality. While it is expected that most trainees will be aware of these concepts, it might help to reiterate these in certain circumstances. To do this, use the "Gender Chits" (see Exercise 3 and Handout 1). Clarify that this discussion is not a replacement for gender sensitization and orientation training, which must ideally be conducted as a mandatory exercise within all programmes and projects. Follow it with a PowerPoint using technical content from "Gender Equality for Human Rights and Development" and "Operationalizing HRBA and LNOB with a Gender Lens. Use the infographics provided in Handout 2 for this presentation. End the session with a discussion on examples of gender mainstreaming and gender-transformative projects.

Human Rights and Human Rights-Based Approach

UNIVERSAL DECLARATION OF HUMAN RIGHTS

Human rights are those fundamental/natural/basic rights which are inherent to all human beings, irrespective of their nationality, place of residence, sex, national or ethnic origin, colour, religion, language, or any other status. Human rights are universal entitlements guaranteed by international law and treaties endorsed by national governments. All Governments have ratified at least one, and 80 per cent of the States have ratified four or more, of the core human rights treaties. This reflects their consent, which creates legal obligations for them to ensure that these rights are granted and gives a concrete expression to universality. The international law lays down obligations of governments to act in certain ways or to refrain from certain acts, in order to promote and protect human rights of all individuals. First emphasized in the Universal Declaration on Human Rights in 1948, these have been reiterated in numerous international human rights conventions, declarations, and resolutions, predominantly the 1993 Vienna World Conference on Human Rights.

These include, inter alia, various civil, cultural, economic, political and social rights like:
1. Rights to life, liberty, security and dignity;
2. Rights to equality before law, fair, independent and public hearing and effective remedy;
3. Rights to freedom of thought, conscience, religion, opinion and expression;
4. Rights to nationality, freedom of residence, movement and seeking asylum; and
5. Right to education, well-being (food, health, water, sanitation, housing), employment and social security.

These human rights are not only universal and inalienable but also interrelated, interdependent and indivisible. An example is when the civil right to life includes the economic right to social security and the right to development. In fact, the deprivation of one right adversely affects others, while the advancement of one facilitates the improvement of others.

Climate Change and Human Rights

Climate change directly or indirectly has negative impacts on the full realization of human rights. It has a profound impact especially on the right to life and dignity and those related to development, employment, food, health, water and sanitation and housing. It is imperative for the governments as duty bearers to prevent and redress climate impacts and ensure that the rights of all human beings are safeguarded, especially those who have contributed least to cause climate change but are likely to be most affected. The notion of climate justice links human rights and development for a people-centric approach to climate change. A Rights-based approach to climate change which focuses on all people achieving at least the minimum conditions for living with dignity, through the realisation of their human rights, is what should be promoted at national and local levels. The key considerations guiding this approach have been well compiled in the submission from OHCHR (2015) to COP 21. These include:

> To mitigate climate change and to prevent its negative human rights impacts
> To ensure that all persons have the necessary capacity to adapt to climate change
> To ensure accountability and effective remedy for human rights harms caused by climate change
> To mobilize maximum available resources for sustainable, human rights-based development
> To elicit international cooperation and global response, underpinned by international solidarity
> To ensure equity in climate action
> To guarantee that everyone enjoys the benefits of science and its applications
> To protect human rights from business harms
> To guarantee equality and non-discrimination
> To ensure meaningful and informed participation

TRAINER'S TIP

This session covers basic concepts and is important for orientation programmes among members of communities, grassroot mobilizers, and others. For advanced course, the trainer can consider skipping the presentation and replacing the session with a quick ice-breaking discussion using the video on "Integrating human rights, leave no one behind, and gender equality into UN Cooperation Frameworks" from *https://unsdg.un.org/2030-agenda/universal-values*, and discussing on the following questions:
a. What is the link between HRBA, LNOB and Sustainable Development/Climate Change?
b. What are the most prevalent forms of inequalities that need to be addressed within a HRBA and LNOB approach?
c. What is the role of 'duty bearers' in enabling this?

DISCUSSION POINT

The terms 'rights-holders' and 'duty-bearers' are often heard in the context of human rights. Ask the participants what they understand by these terms.

Facilitator Clues
> Rights-holders are all individuals who are entitled to unalienable and universal human rights without any discrimination.
> Duty-bearers include the Government or the State typically represented through public bodies, which has an obligation to ensure and realize the human rights of everyone.

THE HUMAN RIGHTS-BASED APPROACH

The strategy for implementing human rights is called the Human Rights-Based Approach (HRBA). It is one of the key guiding principles of the United Nations Sustainable Development Cooperation Framework. HRBA is a conceptual framework for "the process of human development that is normatively based on international human rights standards and operationally directed to promoting and protecting human rights. It seeks to analyse inequalities that lie at the heart of development problems and redress discriminatory practices and unjust distributions of power that impede development progress and often result in groups of people being left behind." (UNSDG n.d. (a)).

There are two main rationales for a human rights-based approach: i) the intrinsic rationale, acknowledging that a human rights-based approach is the right thing to do, morally or legally; and ii) the instrumental rationale, recognizing that a human rights-based approach leads to better and more sustainable human development outcomes. In practice, the reason for pursuing a human rights-based approach is usually a blend of these two (OHCHR 2006).

HRBA requires that:
1. Any and all programmes should aim for the realization and advancement of the human rights of the concerned target group;
2. The planning and implementation phases of all programmes should be guided by human rights principles of universality, indivisibility, equality and non-discrimination, participation, and accountability; and
3. All programmes should have a focus on developing the capacities of both 'duty-bearers' to meet their obligations, and 'rights-holders' to claim their rights.

Translated to practical action, this would mean recognizing the inequalities existing in the society through disaggregated data collection; enhancing the empowerment and participation of the groups which face discrimination in the planning and decision-making process; allocating resources specifically for addressing the concerns of these groups and removing structural barriers to inequalities.

Inequalities and the Human Rights-Based Approach

The key focus of the HRBA is recognizing that rising inequalities are a major concern for the society. These do not only impact poverty reduction and economic development initiatives but also undermine the enjoyment of human rights, social cohesion, peace and sustainable development.

These inequalities come in multiple forms:
1. Inequalities of wealth and income;
2. Inequalities in opportunities and outcomes related to education, health, food security, employment, housing and health services; and
3.. Inequalities due to race, ethnicity, religion, age, disability, sexual orientation and gender identity.

Entrenched in barriers across all economic, social, political, cultural urban and environmental domains, these inequalities often lead to: i) systematic disadvantages; ii) generational perpetuation of discrimination; and iii) unequal distributions of power, resources and opportunities. These inequalities threaten the right to development, and addressing them is critical for realizing the 2030 Agenda for Sustainable Development. This entails overcoming the structural barriers and challenging discriminatory laws, policies, social norms and stereotypes, which can be achieved by putting the human rights agenda in the forefront of all development programming.

Ask the participants, what they think is the most prevalent form of inequality which needs to be addressed within the human rights-based approach?

Facilitator Clues

> The most prevalent form of inequality is gender-based discrimination which is rampant across all regions and has been prominently highlighted in the CEDAW. (Tell the participants you will be discussing CEDAW more through an exercise in Session C.)
> Deep-rooted in culture, societal practices and sometimes even law, harmful gender stereotypes, prejudices and practices prevent the full realization of women's human rights.
> Particularly prominent among these are restrictions on access to and control over resources, information and education, limited opportunities to decent work and proper wages; and under-representation in decision-making bodies and processes.
> A human rights-based approach to development thus complements and reinforces gender mainstreaming – or the integration of a gender perspective in development activities.
> HRBA needs to have a specific component of including women's human rights and prohibiting sex discrimination.

Leave No One Behind

UNDERSTANDING LEAVE NO ONE BEHIND

Leave No One Behind (LNOB) is the central, transformative promise of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). LNOB entails "not only reaching the poorest of poor but also ending discriminations and inequalities that exempt people from realizing their full potential." (UNSDG n.d. (b)). LNOB is important as leaving anyone behind in poverty without access to water, housing, education, social protection, and others is a gross violation of human rights. However, it is also a development concern, as growing inequalities not only leads to slower economic growth but can also generate social tensions and political instability, thereby further slowing down the progress made towards attaining the SDGs (UNSDG 2019).

The key principle of LNOB is to move beyond aggregates and averages while measuring progress on development indicators and ensuring that all population groups benefit from the progress. This requires disaggregated data for planning to identify those excluded or discriminated against, understanding the structural barriers to resources and opportunities, and addressing the root cause of the exclusion (UNSDG 2019). In short, LNOB compels us to focus on discrimination and inequalities (often multiple and intersecting) that undermine the agency of people as holders of rights (UNSDG n.d. (b)).

UNDP (2018) has recognized five key factors which influence LNOB. These are highlighted in Figure 1-1 and include discrimination, geography, shocks and fragility, governance and socio-economic status.

Operationalizing LNOB requires an integrated approach to identify who is being left behind and why; targeting of programmes; identifying effective measures to address root causes; monitoring and measuring progress; and ensuring accountability for LNOB (UNSDG 2019). These are summarized into three levels:

1. **Examine** why people are left behind – collect and use more and better disaggregated data and people-driven information.
2. **Empower** those who are left behind – ensure their meaningful participation in decision-making and establish safe and inclusive mechanisms for their civic engagement.
3. **Enact** policies, laws, reforms, interventions – curb inequalities and uphold minimum standards of well-being.

The most critical element to this, however, is enabling the disadvantaged and marginalized individuals and groups to actively participate in decision-making processes at all levels of programming. The success of targeted policies and programmes as well as those addressing structural inequalities will depend largely on the level of effective participation and meaningful consultation of the actual target audience.

FIGURE 1-1: FACTORS FOR ASSESSING LNOB

DISCRIMINATION

On the basis of assumed or ascribed identity or status. *Consider:* SDG outcomes and opportunities by sex, age, disability, and social groups (as specified in the 2030 Agenda); evidence and recommendations from international human rights mechanisms and national human rights institutions.

GEOGRAPHY

Isolation, risk or **exclusion due to location; includes environmental degradation, transport, and technology.** *Consider:* SDG outcomes and opportunities broken down by sub-national locality; inequities in mobility related to transport and internet access.

VULNERABILITY TO SHOCKS

Includes conflict, climate, and environmental causes. *Consider:* Places or populations that endure more frequent and/or severe setbacks due to natural or environmental disasters, violence, crime or conflict, economic or other shocks.

GOVERNANCE

Laws, policies, institutions, voice and participation (includes informal and traditional governing systems). *Consider:* Impact of laws, policies, taxes, budgets, formal and traditional practices by sub-population and locality (i.e. distributional impacts); ability to participate in government and decision-making; civic spaces.

SOCIO-ECONOMIC STATUS

Multi-dimensional poverty; inequalities. *Consider:* Multi-dimensional poverty of women, men and children; Gini Coefficient; Inequalities-weighted Human Development Index; SDG outcomes and opportunities by income (and/or Multi-dimensional Poverty Index) quintile; sources on informal and vulnerable employment such as ILO statistics.

Source: UNDP (2018).

DISCUSSION POINT

Ask the participants, who are those who are "left behind."

Facilitator Clues
> People who are left behind in development are often economically, socially, spatially and/or politically excluded (for example, due to ethnicity, race, gender, age, disability), leading to multiple discriminations.
> They often have no voice (for example, children, indigenous communities) and are disconnected from societal institutions, lack information to access those institutions, networks, and economic and social support systems to improve their situation, and are not consulted by those in power.
> They are not counted separately (for example, women, elderly, disabled) or at all (for example, illegal immigrants and refugees) in official data – they are invisible in the development of policies and programmes.

LEAVE NO ONE BEHIND INDEX

ODI in 2019 reviewed the readiness of 159 countries to 'leave no one behind.' Since 2018, the index also has an additional policy indicator on resilience (Chattopadhyay and Manea 2019). It includes a new 'leave no one behind' outcome score for each country that captures the extent

to which real-world outcomes on leaving no one behind are improving. The index shows that 81 countries are 'ready' to meet their 'leave no one behind' commitment, 54 are 'partially ready,' 12 are currently 'not ready' and 12 have 'insufficient data.' The status of select countries from Asia (Table 1-1) shows that most countries are still in the Ready or Partially Ready category.

	DATA (Household Surveys)	POLICY (Equal Access to Employment, Land and Health)	FINANCE (Education, Health and Social Protection)	OVERALL LEAVE NO ONE BEHIND READINESS SCORE	OUTCOME SCORE (Under-Five Mortality Rate, Undernourishment, Access to Finance and Electricity)
TABLE 1-1: LEAVE NO ONE BEHIND INDEX					
COUNTRY					
BANGLADESH	Ready	**Not Ready**	**Not Ready**	Partially Ready	Partial Progress
CAMBODIA	Ready	Partially Ready	**Not Ready**	Partially Ready	Partial Progress
CHINA	**Not Ready**	Ready	Partially Ready	Partially Ready	On Track
INDIA	Ready	**Not Ready**	Partially Ready	Partially Ready	Partial Progress
INDONESIA	Ready	Partially Ready	Partially Ready	Ready	Partial Progress
MALAYSIA	Ready	Partially Ready	Partially Ready	Ready	On Track
NEPAL	Ready	**Not Ready**	**Not Ready**	Partially Ready	Partial Progress
PHILIPPINES	Ready	Partially Ready	Partially Ready	Ready	Partial Progress
SRI LANKA	Ready	Partially Ready	Partially Ready	Ready	On Track
VIETNAM	Ready	Partially Ready	**Not Ready**	Partially Ready	Partial Progress

Source: Chattopadhyay and Manea (2019).

Gender Equality and Intersectionality

GENDER EQUALITY FOR HUMAN RIGHTS AND DEVELOPMENT

Given that non-discrimination on the basis of sex and gender identity is a fundamental universal human rights principle, it is crucial to focus on gender equality in development policies and programmes (UN Women 2014). Besides, it is also a prerequisite for advancing the key development agendas (World Bank 2012):

1. Improving national productivity and sustainable economic growth;
2. Improving social and human development outcomes especially for food, nutrition, education, health and family welfare; and
3. Improving policy decisions required for more peaceful and equitable societies.

Therefore, achieving gender equality is a goal sought across international development practice (UN Women 2014). Over the years, many international charters and conventions have endorsed and reinforced the need to focus on women's empowerment and gender equality (see Table 1-2).

Protection of human rights of all women and elimination of gender-based discrimination have thus been recognized as key responsibilities of all governments as "duty bearers." Yet gender-based discrimination remains the most all-pervading forms of deprivation around the world, as highlighted in the recent Global Gender Gap Report (WEF 2020). Many women still do not fully experience equal rights, and are often denied equality of opportunities in education, health, employment and resource ownership. They also continue to be under-represented in power and decision-making roles.

TABLE 1-2: MAJOR INTERNATIONAL COMMITMENTS TO GENDER EQUALITY

INTERNATIONAL COMMITMENT TO GENDER EQUALITY	YEAR OF ADOPTION	KEY PRINCIPLES/RESOLUTIONS ADOPTED
UNITED NATIONS CHARTER	1945	Equal rights of men and women. Article 1 of its Charter is "To achieve international co-operation … in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion."
CONVENTION ON THE ELIMINATION OF DISCRIMINATION AGAINST WOMEN (CEDAW)	1979	Dedicated to the realization of women's human rights. The Convention provides the basis for realizing equality between women and men through ensuring women's equal access to, and equal opportunities in, political and public life—including the right to vote and to stand for election—as well as education, health and employment. States parties agree to take all appropriate measures, including legislation and temporary special measures, so that women can enjoy all their human rights and fundamental freedoms. The Convention is the only human rights treaty which affirms the reproductive rights of women and targets culture and tradition as influential forces shaping gender roles and family relations._____In 2018, the CEDAW Committee also adopted General Recommendation No. 37 on gender-related dimensions of disaster risk reduction in the context of climate change. (This has been discussed later in the section on gender equality, Session C).
INTERNATIONAL CONFERENCE ON POPULATION AND DEVELOPMENT (ICPD)	1992	Adopted a programme of action, highlighting the integral linkages between population and development, emphasizing on the fundamental role of women's interests in population matters. The ICPD also introduced the concepts of sexual and reproductive health and reproductive rights.
THE BEIJING DECLARATION AND PLATFORM FOR ACTION	1995	Embedded gender equality and women's rights in every facet of life. The Platform for Action imagines a world where each woman and girl can exercise her freedoms and choices, and realize all her rights, such as to live free from violence, to go to school, to participate in decisions and to earn equal pay for equal work. The Platform for Action covers 12 critical areas of concern that are as relevant today as 20 years ago: poverty; education and training; health; violence; armed conflict; economy; power and decision-making; institutional mechanisms; human rights; media; environment; and the girl child.
SUSTAINABLE DEVELOPMENT GOALS (SDGs)	2017	Included a specific goal (SDG 5) for gender equality underscoring the need to recognize this as a development objective and include targets for ending gender-based violence, eliminating child marriage and female genital mutilation, and ensuring access to sexual and reproductive health; ensuring equal access to education, expanding women's economic opportunities, and reducing the burdens of unpaid care work on women and girls. It also pledges "significant increase in investments to close the gender gap and strengthen support for institutions in relation to gender equality and the empowerment of women at the global, regional and national levels."

Source: Adapted from UN Women (2014).

TRAINER'S TIP

You can also use some of the sharable infographics from Handout 2 for the presentation. Handout 2 brings together some critical infographics from this report which highlight the key gender gaps.

These not only hamper their own growth but also deny the world the opportunity to benefit from women's potential as economic, social and sustainable development change-agents.

It is thus important to empower women so as to expand economic growth, promote social development and establish more stable and just societies. Women's empowerment has become an important approach within all development approaches.

However, as one moves into the creation of a more equal society, it is important to move beyond women's empowerment to focus on gender equality.

> This requires thinking beyond only women and look towards eliminating sex and gender-based discriminations also for lesbian, gay, bisexual, transgender, intersex and queer (LGBTIQ) individuals. It is important to acknowledge that the term 'gender' has diversified itself beyond the binary conceptions of a man and a women and it is important to have a feminist, queer and intersectionality perspective while addressing gender concerns.

> There is also the need to recognize that women are not a homogenous community, and some groups of women face compounded forms of discrimination – due to factors such as their age, ethnicity, disability, or socio-economic status – in addition to their gender. For example, indigenous women often experience different but intersecting types of discrimination. Indigenous women who live in poor and remote communities and have less formal education are likely to experience more than one of the deprivations and disadvantages.

The HRBA approach to gender equality thus uses an intersectionality lens which acknowledges that women have different experiences and perspectives based on aspects of their identity, including race, class, caste, ethnicity, sexual orientation and gender identity, disability, religion, age, marital status, indigenous status and migration status. The emphasis is then on reaching the most marginalized groups and tackling different kinds of inequality as part of LNOB. This is significant from a gender perspective, as it can highlight women who experience multiple forms of discrimination and have been historically excluded. The concept of multiple and intersecting forms of discrimination describes overlapping identity-based inequalities that create additional forms of discrimination.

TRAINER'S TIP

You can also refer to Session 2 of ARROW's Intersectionality module for more details. It can be downloaded from *https://arrow.org.my/wp-content/uploads/2019/03/E-Module_InterSEXionality.pdf*.
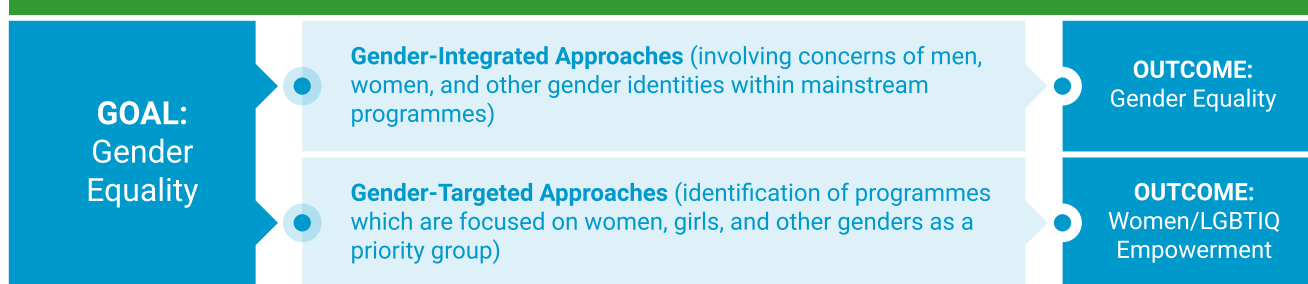
DISCUSSION POINT

Ask the participants why they think it is important to move beyond only binary gender identities to gender and intersectionalities.

Facilitator Clues

> Equating gender to men and women tends to ignore the needs and concerns of LGBTIQ people (those with other sexual orientation and identities). These groups also have specific concerns which cannot be equated with any one binary identity. For example, in many Asian societies, transgender people are not provided access to mainstream shelters and/or are often forced to share male quarters which exposes them to sexual harassment.

> Also, women are not a homogenous group. The traditional notion of women even in gender discourse often tends to be equated with white, straight, able-bodied and young women of reproductive age. Gender roles, responsibilities and stereotypes are not universal; thus, it is important to understand the roles and responsibilities related to women from different races, ethnic groups, sexual orientation, ability and age. Such analyses will not only help understand the actual concerns faced by these women but also bring to light the multiple deprivations and discriminations faced by them. For example, the challenges faced by a young adolescent (dis)abled girl from a minority ethnic community will be different (and often additional) from young adolescent girls from majority communities as well as from other girls and women from her own community.

FIGURE 1-2: GENDER EQUALITY STRATEGIES

GOAL: Gender Equality	**Gender-Integrated Approaches** (involving concerns of men, women, and other gender identities within mainstream programmes)	**OUTCOME:** Gender Equality
	Gender-Targeted Approaches (identification of programmes which are focused on women, girls, and other genders as a priority group)	**OUTCOME:** Women/LGBTIQ Empowerment

Source: Adapted from UN Women (2014).

OPERATIONALIZING HRBA AND LNOB WITH A GENDER LENS

Application of gender lens does not always mean special treatment for women and other gender groups. What is needed is to set aside the gender bias or the 'Male Norm' across all phases of programming and to be sensitive to ways in which unexamined attitudes about men and women lead to the unintended result of biased decision-making. Once this sensitivity is achieved, it needs to be reinforced by analysis of gender. For this, there is the need for sex, age and diversity-disaggregated data. Said data need to acknowledge the diversity of this issue recognizing multiple gender identities, gender roles and different needs, rather than treating gender as a homogenous group of women. This analysis then needs to be applied to assess the implications of any planned action, including legislation, policies or programmes for men and women as well as across other gender and social identities. Additional actions/safeguards need to be inbuilt into the programme to ensure that the benefits reach out to all genders and across social groups.

All these processes need to be a part of the basic programme designing and not to be undertaken as an afterthought. The process of gender mainstreaming entails the inclusion of these as standard programme design/project development practices at all levels and in all sectors. As defined by the UN Economic and Social Council (1997), Gender Mainstreaming "is the process of assessing the implications for women, men (and other gender identities) of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making differential gender concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres, so that everyone benefit equally and inequality is not perpetuated." (ECOSOC 1997).

Along with this, UN Women (2014) also recommends the inclusion of a stand-alone gender equality goal which addresses the following: freedom from violence against women and girls; gender equality in the distribution of capabilities; and gender equality in decision-making in all spheres of public and private life, to achieve this, in addition to mainstreaming of gender. This requires a gender transformative approach emphasis that "the commitment to gender equality should be universal; address the structural foundations of gender-based inequality, including in the three dimensions of sustainable development – social, economic and environmental; and ensure accountability" (UN Women 2014). For this, there is a need to understand structural, power and political dynamics that push particular groups further behind and deepen inequality. There is also a need for a comprehensive package of policies and programmes which include universal social protection and essential services to ensure an adequate standard of living, and redistributive and progressive tax policies to address income inequality.

The ultimate goal of both these approaches is gender equality. Most developmental organizations have, however, adopted a twin-track approach to enable gender equality, which includes focus on both integrating gender concerns as well as on empowering specific groups of women and those with other gender identities.

Gender Equality – A Case for Correcting Market Failures

Gender equality is a politically intricate issue. On one hand, there is a growing awareness and acceptance of the need to ensure gender equality. On the other hand, actual policy decisions that endorse equitable distribution of resources among various genders still have a long way ahead. This is despite the fact that gender equality is not only a "women's issue" but a human rights issue, and should be seen as a pre-condition for, and an indicator of, sustainable people-centric development.

Sustainable development relies on ending gender discrimination and providing equal opportunities to everyone especially for education and employment. Achieving the SDG targets and 2030 Agenda requires thorough gender mainstreaming and a gender transformative approach applied to all public policies and programmes. The interests, needs and priorities of both women and men will need to be taken into consideration in all programme designing while also recognizing the diversity of different groups of women and men.

The intrinsic link of gender equality with intra-household decision-making, however, often makes this a challenge, as governments seek to refrain from interfering in personal choices and to some extent provide a tactical endorsement to existing socio-cultural gender norms. Nevertheless, a case needs to be made for addressing the gender inequalities on intra-household allocation of resources by understanding that these are influenced by market signals and institutional norms that do not capture the full benefits to society of investing in women's equality of life. This often creates a burble in economic efficiency and growth. Public policies need to compensate for these market failures by ensuring resources to those investments with the highest social returns and equalizing opportunities for various gender and social groups. Without addressing the issue of existing inequalities, neither sustainable development nor human rights will be realized to its full potential.

DISCUSSION POINT

End the session by asking the participants to share examples of gender mainstreaming and gender transformative projects.

Facilitator Clues

> Providing livelihood trainings, employment of women in project construction activities, women's participation in planning, micro finance for women, separate facilities – schools, shelters, toilets and others – are examples of gender mainstreaming within projects. For example, the Asian Development Bank (ADB) funded the Cambodia Greater Mekong Subregion Southern Economic Corridor Towns Development Project to provide for flood protection measures for women from climate change-related flooding, and to lighten their burden of cleaning up after a flood and caring for family members with flood-related water-borne diseases. With respect to adaptive infrastructure, roads integrated into flood protection schemes will give women better access to services and markets and improve their mobility. The two urban mass transit projects in Vietnam – Strengthening Sustainable Urban Transport for Ha Noi Metro Line 3, sets aside space for women's shops and women-vendors, and has provisions for priority seating for women and scheduling based on women's transportation needs; and the Sustainable Urban Transport for Ho Chi Minh City Mass Rapid Transit Line 2 is designed with women-only waiting spaces, lighting for safety, separate toilets, and shop spaces for small businesses owned or run by women (ADB 2016).

> Projects providing life skills to adolescent girls and boys and active engagement of key stakeholders (schoolteachers, local government representatives, health service providers) to understand and challenge gender discriminatory practices, addressing gender-based violence and creating institutional response mechanisms; enabling women's ownership rights to land, house and other property would constitute 'gender transformative' projects. For example, the Ethnic Minority Women's Empowerment project by CARE International in Vietnam focuses on empowering remote ethnic minority women to actively participate in local socio-economic development planning and decision-making (WECF 2016).

MODULE 1_SESSION PLAN B

2:00:00 | CLIMATE CHANGE RISKS, RESILIENCE AND DISASTER RISK REDUCTION

OVERVIEW

At the end of this session, participants should be able to recognize the impacts of climate change in Asia and be able to connect the macro picture with the climate risks and disasters experienced in their own geographical region. The participants will also be able to delineate between the concept of climate-associated stresses and shocks and the need to include them into the overall resilience and disaster risk reduction strategies.

CONTENT

A. The Realities of Global Warming and Climate Change
B. Perceived Climate Change Risks and Impacts in Asia
C. Climate Risks, Disasters and Sustainable Development
D. Existing Inequalities and Vulnerability to Climate Risks
E. Climate Change Adaptation, Disaster Risk Reduction and Resilience Building
F. DRR, Climate Change Adaptation and Resilience Building for Poor Communities
   – Mapping the Barriers

MATERIALS

> PowerPoint presentations
> Apparatus for film viewing on YouTube
> Histogram chart pasted on the wall or copies
> Whiteboard and marker pen
> Copy of Handouts

OUTLINE

5 mins.	Sharing of overview and session content.
40 mins.	"Histogram" on Climate Change (see Exercise 4).
45 mins.	Viewing of film video on "IPCC's Fifth Assessment Report (AR5)," followed by group discussion on "Observed Climatic Changes and Impacts" using Handout 3 (recommended for basic course). **OR:** PowerPoint presentation on "Global Climate Risks, Adaptation, Resilience Building and Disaster Risk Reduction" (recommended for advanced course).
30 mins.	"Observing CCDRR and Resilience Concepts" (See Exercise 5 and Handout 4).

GUIDANCE NOTES

Begin the session by sharing the overview and content. Ensure that the histogram chart is pasted on a wall in advance or copies made for small group discussions. Facilitate the "Histogram exercise" (See Exercise 4).

For basic course, follow it up with the viewing of the video on "IPCC's Fifth Assessment Report (AR5)" available at *https://www.youtube.com/watch?v=fGH0dAwM-QE&feature=youtu.be*. Emphasize the point that Climate Change is real and will impact all of us. Provide a copy of Handout 3 to all participants, and facilitate 30 minutes of small group discussion on the topic.

For advanced course, follow it with a PowerPoint presentation using technical content from "Global Climate Risks, Adaptation, Resilience Building and Disaster Risk Reduction."

End the session with a participatory exercise to enable them to have a better understanding of resilience concepts (see Exercise 5 and Handout 4).

Global Climate Risks, Adaptation, Resilience Building and Disaster Risk Reduction

THE REALITIES OF GLOBAL WARMING AND CLIMATE CHANGE

We often make remarks like "What a glorious day!," "It's so cold, my fingers are falling off!," "Today is so much hotter than yesterday," "Do you think it might rain today?" These statements relate to weather. Weather is what we feel during the day or night. Weather changes at various times during the day itself and from season to season.

We know what weather to expect:
> *During each season* – It is hot during summers; Hill stations are cooler during summers; and
> *Across locations* – It rains more in the mountains than along the coast; Snow falls in the Himalayas during winters.

This predictability of weather conditions during a particular season, month or location is the 'climate' of the region. Climate is the average weather of a given region or area over a given period of time. The climate anywhere on our planet can be well described as a result of a delicate balance between the sun, atmosphere, oceans, water systems, plants, living organisms and topography. The most important factors taken into account are rain, sunshine, humidity, wind and temperature.

Climate change encompasses the changes in the average weather conditions in the given region or area. These include changes in temperature, wind patterns, and precipitation. The change is referred to in a global sense and concerns the earth as a whole. Much of these changes are attributed to global warming.

Global warming is the rise in the temperature of the earth's surface and the air over a period of time. The earth's surface and air have slowly been warming up over thousands of years due to various natural causes. However, in the past century, our planet has been warming up faster than ever before due to increase in concentration of greenhouse gases (GHGs).

The Intergovernmental Panel on Climate Change (IPCC), through its various Assessment Reports (ARs), confirms that human influence on the climate system is clear and growing, and this is one of the major causes of global warming and climate change. The IPCC stated in its Fifth

Assessment Report (2014) that "Many of the observed changes since the 1950s are unprecedented over decades to millennia. The IPCC is now 95 per cent certain that humans are the main cause of current global warming" (IPCC -AR5 2014a).The key observed changes highlighted in the AR5 are:

1. Global warming due to human activities has caused an approximate 1.0 degree Celsius rise in global temperature from pre-industrialization levels.
2. Between 1901 to 2010, global mean sea level rose by 0.19 metres. The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia and it is very likely that extreme sea level rise like storm surges have increased since 1970.
3. Direct and insured losses from weather-related disasters have increased substantially in recent decades, both globally and regionally.

The report further goes on to state with a very high confidence that, "Impacts from recent climate-related extremes, such as heat waves, droughts, floods, cyclones and wildfires, reveal significant vulnerability and exposure of some ecosystems and many human systems to current climate variability." The Fifth Assessment Report (IPCC-AR5 2014a) and the related working group reports further highlight the key climate risks, especially those which have a reason for concern.

PERCEIVED CLIMATE CHANGE RISKS AND IMPACTS IN ASIA

Most of the Asian region is extremely vulnerable to the impacts of climate change. Continued global warming will not only undo the recent achievements in economic growth but will also create additional challenges for sustained poverty reduction and human development.

Typically, the region is expected to see a high increase in mean temperatures, irregular precipitation trends with a much larger impact on water resources and increased fluvial flooding risks. Higher temperatures and drier conditions or flooding pose a threat to agriculture and, more importantly, food security in a region where malnutrition is already a major concern. Sea-level rise and the resultant increase in tropical cyclones and storm surges will further affect the urbanization process, destroying the already scarce infrastructure support systems in many countries.

Within Asia, South and South-East Asia are going to be even more vulnerable, already witnessing an increased frequency and intensity of extreme weather events such

FIGURE 1-3: OBSERVED CLIMATE CHANGES IN SOUTH AND SOUTH-EAST ASIA

SEA LEVEL RISE

Sea level has risen at 1-3 mm annually for the last 50 years in South-East Asia, resulting in an increase in recorded floods/storms particularly in the Philippines. Mean sea level is projected to rise by 70 cm, leaving more than 500 million people along the coastline exposed.

South Asia has already seen changes in cyclone frequency or intensity. But the low-lying, densely-populated coastal areas in South Asia, mainly India and Bangladesh, will be at increased risk of storm surges

EXTREME PRECIPITATION EVENTS

South-East Asia is seeing a down trend in precipitation. Indonesia, Thailand, and Vietnam are expected to experience increasingly drier weather conditions in the next two to three decades, although this trend is likely to reverse by the middle of this century.

More frequent and heavy rainfall days are projected over parts of South Asia. The risk of floods, and loss of life and property associated with floods, is highest in India and Bangladesh.

INCREASED TEMPERATURE

South-East Asia's average temperature has increased at a rate of 0.1– 0.3°C per decade and annual mean temperature is projected to rise 4.8°C on average by 2100 from the 1990 level.

South Asia is also seeing an increased frequency of hot days and nights and a reduction in the number of cold days and nights.

Source: IPCC -AR5 (2014b).

as heat waves, droughts, floods, and tropical cyclones in recent decades. Some of the critical observed changes in climate of the region are given in Figure 1-3.

The adverse impact of these events will be further exuberated in the growing water shortages; constrained agricultural production with declining crop yields, threatening food security; forest fires and loss of rich forests; fluvial flooding; coastal degradation and damage to coastal resources; greater health risks with increased outbreaks of water- and vector-borne diseases; and associated economic losses and human suffering. IPCC's AR5 has highlighted the following impacts of climate change in Asia:

Water scarcity is expected to be a major challenge for most of the region as a result of increased water demand and lack of natural resource management. The region is already reeling with water shortage, especially in South Asia, where a massive population is even today deprived of basic drinking water facilities. Any further decline in water availability will increase the problems in the region extensively. Although there is low confidence in the precipitation projection trends in the region, there is an expected decline in freshwater availability not only due to low rainfall but also as the rise in temperature will affect the glacier melting in the Himalayan region, which is a significant source of fresh water availability for many South Asian countries.

The impacts of climate change on food production and food security in Asia will vary by region, with many regions to experience a decline in productivity. The two most critical cereal crops in the region – rice in South-East and South Asia and wheat in Indo-Gangetic plains of South Asia – are expected to show a decline in yield due to shorter growing periods resulting from higher temperatures, frequent droughts and water scarcity in agriculture, and increased coastal flooding and sea level rise submerging the rice growing plains.

Coastal and marine systems in Asia are under increasing stress from both climatic and non-climatic drivers. It is likely that mean sea level rise will contribute to upward trends in extreme coastal high-water levels. Mangroves, salt marshes, and seagrass beds may decline unless they can move inland, while coastal freshwater swamps and marshes will be vulnerable to saltwater intrusion with rising sea levels. Damages to coral reefs are already being reported and are predicted to increase with warming and ocean acidification.

Extreme climate events will have an increasing impact on human health, security, livelihoods, and poverty, with the type and magnitude of impact varying across Asia. Increased frequency and intensity of heat waves across Asia, but especially in South Asia, will increase the mortality and morbidity among elderly, children especially infants, informal sector workers and slum dwellers.

Increase in heavy rain incidents and temperature extremes will also increase the risk of water- and vector borne diseases like diarrhoea, dengue fever and malaria. According to recent estimates by the World Health Organization (WHO 2014a), regional heat-related deaths among the elderly (over 65 years) are thought to increase by approximately 20,000 cases due to climate change by the 2030s and approximately 52,000 cases by the 2050s. These show that attributable mortality related to vector-borne diseases (malaria and dengue) are also estimated to be on the order of 3,000 annual deaths in the 2030s and 10,000 annual deaths in the 2050s in the region. Mental disorders and post-traumatic stress syndrome have also been observed in disaster-prone areas.

Rural poverty in South Asia is expected to continue to be more widespread than urban poverty for decades to come. In Bangladesh for instance, these factors would cause a net increase in poverty of 15 per cent by 2030 (IPCC -AR5 2014b). Increases in floods and droughts will exacerbate rural poverty as a result of negative impacts on food production, thereby increasing food prices and the cost of living. According to the same WHO assessment, approximately 26,000 annual deaths in small children below five years of age related to undernutrition (stunting) will be attributable to climate change in the 2030s across the Asia and Pacific region. However, food insecurity related to climate change will also affect urbanizing South Asia. Certain categories of urban dwellers, such as urban wage labourers, could be particularly vulnerable to increase in food prices. Multiple stresses caused by rapid urbanization, industrialization and economic development will be further compounded by climate change.

CLIMATE RISKS, DISASTERS AND SUSTAINABLE DEVELOPMENT

Natural hazards (earthquakes, tsunamis, floods, cyclones, droughts, and others) have been occurring since time immemorial, and have been known to have a detrimental effect on human lives and livelihood. Over the years, development pathways around the world have established a pattern where these natural hazards have become potential disasters. Disaster risk data show that more than 226 million people are affected annually by disasters associated with natural hazards and around 81 per cent of these are weather-related disasters (floods, cyclones, drought, and others). These weather-related disasters also account for 23 per cent of fatalities and 72 per cent of all economic losses often forcing more people into poverty. The IPCC's Special Report on Extreme Events as well as the AR5 have reaffirmed that climate change is leading to more frequent and/or intense extreme weather events, and will only further exacerbate such natural hazards in the coming decades.

This would be a potential disaster, setting back decades of development progress and putting a critical limitation in the achievement of the SDGs. Many of the SDGs (see Table 1-3) will be significantly impacted based on whether the global warming is stabilized at 1.5 degrees Celsius

DISCUSSION POINT

Most people in these regions have long faced threats associated with weather-related events such as extreme temperatures and heavy precipitation (which can trigger flooding). Ask the participants why they think climate change suddenly has made a difference to their lives.

Facilitator Clues
> To comprehend this, one has to look at the two critical components of any risk:
  - The probability of the disaster or adverse event happening; and
  - The consequences and potential impact of the event.
> Climate change increases the likelihood or probability of an extreme event like flooding, storm surge, heat wave happening; thereby increasing the number of such adverse events happening. It also increases the intensity of these events and compounds the associated risks through indirect interactions with other risks.
> So, in the above case, the frequency and the intensity of weather-related events like flooding will increase due to climate change not only with changes in precipitation patterns but also due to coastal erosion and sea-level rise. The hotter weather would contribute to increased amounts of ground level ozone (smog) in polluted areas, exacerbating an existing threat to human health, particularly for the elderly and the very young and those already in poor health. Moreover, the impacts can also reverberate by damaging critical infrastructure such as public health care systems, which will reduce the coping potential of the affected communities.

or moved beyond that. The IPCC AR5 (2015) clearly states that limiting warming to 1.5 degrees Celsius would make it markedly easier to achieve the SDGs for poverty eradication, water access, safe cities, food security, healthy lives and inclusive economic growth, and would help to protect terrestrial ecosystems and biodiversity. Furthermore, many SDGs require significant social protection measures and infrastructure development which would be significantly influenced by disasters.

These interventions need to have climate change adaptation and resilience perspective built into the development planning, resource mobilization and social protection, and infrastructure investments mechanisms. It is extremely important that both disaster risk reduction and climate change adaptation are thus integrated within all SDGs and not limited to SDG 13 – take urgent action to combat climate change and its impacts.
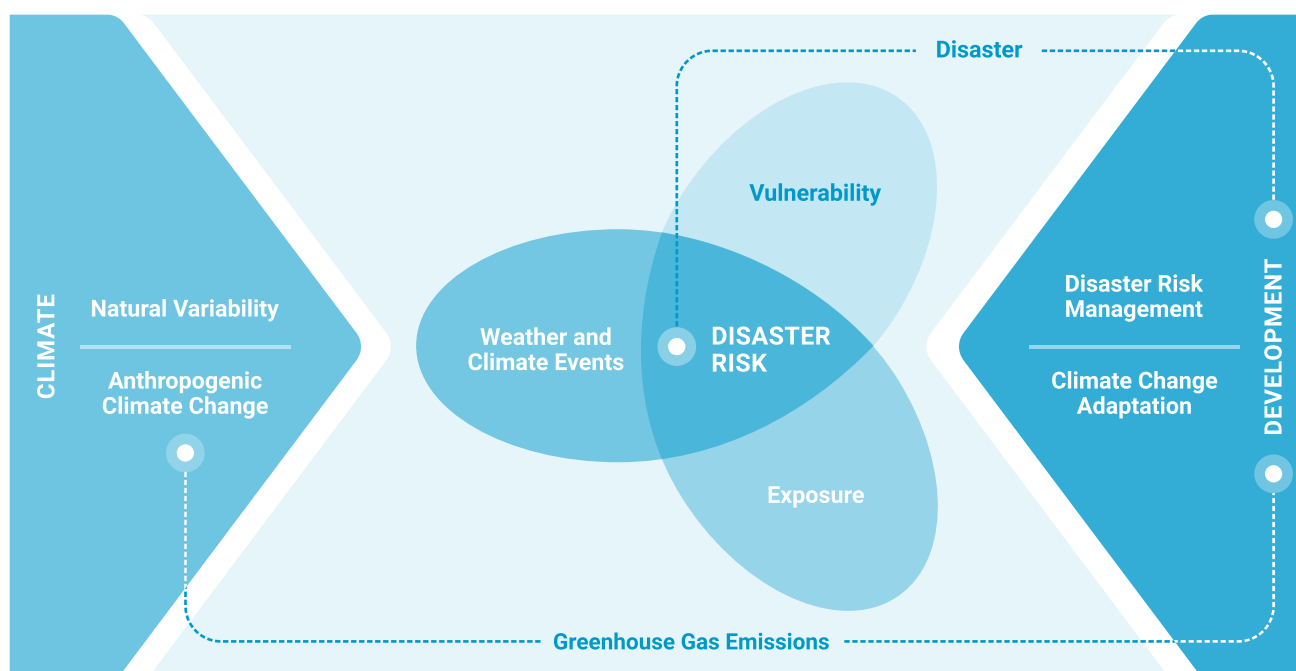
CLIMATE CHANGE, DISASTER RISK AND DEVELOPMENT

Earth's climate is continuously changing since the time it was formed. This natural process, called the natural variability of climate, is different from climate change. The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as "a change of climate, which is directly or indirectly attributed to human activities and alters the composition of global atmosphere." This process is in addition to the natural variability of climate overserved over comparable time periods. The human-induced changes are often called "anthropogenic climate change" which has been a result of increased industrial activities, particularly from the industrial revolution, that have contributed to GHG emissions stock.

TABLE 1-3: IMPACT OF CLIMATE CHANGE ON SDGs			
CLIMATE CHANGE IMPACT	**STATUS AT WARMING OF 1.5°C**	**STATUS AT WARMING OF 2°C**	**SUSTAINABLE DEVELOPMENT GOAL (SDG) AFFECTED**
WATER SCARCITY	> 496 million people (4% more) exposed to water stress.	586 million people (8% more) exposed to water stress.	**SDG 6:** Ensure availability and sustainable management of water and sanitation for all.
ECO SYSTEMS	> Around 7% of land experiences biome shift. > 70-90% Coral Reefs at risk of bleaching.	> Around 13% of land experiences biome shift. > 90% Coral Reefs at risk of bleaching.	**SDG 15:** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
COASTAL CITIES	> 31-69 million people exposed to coastal flooding. > Fewer cities exposed to sea-level rise and extreme events.	> 32-72 million people exposed to coastal flooding. > More cities and people exposed to flooding.	**SDG 11:** Make cities and human settlements inclusive, safe, resilient, and sustainable.
FOOD SYSTEMS	> Significant decline in crop yields exposing 32-36 million people to lower yields.	> Average crop yields go down, exposing 330-396 million people to lower yields.	**SDG 2:** End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
HEALTH	> Lower risk of temperature morbidity. > Smaller mosquito range. > 3546–4508 million people exposed to heat waves.	> Higher risk of temperature morbidity. > Mortality larger geographical mosquito range. > 5417-6710 million people exposed to heat waves.	**SDG 3:** Ensure healthy lives and promote well-being for all at all ages.

Source: IPCC -AR5 (2014a).

FIGURE 1-4: ILLUSTRATION OF LINKAGE BETWEEN CLIMATE CHANGE, DISASTER RISK, AND DEVELOPMENT

Disaster

Vulnerability

CLIMATE

Natural Variability

Anthropogenic Climate Change

Weather and Climate Events

DISASTER RISK

Disaster Risk Management

Climate Change Adaptation

DEVELOPMENT

Exposure

Greenhouse Gas Emissions

Source: IPCC -AR5 (2014c).

Both the natural variability and anthropogenic climate change lead to weather- and climate-related events or hazards. IPCC defines hazards as "The potential occurrence of a natural or human-induced physical event that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, and environmental resources." Changes in the emissions stock due to human activities, lead to changes in the distributions of climate variables. It is difficult to attribute whether a hazard is a result of natural variability or anthropogenic climate change to a hazard. However, there is a scientific understanding that frequency and intensity of disasters have increased as a result of climate change.

These hazards pose a risk for our social and economic systems. Risks represent a potential of loss. The ultimate impact that risks can have depends upon frequency and intensity of the hazard, exposure to the hazard and vulnerability of the system. IPCC defines exposure as "The presence of people; livelihoods; environmental services and resources; infrastructure; or economic, social, or cultural assets in places that could be adversely affected." A hazard may be of a high intensity, but if it affects a location with no people and infrastructure, the resultant impact will be low. On the other hand, vulnerability is a more complex phenomenon and represents the susceptibility of the system on account of prevailing conditions which may be social, economic, cultural, historical, institutional, among others. It is defined

as "the propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt," (IPCC-AR5 2014c).

When the risks from disasters are realized, they result in impacts and affect the development process adversely. Our development paradigm is one that contributes to the emissions stock, thereby contributing to climate change. It is also the frontier where mitigation or reduction in GHG emissions, management of disasters, and adaptation to climate change happens due to individual and collective policy choices (IPCC-AR5 2014c).

EXISTING INEQUALITIES AND VULNERABILITY TO CLIMATE RISKS

The perceived threat of climate risks is global, but the vulnerability to the risk will be context-specific and more focused on non-climatic factors and pre-existing inequalities. Therefore, it is not surprising that IPCC AR5 highlighted that women, the poor, elderly, children, indigenous communities, coastal populations, and those with (dis)ability would be more vulnerable to climate risks. And while there is no research/information on the vulnerability of LGBTQI communities, given the overall discrimination faced by them, it would not be wrong to assume that they too will be affected disproportionately especially in the event of disasters.

For example, the dense urban population in South and South-East Asia are particularly susceptible to negative climatic changes, especially temperature extremes, flooding, and vector-borne diseases; the most vulnerable are those living in informal settlements. The risks from heat stress will be higher for those living without proper ventilation facilities or those who are engaged in outdoor jobs like street vendors. Similarly, inland and coastal flooding, as well as storm surges will affect those communities living in low-lying and exposed areas. Water scarcity and related diseases will be amplified for those lacking access to basic services and infrastructure.

Rural areas which experience more of droughts and extreme precipitation will see impact on the basic livelihoods of agriculture labourers, marginal farmers and pastoralists. With limited access to land, finances, modern agricultural inputs, infrastructure and education, these communities will suffer more. Generally, the poor, in both urban and rural areas, will also be affected by food insecurity, increased food prices, as well as increased health risks and disasters.

Children and the elderly are often at higher risk due to limited mobility, susceptibility to infectious diseases, poor caloric intake, and social isolation; young children are more likely to die from or be severely compromised by diarrheal diseases and floods. The elderly also experience disproportional physical harm and death from heat stresses, droughts, and wildfires.

These vulnerabilities are often directly linked with existing inequalities, which is why there is the need for a human rights-based approach to climate change adaptation and disaster risk management. This approach requires an in-depth analysis of the risks, exposure and vulnerability of specific communities to climate change. Here are some of these critical determinants of existing inequalities which would impact climate change:

1. ***Geographical Exposure:*** being located mostly in hazard-prone areas, low lying lands that experience frequent floods/inundation or higher elevations like hills and mountains with low ground water levels. Land tenure insecurity further hampers capital investment in these habitations. Four hundred fifty million flood-prone people would be exposed to doubling in flood frequency, and global flood risk would increase substantially (Arnell and Gosling 2016).

2. ***Occupational Exposure:*** dependent on occupations that require heavy physical labour; outdoor work like construction, street vending and/or informal livelihoods like seasonal vending, home-based work, that may be directly impacted by disasters. Each 1 degree Celsius increase could reduce work productivity by 1 per cent to 3 per cent for people working outdoors or without air conditioning, typically the poorer segments of the workforce (Park, et al. 2018). Similarly, those dependent on natural resources and agriculture will also be hurt with loss of livelihoods. In Bangladesh, for example, damages and losses are expected for poor households dependent on freshwater fish stocks due to lack of mobility, limited access to land and strong reliance on local ecosystems (Dasgupta, et al. 2017).

3. ***Infrastructure Deprivation:*** living in settlements that typically lack adequate drainage, energy and communications systems, where the impact of an event such as flooding or drought will be felt more sharply than elsewhere. Low quality of their housing, with limited ventilation and inadequate cooling facilities make them more vulnerable to climate vagaries like heat stress.

4. ***Financial Susceptibility:*** having paucity of income resources, land and other natural assets and access to credit and insurance; often forced to exhaust limited savings or assets in order to respond. With a low livelihood base and limited fall-back options, their capacity to withstand climate stress and shocks is limited, leaving them to be caught in the "poverty trap" – they will become poorer due to climate change but not be able to make the required resilience investments because they are poor and long-term solutions seem economically non-feasible. The AR5 also concluded, with very high confidence, that the poor will continue to experience climate change severely, and climate change will exacerbate poverty. Hallegatte and Rozenberg (2017) report that by 2030, roughly approximating a 1.5 degrees Celsius warming, 122 million additional people could experience extreme poverty, mainly due to higher food prices and declining health, with substantial income losses for the poorest 20 per cent across 92 countries.

5. *Social Marginalization:* having least fall-back options, limited resources and access to information but mainly inhibited recognition as a citizen and human being. Slums and informal settlements are often excluded, for instance, from early warning systems or flood prevention infrastructure. Further, most of the vulnerable groups are lost in the "male norm" or the system of aggregate data analysis for planning. Evacuation systems are often not designed keeping in mind the needs of elderly and (dis)abled. Poverty and economic vulnerability results in increased human migration flows, at particular times and places, often creating specific risks of conflict and violence.
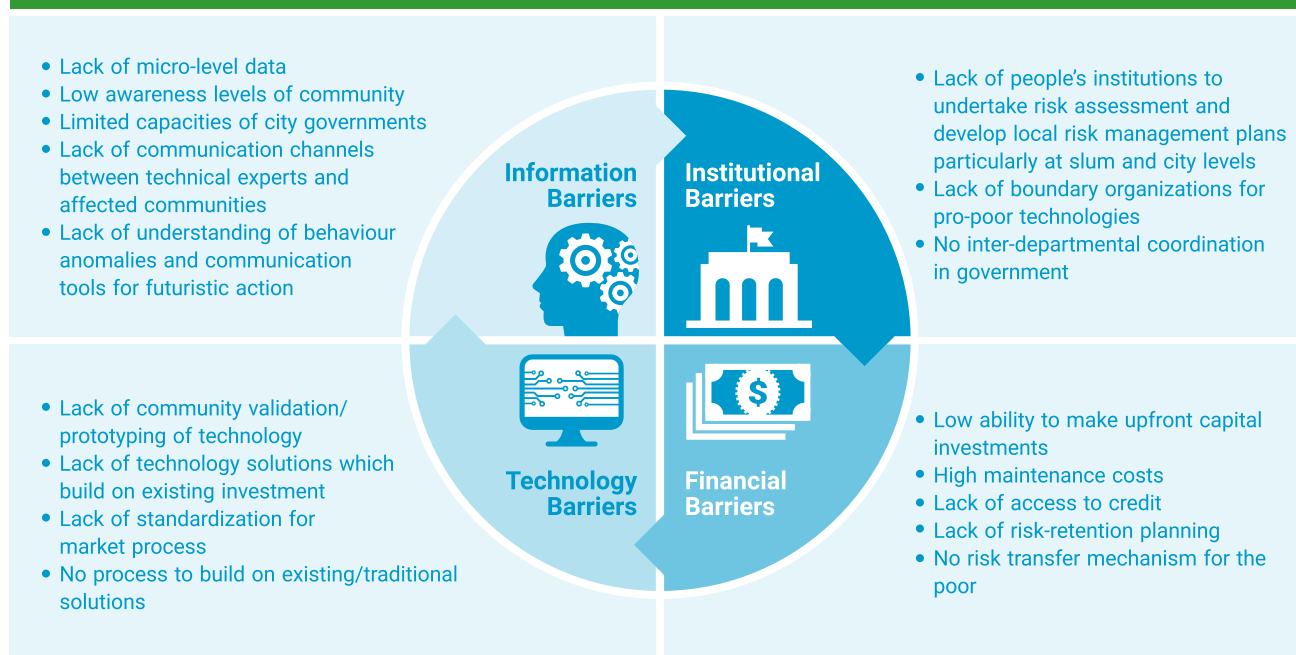
6. Gender Discrimination: given the gender roles in these societies, especially domestic responsibilities like water fetching, food security and care giving, women are even more vulnerable and bear the dual burden of these climate-related events. Women are not only at a disadvantage to men in terms of earnings, but also are less likely than men to have social protection or access to financial services making them more vulnerable. Globally, women earn 77 per cent of what men earn, with an estimated 23 per cent gender wage gap (UN Women 2018). International Labour Office (ILO 2016) highlights that, across the world, about 40 per cent of women in wage employment do not have access to social protection. Similarly, World Bank Global Findex database-2014 (Demirguc-Kunt, et al. 2015) reports that while 65 per cent of men have accounts in financial institutions and/or banks, only 58 per cent of women have the same. Further, women and girls are also more susceptible to gender-based violence, especially domestic violence, trafficking, child marriage, and others (IFRC 2015). Sexual violence against women, girls and LGBTIQ people also often increases in the aftermath of a disaster (Mian and Namasivayam 2017).

DISASTER RISK REDUCTION, CLIMATE CHANGE ADAPTATION AND RESILIENCE BUILDING FOR POOR COMMUNITIES – MAPPING THE BARRIERS

Whether one adopts disaster risk reduction or climate change adaptation/resilience building strategies, achieving results require the target communities to be aware of the climatic risks and projections; conduct their own risk and vulnerability assessments; and integrate the climate risk perspective, especially those linked with disaster preparedness, land/resource use and household level financial planning. However, poor communities, particularly women, face many information, technical, behavioural, institutional and financial challenges to building climate resilience (Figure 1-5).

FIGURE 1-5: BARRIERS TO CLIMATE ADAPTATION AND RESILIENCE BUILDING FOR THE POOR

Information Barriers
- Lack of micro-level data
- Low awareness levels of community
- Limited capacities of city governments
- Lack of communication channels between technical experts and affected communities
- Lack of understanding of behaviour anomalies and communication tools for futuristic action

Institutional Barriers
- Lack of people's institutions to undertake risk assessment and develop local risk management plans particularly at slum and city levels
- Lack of boundary organizations for pro-poor technologies
- No inter-departmental coordination in government

Technology Barriers
- Lack of community validation/prototyping of technology
- Lack of technology solutions which build on existing investment
- Lack of standardization for market process
- No process to build on existing/traditional solutions

Financial Barriers
- Low ability to make upfront capital investments
- High maintenance costs
- Lack of access to credit
- Lack of risk-retention planning
- No risk transfer mechanism for the poor

Source: Adapted from Mahila Housing SEWA Trust (2015).

Information Barriers – Communities are faced with two kinds of knowledge barriers – the first is a poor understanding of the potential risk of climate change due to lack of micro level data and access to climate related information, and the other is limited skillsets for scientific assessment of risks and vulnerabilities. Additionally, the skill gaps among local governments and climate scientists to work in participation with communities further hinder the participatory processes. Preston, et al. (2011), through a review of 45 vulnerability mapping exercises, found that only 40 per cent included stakeholder participation highlighting the technical, expertise, resource, and institutional challenges to implementing participatory processes.

Technology Adoption Barriers – While technology innovation is critical, a range of climate-resilient solutions for heat resistance (ventilation designs, alternative materials, green landscaping) and water management (rain water harvesting, small recharge measures, eco-system water planning, water testing kits, and others) are already available. However, they are not adopted by the communities due to a lack of awareness. Also, they are often inaccessible and unsuitably prototyped to meet the specific needs of these (Nagrath 2013). Often, the technology offered is not in sync with the existing infrastructure or the existing space constraints. Additionally, one also needs to understand that the poor prefer technology solutions which build on their existing investments. Addressing this requires the involvement of communities with social scientists and technical experts to design effective and customised solutions. Further, given their socio-economic context, the poor are forced to think and make decisions on short-term needs rather than long-term benefits, and thus often depict very typical behaviour anomalies when dealing with risk. The unpredictability of climate-related risks is more likely to bring out behaviour anomalies such as loss aversion, status-quo bias and/or narrow framing. Thus, mere information will not induce behaviour change or adoption. There is a need to provide distinct incentives (not necessarily financial) for this (WHO and IFRC 2010). This requires a study of the cultural as well as social dynamics, along with the behaviour patterns of the poor – a very context-specific approach (Nygaard and Hansen 2015).

Institutional Barriers – Adaptation and DRR planning are often not inclusive, and the poor in particular are even less involved. A very critical requirement to resilience is the developing of social capital or people's institutions across slums and cities, especially those which are inclusive of women and who have the capacity to generate pressure for changes within the government (Boonyabancha and Mitlin 2012). At the same time, there is the need for local governments and local service providers to respond to the needs of the poor. Most local governments, however, lack the capacities and inter-departmental coordination, to develop and implement pro-poor participatory climate resilience action plans. IPCC -AR5 (2014c) also highlighted the critical partnership gaps between technical experts, local governments and communities to undertake participatory risk assessments and design joint technical solutions for strengthening resilience.

Financial Barriers – Disaster mitigation and resilient technologies are often expensive and require capital investments and incur high maintenance costs, making them inaccessible to the underprivileged communities. Local governments also do not invest in such infrastructure solutions for the poor, as most of the budgetary allocations are for social protection and welfare activities – much needed but addressing only issues of the present. The financial barrier is even more severe in urban areas, where the poor are often concentrated in slums and informal settlements, thereby often completely outside the infrastructure investment radar of city governments.

MODULE 1_SESSION PLAN C

3:30:00	LINKAGE BETWEEN GENDER, CLIMATE CHANGE AND DISASTER RISK REDUCTION

OVERVIEW

At the end of this session, participants should be sensitized towards the gender differentiated impacts of climate change and related disasters. They would be able to understand the need for mainstreaming gender concerns in all climate change adaptation, resilience and disaster management programmes.

CONTENT

A. Gender Dimensions of Climate Change and Disaster Risk Reduction (CCDRR)
B. Gender Inequalities Amplified by Climate Change
C. Gender Roles and Differentiated Impacts of Climate Change
D. Gender Inequalities in Capacities for Climate Change Adaptation, Disaster Risk Reduction and Resilience Building
E. Need for Integration of Gender in Climate Change and DRR policies
F. Existing Strategies, Gaps and Challenges to Gender Mainstreaming
G. Women as Equal Partners and Actors in Climate Action

MATERIALS

> PowerPoint presentations
> Gender Roles Cards
> Poster on Gender and CCDRR
> Whiteboard and marker pen
> Chart papers and pens
> Copy of Handouts
> Apparatus for film viewing on YouTube

OUTLINE

5 mins.	Sharing of session content and structure.
40 mins.	'Matching Cards' on Gender Roles and Differentiated Impacts (see Exercise 6 and Handout 5) (recommended for basic course). **OR:** 'Moser Framework' for Gendered Climate Risk Mapping (see Exercise 7) (recommended for advance course).
60 mins.	Poster presentation on "Gender Dimensions of CCDRR" using Figure 1-6 (recommended for basic course). **OR:** PowerPoint presentation on "Gender Dimensions of CCDRR" (recommended for advanced course).
45 mins.	PowerPoint presentation on "Integration of Gender in CCDRR."
60 mins.	"Women as Change Agents" case study review (see Exercise 8 and Handout 6).

GUIDANCE NOTES

Begin the session by sharing the content and structure. Explain that climate change and disaster risk reduction (CCDRR) are not gender-neutral. Existing gender roles-related needs and preferences as well as the inequalities in sharing resources and decision-making powers, affect the ways in which people from various social groups and different gender identities experience the impact of climate change and respond to them. Gender, age and poverty aspects particularly influence the vulnerability and response capabilities to CCDRR. The result is that climate change amplifies existing gender inequalities. Tell them that these concepts will be explored through several exercises. For basic course, begin with 'Matching Gender Roles and Impacts' task (see Exercise 6) and end with a poster presentation on gender dimensions of CCDRR. For advanced course, begin with the Moser Framework mapping (see Exercise 7) followed by a detailed PowerPoint presentation to explain the various gender dimensions of CCDRR.

The next part of the session is information-focused, thus use a PowerPoint presentation to explain the need for gender integration in CCDRR and resilience building as well as the existing strategies, gaps and challenges to enable the same. Make sure to break for all the discussions to ensure participant engagements. End the presentation, with an overview of women as agents of change. Then divide the participants into three groups for the case study review exercise on "Women as Agents of Change." (See Exercise 8.)

Gender Dimensions of Climate Change and Disaster Risk Reduction and Resilience Building

GENDER-BASED VULNERABILITY AND DIFFERENTIATED IMPACT OF CLIMATE CHANGE AND DISASTERS

Climate change and disasters affect people with different gender and social identities differently, often making women and LGBTIQ people more vulnerable (Figure 1-6). Much of this is not due to any biological difference but due to the gender-differentiated roles and responsibilities at the household and community level (Neumayer and Plümper 2007). The gender-based vulnerability is further exacerbated due to existing gender disparities especially access to land and other resources, participation in governance and decision-making structures, and, more importantly, access to education, health, extension and financial services. The critical gender-based vulnerabilities of climate change and disasters have been discussed here:

A. Increase in Domestic Work and Time Poverty

Within our complex societal systems, women's care giving is essential in providing a backbone of support. This is even more true in Asia, where women do four times the unpaid care and domestic work than men do (ILO 2018), as compared to global figures of 2.6 times (UN Women 2018). Measuring minimum wages, Oxfam reports that the monetary value of unpaid care work globally could be around US$10.8 trillion (Coffey, et al. 2020). Women's caregiving role and unpaid work will increase manyfold due to climate change especially in disaster situations. Poor women and those in rural areas more involved in informal caregiving will be most affected (ILO 2018). Some of the critical gender caregiving roles that will impact women more include:

1. ***Managing food security:*** As traditional food sources become increasingly unpredictable and scarce, along with raising food prices, women will be strained for managing food security within their homes. Poor women with limited access to land, resources, and extension services will be most affected.

2. ***Fetching drinking and domestic water:*** The gendered dimension of water management is well known. In most societies, women and girls are largely responsible for domestic and drinking water collection. Already in many parts of South Asia, scarcity of water and lack of proper supply infrastructure results in women walking miles or waiting for hours in queues to fetch water. With more than two billion people around the world expected to face water shortage by 2025 (Hameeteman 2013), this will especially have a harsher effect on women and girls. In drought-prone areas, the time spent by women and girls to fetch water will increase manyfold, as they have to travel longer distances for the same. In flood-prone areas, damage to existing water supply infrastructure will further decrease the access to water for many communities especially those living in urban slums, which will again hurt women more.

3. ***Arranging fodder:*** As pressure on land for production of more crops, bio-fuels and renewable energy increases, availability of grazing land will decrease. With women having the main responsibility for arranging fodder for the cattle, especially the small livestock that they often have control of, decline in fodder availability will affect both time poverty (for arranging fodder) and income poverty (loss of livestock) of women.

4. ***Fuelwood for cooking:*** Stringent measures for forest protection and emission reduction policies will further affect fuel availability for cooking especially for poor women who cannot afford clean energy sources. FAO estimates that many countries in the developing world draw on fuelwood to meet as much as 90 per cent of energy requirements. Further, gender roles and discrimination will hinder women from participating in decisions related to local forest management processes, which will hamper availability and result in women having to travel further to reach unprotected forest areas.

5. ***Domestic Waste Management:*** Governments all over are trying to address improper waste management in open landfills and water-ways. As women have the prime responsibility of waste management within the household, they will be most affected by the additional roles of waste segregation and recycling.

FIGURE 1-6: POSTER ON GENDER DIMENSIONS OF CCDRR

Women and LGBTIQ People are Affected More by Climate Change and Disasters

INCREASE IN DOMESTIC WORK AND TIME POVERTY
- Asian women's unpaid care and domestic work, already four times that of men, will increase.
- With reduced food crop production and increased food prices, poor women will be strained to maintain food security.
- With more than 2 billion people expected to face water shortage by 2025, women and girls will have to travel longer distances and spend more time to fetch water.
- Damage to water supply infrastructure in floods and cyclones will also hurt women in urban areas.
- As pressure on land for food and fuel grows, grazing land will reduce, increasing the workload of women for arranging fodder.
- Forest protection and clean energy policies will affect fuel and wood availability – a source of 90% energy for poor women.

EXACERBATED HEALTH BURDEN AND CARING RESPONSIBILITIES
- Skewed intra-household food distribution will result in women and girls being deprived of basic food intake and nutrition.
- Women being more exposed to standing water due to water fetching responsibilities will be at higher risk of water-borne diseases.
- Physiological characteristics also make women, especially pregnant women, more susceptible to vector-borne diseases like Malaria.
- Drinking saltier water (a direct result of sea water ingress) will also have severe impacts, especially on pregnant women, as rates of hypertension and pre-eclampsia will escalate.
- After disasters, women' sexual and reproductive health needs are further marginalized.

GREATER RISK OF DEATH, INJURY, AND VIOLENCE
- Women and children are 14 times more likely to die or be injured in a disaster than men due to gender inequalities.
- Forced to sleep in insecure homes and emergency shelters without privacy and hygiene facilities, women and LGBTIQ people are particularly vulnerable to physical and sexual assault.
- Women and girls also often face elevated levels of violence if they have to travel long distances to fetch water, firewood or fuelwood after a disaster.
- Adolescent girls especially report higher levels of sexual violence in the aftermath of disasters. The risk and likelihood of early marriage increases.
- Post-traumatic Stress Disorder among men often leads to hegemonic masculinity crisis increasing pre-existing levels of violence.
- Women and children also face greater risk of trafficking and being pushed into sex trade.

HIGHER LIKELIHOOD OF LOSS OF LIVELIHOODS AND ASSETS
- Women are more dependent on natural resource-based livelihood and hence will face more loss due to droughts, flooding, etc.
- Women are often more involved in subsistence farming and provision of agriculture labour and their livelihoods will be more impacted by loss of crop yield coupled with water scarcity.
- Women also own only smaller livestock such as chickens, ducks, goats, which are not only less likely to be rescued but also more prone to be sold for immediate cash after disasters, thereby resulting loss of limited assets.
- With more women being employed in informal sector, with low paid jobs and lack of social security, their loss of livelihoods will hurt more.
- Already deprived of access to land and resources, their profound vulnerability will be further exacerbated.

Source: Adapted from GGCA (2016).

Floods, cyclones and other disasters destroy both natural resources and supply infrastructure for basic services like water, fuelwood, and others. Women and girls, having the key responsibility of managing these, have to travel longer distances for arranging these. Working hours further escalate with caregiving to the injured and sick and reconstruction work after disasters. All these have a profound impact on women's time poverty.

As noted by UN Women and BCAS (Bangladesh) in 2014 "….climate [change] is wreaking havoc with the livelihood of vulnerable women. From floods, to droughts, cyclones, increased salinity, erosion and water logging, women's days are dictated by their access to natural resources, and they rely on these to care for their families and communities. Almost all climatic changes lead to women's increased labour, especially as it relates to the access to clean and safe water, fuel and food." (UN Women 2016).

## B. Exacerbated Health Burden and Caring Responsibilities

1. **Increased health burden:** Intra-household gender discriminations especially in food and nutrition provision, access to safe water, and others also increase women's health risks. Skewed intra-household food distribution will result in women and girls even being deprived on basic food intake and nutrition. Standing water can pose a significant health threat to people via water-borne diseases such as typhoid fever and cholera, or vector-borne diseases including malaria, dengue, yellow fever and chikungunya. Women are generally exposed to areas of standing water significantly more than men due to their assigned roles to collect drinking water, prepare food, or take care of family members and livestock. In addition, women may sometimes be more susceptible than men to vector-borne diseases due to physiological characteristics. For example, pregnant women are twice as likely to attract mosquitoes, which kill over one million people per year. Similarly, drinking saltier water (a direct impact of sea-level rise) can have severe health impacts especially for pregnant women, whose rates of hypertension and preeclampsia in some regions have begun to escalate. In coastal Bangladesh for example, a 2011 study emphasized that climate change-induced sea level rise was having serious health impacts for local populations, especially pregnant women (Khan, et al. 2011).

2. **Caring for children, sick and elderly:** As primary caregivers, women and girls will also find their health care responsibilities increased as family members will be more exposed to vector- and water borne diseases such as malaria, dengue, cholera, diarrhoea and heat stress morbidity.

3. **Women's sexual and reproductive health (SRH) concerns:** After disasters, the sexual and reproductive health rights of women are often observed to be marginalized. Studies from South and South-East Asia have shown that disaster relief processes are not inclusive of the sexual and reproductive health needs of women. Women from fishing communities in the Philippines reported increased birth rate after disasters and as a mechanism to cope with reduced income from fishing which is being impacted by climate change (Castro and Hernandez 2015). A study from Nepal revealed narratives from women reporting that after disaster, many pregnant women did not receive proper nutritious food, resulting in deficiencies and child birth issues (Singh 2015). In Maldives, women reported that relief kits did not include gender-specific essential supplies. Family planning and SRH services become constrained and practically inaccessible in the islands of Maldives after disasters (Shazly and Mohamed 2015). A study of rural and remote women from Laos revealed that the access to even basic sexual and reproductive health services becomes impossible due to inaccessible roads and bridges during rainy season or after flood-induced damage. During summers, women have to walk from 12 to 20 km by foot under heat to access these services at health centres (Thikeo and Sychareun 2015). Increased domestic and unpaid work load after disasters and deteriorated sanitation facilities impact the health of women (Bisan and I 2015). In Bangladesh, many cyclone shelters are not inclusive of gender-specific needs, like a path to the shelters, access to toilets, or separate space for women and lactating mothers. Women from Pakistan reported safety and privacy issues in moving to such shelters (Hussain 2015). Instances of unwanted pregnancy and unsafe abortions increase after disasters.

FIGURE 1-7: GENDER DIFFERENCES IN MORTALITY RATES DURING DISASTERS
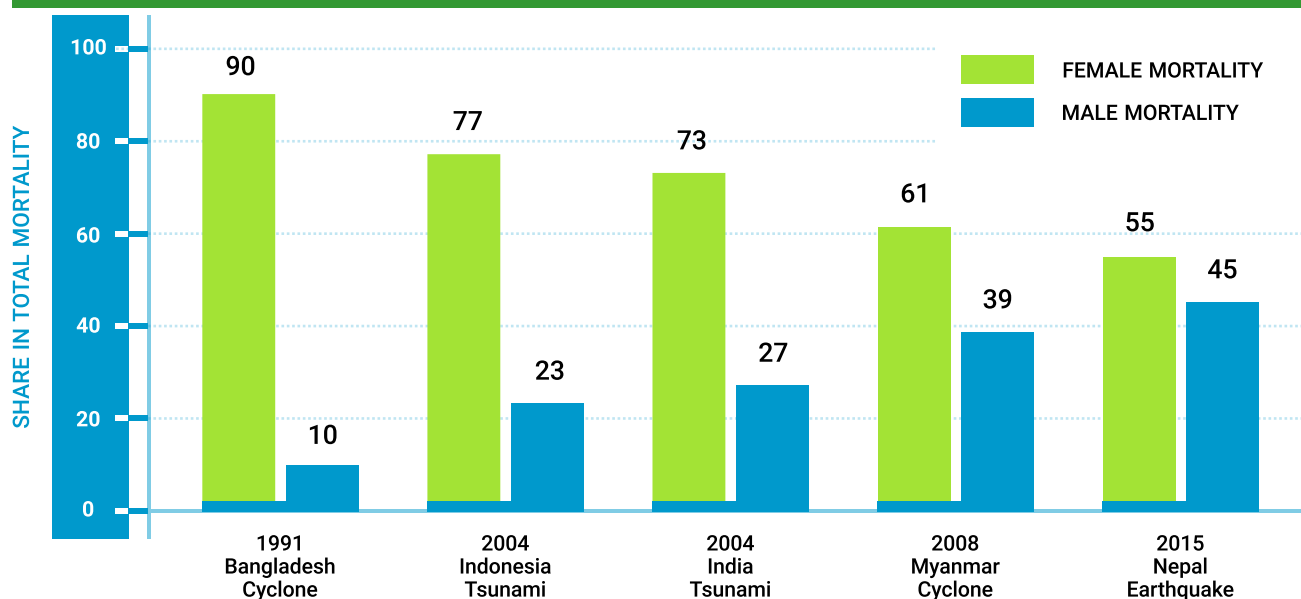
Source: UN Women (2016).

C. Greater Risk of Death, Injury and Violence

1. ***Women are more likely to die during disasters than men:*** Women are more likely to lose their lives during disasters than men are. Mortality rates associated with disasters as shown in Figure 1-7 clearly highlight this discrepancy (UN Women 2016). Another study by Neumayer and Plümper (2007) also states that women and children are 14 times more likely to die or be injured in a disaster than men. The study also reveals that this is not due to natural or physical weakness but largely due to gender inequalities. Based on a review of gender and disasters in 141 countries, this 2007 study showed that when economic and social rights are equally distributed, the death rates are similar. The key gender discriminations, which play major roles are highlighted here:

- After the Asian tsunami in 2004, more women and children died because they were trapped inside their homes (due to gender norms) while men were out in the open. UN Women (2016) also highlighted how this mortality can be higher for poor women as the homes they stay in are often poorly constructed and lack protection against disasters.
- Women have limited access to information and are also less likely to receive early warning information on time (Oxfam 2005). Illiterate women would be further constrained in reading and acting upon disaster warnings (Aguilar, Granat and Owren 2015).

- Even when they receive evacuation notice, cultural limitations like responsibility of elderly and children, failure to make snap decisions, not being able to relocate without male relative, among other situations, can result in delayed response. For example, it was documented that women in Bangladesh did not leave their houses during floods due to cultural constraints on female mobility; those who did were unable to swim in the flood waters (Demetriades and Esplen 2008).
- In several societies, practices of purdah (seclusion) dictate the extent that women and girls can leave the house to seek shelter (Sultana 2018). Many parents consider cyclone shelters to be unsafe for girls and prefer to leave them at home rather than exposing them to potential harm from shared sleeping quarters and lack of adequate and private sanitary facilities (Swarup, et al. 2011).
- Women and girls often receive little or no disaster response trainings (for example, swimming and climbing trees), and clothing restrictions (like wearing of sarees) can further hamper the free movement of women and girls during disasters. A 2009 study in Gujarat (India) revealed how most women could not swim although 40 per cent of men could (Ahmed and Fajber 2009).
- Furthermore, women, lesbian, gay, bisexual, transgender, intersex and queer (LGBTIQ) also face negative consequences in the aftermath of disasters, especially on relief and recovery efforts (UN Women 2016).

2. **Increased Sexual and Gender-Based Violence:** Often forced to sleep in unsecure homes and emergency shelters with lack of privacy and separate hygiene facilities, women and LGBTIQ persons are particularly vulnerable to physical and sexual assault. Adolescent girls report especially higher levels of sexual harassment and abuse in the aftermath of disasters (Bartlett 2008). Women and girls also face elevated levels of violence if they must travel long distances to fetch water, firewood or food after a disaster.

Further, increased stress and feelings of powerlessness – due to bereavement, loss of property and loss of livelihood, mental health problems such as post-traumatic stress disorder, scarcity of basic provisions, and other factors leading to hegemonic masculinity crises – contribute to pre-existing levels of violence among men. This is often compounded by loss of protection from family members who have died or migrated and a breakdown in the rule of law (UN Women 2016).

Increase in poverty and living in margins also leads to rise in early and forced marriage among underage girls. Women and children are also at greatest risk of being trafficked in times of disasters, and they face the greatest risk of becoming targets for exploitation, resulting in slavery and sex labour (Nelleman, et al. 2011). There is also evidence that employment in sex work increases during climate crisis (IFRC 2015).

D. Higher Likelihood of Loss of Livelihoods and Assets

There are some critical differences in the livelihood patterns of men and women in most societies. Although these are contextual, the underlying elements are:

1. **Women are more dependent on natural resource-based livelihoods than men:** Women also tend to possess fewer assets and depend more on natural resources for their livelihoods. Loss of livelihoods, particularly of small-scale farmers and those in agricultural-based livelihoods, also produce differentiated impacts for women and men. Women who are often involved in subsistence farming of food crops and provision of agriculture labour are more likely to be impacted by loss in crop yields coupled with water scarcity. And while they have a major labour contribution in allied activities like livestock rearing, women often own and control only smaller livestock such as chickens, ducks and goats. During disasters, these are less likely to be rescued due to operational constraints. Fisheries, another sector which employs women in large numbers in Asia, will be impacted by the degradation of marine ecosystems due to climate change.

DISCUSSION POINT

Ask the participants if they know of any instances wherein they have observed increase in sexual and gender-based violence after disasters.

Facilitator Clues

> After the 1991 Bangladesh cyclone, many young women were reportedly abducted and abused especially where there were no separate safe places for sleeping, changing, showers and toilets.

> Child marriage has always been a problem in Bangladesh; but recently there were links between disaster and child marriage. This is because families in poverty often see a girl as one mouth less to feed, while the groom's family looks at her as one more working hand. Furthermore, social evils like dowry and bride price often result in young girls being sold to future husbands.

> Field studies in Bangladesh and Indonesia by ARROW (Mian and Namasivayam 2017) have reported that women and girls have a greater risk of sexual violence due to climate change, having to walk longer distances to fetch water, firewood, food, and others.

> Increases in violence against women after disasters and during hot weather have also been documented in Vietnam (Oxfam 2009).

> In a study by Action Aid (Chanthy and Samchan 2014), the number of instances of domestic violence reportedly almost doubled in Banteay Meanchey and Svay Rieng provinces (Vietnam), after floods as compared to before the floods.

> After the 2015 Nepal earthquake, many female-headed households reported feeling unsafe in makeshift tents, especially with increased alcohol consumption among men.

> Nepal also witnessed an increase in trafficking from an estimated 3,000-5,000 annually in 1990 to 12,000-20,000 per year after the earthquake.

> In West Bengal (India), there is an observed pattern between trafficking of women and girls and annual flooding. Similar reports appeared after the cyclone Phailin in 2013.

> There is also some evidence that trafficking was a major concern after the typhoon Haiyan in Philippines in 2013.

> After the tsunami in 2005, Sri Lanka also reported cases of harassment and abuses.

> The Covid-19 lockdown in 2020 showed a surge in cases of domestic violence all over the world.

2. **Sectoral implications:** Other than agriculture and allied activities, women, especially poor women in Asia, are often concentrated in manufacturing jobs in the garment industry and hospitality/tourism sector. The garment industry will particularly be impacted by climate change, first due to decline in cotton production in Asia and second due to the impact of heat waves on productivity. In Cambodia for example, studies show that downward trend of productivity for hotter days was statistically significant in the garment industry (Kjellstrom and Phan 2017). Home-based workers will also be majorly impacted by heat waves. Focused group discussions by Mahila Housing SEWA Trust with women home-based workers in 50 urban slums in India, Bangladesh and Nepal, had women reporting up to 30 per cent decline in productivity during summer months due to heat waves (Mahila Housing SEWA Trust 2015). Further, home-based workers are additionally vulnerable due to loss of raw-materials and work place, when homes are inundated during floods and/or destroyed during other major disasters.

3. **Loss of assets:** Women are also bound to lose their limited assets during and after a disaster. For example, in Nepal, women control smaller livestock, which is given to them by their parents to start a new family. It was noted that in the aftermath of the 2015 earthquake, stress-selling of assets to cope with the disaster tended to concentrate on smaller livestock, such as goats and chickens, which were owned and controlled by women. Similarly, in the 2015 Myanmar floods, women lost 80 per cent of all animals killed in the floods, while men lost 20 per cent in terms of buffaloes, cattle and pigs (UN Women 2016). In India, there are many reports which highlight that sale of smaller livestock is the first drought-coping strategy adopted by poorer families. Destruction of domestic buildings during floods also signify not just a loss of home but an end to a home-based livelihood for women. Such practices inevitably erode their livelihoods and ability to cope with future stresses. Many women in South Asia do not use banks but keep hidden cash/jewellery within homes, which could be lost in case of emergency evacuation and/or used to meet the immediate expenses, thereby leading women to further lose their meagre savings. An added limitation is that women also have no insurance or coverage to meet these disaster-related losses, nor are these accounted for in economic loss assessments after a disaster.

4. **Women are more likely to be in informal sector, with low paid jobs and lack of social security:** In most countries, women's access to formal jobs is restricted due to legal, education and social constraints. Even now, only eight of the 190 countries have equal legal rights for women in employment. The rest have laws impeding women's economic opportunities – no factory jobs, working nights, taking permission from husband for work, and others (World Bank 2020a). Women's less access to education and the added burden of domestic responsibilities, child bearing and child care role, coupled with existing gender discrimination further limit their access to higher paid jobs and positions. Globally, there is a 50 per cent gender wage gap (the ratio of the total wage and non-wage income of women to that of men) and only 36 percent of senior private sector's managers and public sector's officials are women (about 2 per cent higher than the figure reported last year) (WEF 2020).

5. **Existing discrimination in resource rights and access to services further exacerbates gender-based vulnerability:** Customary and traditional practices in the patriarchal societies in Asia are a major barrier to women's access to land and resources (water and forest products). Women lack access to land (and other resources available on the land) because they are often sidelined when it comes to inheritance rights to land ownership compared to their male family members. Without land (including farmland), household food security, particularly for women-headed household, will be affected as most rural population in Asia are agrarian. These existing gender discrimination in ownership, control and management of resources especially land, livestock, water and forests, will further exacerbate the impact on the way climate change affects women's and men's livelihoods patterns. To cite a few examples:
   - As there is a competition for scarce land resources, the fact that women lack land titles could mean that they would lose the control of the even small surplus lands that they currently farm.
   - Women generally own small livestock like goats that depend on common grazing lands, which will also become scarce with climate impacts. Poultry is also more likely to be impacted by heat-related mortalities and morbidities.
   - As water becomes scarce, it is more likely to be diverted for industrial use and/or for cash-based agriculture products like cotton, horticulture, and similar crops that contribute more to the country's

gross domestic product (GDP). Women who are engaged in subsistence farming will more likely lose their crops due to lack of water. Women's lack of land titles means that they will also have no say in the irrigation committees that are often linked to titles, especially in South Asia.

- FAO (2015) reports that 25 per cent of the world population – 1.6 billion people, mainly indigenous communities, landless and women – rely on forests and forest products for their livelihoods. Conservation programs that aim at protecting forest areas from deforestation may make it difficult for indigenous women to access the conservation zones to collect the non-timber forest products they are dependent on to provide food security for their families.
- Women often take up home-based work, and hence loss of homes to disasters or displacement due to sea level rise will mean that they not only lose their place of shelter but also their place of work. Further, the raw material and other equipment stored at home are not accounted for in economic losses of a disaster, which mean they will have to bear the burden of these losses.
- Increasing heat will also have a major impact on women's home-based livelihoods. Poor women generally live in small homes, often made of heat-conducting materials like asbestos sheets with less or no ventilation especially in slums of India and Bangladesh. As the day temperatures rise, indoor temperatures within these rises manyfold reducing women's productivity by up to 30 per cent (Mahila Housing SEWA Trust 2015).

Lack of access to credit, extension services, and limited mobility due to domestic responsibilities will further mean that poor women will be more vulnerable to droughts, flooding and loss of natural resources due to climate change. Furthermore, women's productive value is more often invisible in national statistics and related policy planning processes. As climate change involves changes in production patterns and livelihood options, women with less control and participation in policy planning will be more affected. Also, women earn lower wages than men, leaving them more vulnerable to changes in working environment due to external factors. The same would also apply to climate change.

Adding to the woes is that decision-making at the household level is often controlled by men. Women are many a times excluded from key decisions like sale of land, house and other assets which have a critical impact on their overall asset ownership. The issues of key immovable resources, especially land and housing rights,

must be brought into the climate debate (Sultana 2018) as it has a profound impact on the vulnerability of women. Furthermore, a lack of understanding of the gender dimensions can impede equitable distribution of recovery assistance. For example, entitlement programs have traditionally favoured men over women, tenants of record, bank-account holders, and perceived heads of households.

GENDER-INTERSECTIONALITIES AND CCDRR

Disaster and the Male Gender – It is not only women who are disproportionately impacted due to gender roles. Cultural expectations in male risk-taking behaviour often put men and boys at greater risk of death and injury during a climate-related disaster. In Vietnam, anecdotal evidence suggests that men are more likely to be killed due to occupational segregation – for example being a fisherman. Men are also more likely to ignore evacuation calls than women. A decline in food security and livelihood opportunities can also cause considerable stress for men and boys, given the socially ascribed expectation that they will provide economically for the household. Added to this is the fact that men are less likely to seek help for stress and mental health issues than women and girls (Masika 2002) which can have severe consequences for them. This can be illustrated by the way in which men are distressed to the point of suicide in India due to agricultural losses leading to an inability to repay loans (Keneddy and King 2014). Men also have specific needs, such as stress, alcohol counselling, or developing the skills to cope with becoming a single parent after disaster. All these point to the contextual nature of gender and the need for gender analysis in CCDRR.

LGBTIQ and Health Concerns – The recent COVID-19 crisis affected the health of millions of people across the globe. These impacts are however likely to be heightened for some of the most vulnerable populations especially lesbian, gay, bisexual, transgender, intersex and queer (LGBTIQ) people (Gelder 2020). Their pre-existing inequalities are likely to be exacerbated by the pandemic, making it more difficult for these populations to access critical services – including healthcare and social protection. While global or Asia level data, which could have been particularly useful in better understanding the potential negative impacts of the COVID-19 pandemic on sexual and gender minorities, is not available, data from Western Balkans, reported by World Bank, show that only 12 per cent of LGBTIQ people surveyed had forgone necessary medical treatment because of the fear of discrimination by medical providers. In Serbia, earlier research by World Bank (2019a) had also found that only one-third of LGBTIQ respondents rated their health as "very good," compared to 55 per cent of the

general population. Again, transgender people fare much worse, with only 18 per cent rating their health as "very good." The self-assessment of one's health as bad or very bad progressively increases among LGBTIQ people who are materially deprived (11 per cent), severely materially deprived (14 per cent), and extremely materially deprived (20 per cent), compared to 5 per cent of the overall LGBTIQ sample. It is important to analyze similar trends in local context as the health risks with climate change are expected to increase over the next decade. Unless action is taken to remove gender discrimination and improve health seeking behaviour of LGBTIQ communities, the health impacts of climate change on these communities would be disproportionately higher.

Climate Change and Elderly – Elderly people are often mentioned as a group at particular risk during heat waves as shown in the 2003 heat wave in Europe as well as other climate-related disasters (Kuzuya 2012). However, they are often absent in climate change adaptation plans as a specific target group. Elderly women are likely to be particularly vulnerable, especially in developing countries where resources are scant and social safety nets are limited or non-existent. Elderly women may also have heavy family and caring responsibilities which cause stress and fatigue while also preventing wider social and economic participation; and their incomes may be low because they can no longer take on paid work. They may also not understand their rights to access community and private sector services, such as local clinics. Even when they are aware of these services, even nominal amounts for clinic visits and drugs may not be affordable. Access is further restricted for older women living in rural areas, who are often unable to travel the long distances to the nearest health facility (WHO 2014b). Older men are also particularly disadvantaged by their tendency to be less tied into social networks than women and therefore unable to seek assistance from within the community when they need it (WHO 2014b).

GENDER INEQUALITIES AMPLIFIED BY CLIMATE CHANGE

Gender Equality is a human right and a very important development objective in itself. Over the last many decades, various actors including the UN and other international bodies, national and local governments as well as civil society organizations have been pursuing the agenda of gender equality. Although there is still a long way to go especially towards full realization of the SDG 5 by 2030, the world is much ahead on gender parity, than where it stood a few decades earlier.

Various studies (GGCA 2016; UNDP 2019; UNDESA 2020) state that climate change will actually push back the progress made towards achieving gender equality over the years. This can happen due to the following reasons:

1. Overall, people will be worse off in general; and women with less resources and fall-back options will feel the impact more.
2. The impact would be particularly on natural resources – land, water, food, energy, health, affecting women and girls' time-use and livelihood patterns. For example, women and girls could end up spending more time fetching water, taking care of the sick and injured and/or undertaking construction tasks after a disaster.
3. Increased workloads would mean women have less time available for income-generating activities especially full-time jobs, which provide greater social security (Bradshaw and Linnekar 2014).
4. Increased workload for girls could also force them to drop out of schools to help with housework, thereby eliminating the gender parity gains in education made over decades (Davis, et al. 2005; UNDP 2009). This will further increase the gap in employment opportunities for girls as compared to boys.
5. Livelihoods are expected to be upset in a way that social norms and networks will be recast – expectations of traditional gender roles will resurface. For example, after the 2015 Myanmar floods, rural women who relied on agriculture labour for income were left without alternative livelihoods while men moved out to find work elsewhere (UN Women 2016).
6. Reduced education and economic power, coupled with increased economic stress among men as breadwinners, heightened after disasters are likely to increase domestic violence (Masson, et al. 2016).
7. Prevalence of other forms of gender-based violence like trafficking and child marriage, elimination of which are so critical to achieve SDG 5, can also escalate. In Bangladesh for example, Human Rights Watch found that disasters are one of eight factors that contribute to child/early marriage (IFRC 2015; Mian and Namasivayam 2017).
8. Studies have also pointed at the increased risk of sexual violence for young girls, women and those with other gender identities especially in the aftermath of disasters (Swarup, et al. 2011; Mian and Namasivayam 2017).
9. There is also the risk that action for climate change adaptation and disaster management would lead to diversion of government budgetary resources from health, education and other social services which can increase gender discrimination within the country (UNFPA and WEDO 2009a).

More importantly, these actions will not work in isolation but would have a cascading effect and can actually lead to a vicious cycle of gender inequality.

GENDER INEQUALITIES IN CAPACITIES FOR CCDRR AND RB

Not only does climate change impact men and women differently, but their gender-differentiated relative powers, roles and responsibilities also affect their adaptation and resilience capacities. Women and men exhibit different ways of responding to climate change. For instance, women are known to have a higher perception of risk from disasters as compared to men; thus, they tend to heed evacuation warnings more and also spread the information (UNDP and UN Women 2018).

Women are also clear about their needs and priorities; and with traditional knowledge base, have already begun taking action on climate change adaptation. Mitchell, et al. (2007) reports how women from rural communities in the Ganga river basin in Bangladesh, India and Nepal have shifted cultivation to flood- and drought-resistant crops, or to crops that can be harvested before the flood season, or varieties of rice that will grow high enough to remain above the water when the floods come. In flood-prone areas in Bangladesh, women prepare elevated platforms for family members with disabilities using the chouki (traditional bed) and bamboo. They also preserve fuels, matches, dry food (such as rice, peas, puffed rice, flattened rice and molasses), ropes and medicine at home and prepare portable mud stoves for future use. Women often collect firewood to store in dry places for later use.

The fact does remain though that pre-existing gender inequality and women's lower social positions in many situations does limit their capacity to respond to climate change. The inadequate access of women, especially poor women, to education and information; limited ownership and control over natural resources, land and finances; and restrictions to participation in the governance and decision-making processes hinder their capacities to adapt to climate change.

DISCUSSION POINT

Ask the participants to list examples of how the social position of women and existing gender inequality in their regions hinder women's adaptive capacities.

Facilitator Clues
> Women and girls are often restricted from participating in local committees for disaster management or climate change adaptation. Even when there is no restriction, they often cannot participate due to time constraints.
> Women's lack of land ownership often results in them not being able to make decisions related to cropping patterns even though they may want to. FAO, in its brief on Gender-Responsive Approach to Climate Smart Agriculture (Nelson and Huyer 2016), reported that in Kenya, the most rapid adoption of drought-resistant crops was among women whose husbands were away and not making the day-to-day decisions.
> Women have less access to decision-making spaces and influence than men in shaping policies and prioritizing how climate finance is used. As the need for climate change mitigation and adaptation actions grow, the distribution of related financing will increase – as will the potential gap in access to and control over resources between men and women under the prevailing systems and mechanisms. This will further hinder women's adaptive capacities.

Gender Integration in CCDRR and RB

NEED FOR INTEGRATION OF GENDER IN CLIMATE CHANGE AND DRR POLICIES

All policies and measures affect women and men differently, which is why undertaking gender analysis and inclusion of gender dimensions into policy planning is important. Gender integration helps find ways to mitigate possible risks that may exacerbate gender inequality, and highlight opportunities to enhance positive outcomes. In the context of CCDRR, this has multiple implications.

Gender Equality is a human rights issue and a development goal in itself. Climate change will not only heighten gender inequality but also increase violence against women, child marriage and trafficking, all of which are serious offences against human rights (UN Women 2016). A Human Rights-Based Approach (HRBA) demands that protection of these human rights be central to all development, adaptation, risk reduction and resilience building programmes.

Moreover, not taking women and LGBTIQ people along with men into account in CCDRR policies would mean neglecting a large part of the people whose well-being we seek to improve. This would be in direct contravention of the Leave No One Behind (LNOB) approach that most countries have agreed upon as part of the 2030 sustainable development agenda. Women and girls who are still among the most marginalized groups of the society and particularly vulnerable to current and future climate change and disaster risks need to be the key target of the LNOB approach when applied to CCDRR. Application of a gender lens to CCDRR can achieve the desirable results in these contexts.

For example, when Cyclone Sidr hit Bangladesh in 2007, not only had the absolute numbers of people killed fallen to around 3,000 but the gender gap in mortality rates had also shrunk to 5:1. This was possible as between 1991 (when Cyclone Gorky killed thousands) and 2007, Bangladesh had made great strides in hazard monitoring, community preparedness and integrated response efforts as also focused on specifically addressing the cultural reasons why women were reluctant to use cyclone shelters, including paying particular attention to engaging women in these efforts as community mobilizers more likely to be heard by other women, and creating women-only spaces in cyclone shelters.

Applying the gender lens is not charity for women but, as the World Development Report states, is "smart economics" (World Bank 2012). If all countries were to match the progress toward gender parity of the country in their region with the most rapid improvement on gender inequality, as much as US$12 trillion could be added to annual global GDP growth in 2025. The World Development Report 2012 framework also encourages a more nuanced and forward-looking inclusive approach to gender and climate change.

In this context, it is also important to understand that gender inequalities and gender roles play a key role in determining the choice of adaptation strategies men and women have in terms of their different needs, strategies and opportunities for adaptation and recovery. Unless women are actively included in CCDRR planning and gender made an integral part of the action, there is bound to be a male bias in the programmes, which could lead to inefficient allocations of scarce resources. Actions that disregard linkages between gender and climate change and fail to identify women as a target group for specific measures may allocate resources inefficiently. For example, the assumption that men are farmers can lead to most agriculture technology trainings being focused on them. Women who actually perform more than half of the agriculture operations will not have access to that information, which can lead to technology mal-adaption (GGCA and UNDP 2016). Similarly, diverting water for cash crops based on men's preference will further increase food insecurity, and affect not only women but the society as a whole. This will also further increase women's reproductive work (time for fetching water), reducing her availability for productive activities, again hampering overall development and poverty eradication goals.

Thus, CCDRR action can reinforce or exacerbate inequalities if it misses the differential needs of the beneficiaries. However, it can also intentionally aim to overcome and transform them while building resilience of all people. Climate change adaptation and DRR policies, plans and projects that do not take women's issues and needs into account may unintentionally exacerbate existing gender inequities. On the other hand, climate action can also be an opportunity to make use of previously underused (and under-recognized) abilities, knowledge and talents. By examining the existing constraints in socio-cultural structures while designing climate change response, long standing gender inequalities can be identified and addressed.

For example:

- Low carbon energy policies, for example, can inflict additional costs on women while also reducing forest-based livelihood opportunities. However, if implemented with pro-poor and gender-responsive approach, they also have a high potential to provide livelihood and entrepreneur opportunities for women.
- Bio-fuel promotion and similar agriculture technology policies can increase or decrease food production by diversion of land from its current usage.
- Public transport policies can reduce women's time poverty or inflict additional costs on them.
- Prioritization of budget allocation within the health sector for communicable diseases as against reproductive and child health care.
- Forest conservation programmes that restrict indigenous women's access to non-timber forest products that they are dependent on to provide food security and supplementary income for their families.

Women and Mitigation Policies

Women and men have different influences on the carbon emission pathways. Women also have a major role to play in mitigation actions. Women being 'homemakers' can be seen as a choice, thereby minimizing their unpaid domestic and care work. They also influence major choices and consumption patterns like usage of cooking fuels, electricity and water, purchase of food products, packaging material, clothing, and others, which will need to be addressed for low-emission development pathways. Similarly, it is mostly women who decide which food products to buy and how to dispose of household waste. The waste management cycle can be made more efficient if men, women, and their children are all informed on how to separate their waste and dispose them at the household and community level.

The argument above makes a case for gender analysis that can be considered for policy context and situational analysis, which should be coupled with the national commitments on Human Rights and Gender Equality, and subsequently integrated into policies and action plans. However, while gender equality matters in its own right, it also matters for effective climate action (World Bank 2011).

Gender is an important dynamic in climate and disaster risk reduction efforts. First, the knowledge, skills and inputs of women are very important for development of context-appropriate adaptation and DRR policies and strategies. While women's vulnerability is almost always assumed, their unique capacities and contributions to adaptation and across the disaster management cycle

(mitigation, preparedness, response and recovery) have not been well (Bradshaw and Fordham 2013). In fact, women's individual and collective knowledge and experience in natural resource management and other societal activities at the household and community levels equip them with unique skills that benefit adaptation and disaster efforts across scales and sectors (O'Neil, et al., 2014).

Second, it is important that women are also as much informed, prepared and equipped as men, if the adaptation and DRR strategies have to be effectively implemented. Finally, integration of gender in CCDRR action leads in more efficient result. There is also strong and mounting evidence at the country level that improving gender equality contributes to policy choices that lead to better environmental governance, whether through increased representation and voice of women within their communities, in society at large, and at the political level, or through increased labour force participation (World Bank 2011).

DISCUSSION POINT

Ask the participants if they can identify examples to support any of the above aspects.

Facilitator Clues

> Climate change adaptation requires a re-evaluation of regional agricultural practices. Women, having more than 50 pe cent role in agriculture production, hold vast amount of important knowledge that will inform these needed re-evaluations of agricultural practices. Furthermore, representing 43 per cent of the world's agricultural labour force, women will also have a major part to implement the solutions.

> Women have an important role in disaster response by virtue of their household responsibilities. They foresee risks and take cautionary measures in advance by making portable stoves, stockpiling firewood, storing dry food, conserving water, purchasing essential goods, saving money and building social networks within their communities.

> In La Masica (Honduras), there were no reported fatalities after Hurricane Mitch because a disaster agency had provided gender-sensitive training and involved women and men equally in hazard management activities, and women took over control of the early warning system. This led to a quick evacuation when the hurricane struck (Newman and Stephenson 2010).

The Asian Development Bank, in its training manual on gender and climate change (ADB 2015), sums up the importance of gender-inclusive climate action on four parameters making it more:

- **Effective** because it identifies all relevant target groups and stakeholders.
- **Efficient** because it achieves greater outputs with the allocated resources.
- **Equitable** because it identifies and reduces inequalities.
- **Sustainable** because it leads to long-term social and economic development.

EXISTING STRATEGIES, GAPS AND CHALLENGES TO GENDER MAINSTREAMING

Recognizing the gender dimensions of CCDR, women's rights agencies like UN Women, the Global Gender and Climate Alliance (GGCA), WEDO, and the like, along with international agencies like UNDP, World Bank, Asian Development Bank, have been making efforts for engendering of climate and disaster action.

This has led the global climate change policy architecture, the UNFCCC, to include gender as an important objective within its agenda as part of various Conference of Parties (COP), and specifically adopting the Lima Work Programme on gender in COP 20 (2014) and the enhanced Gender Action Plan in COP 25 (2019). The Sendai Framework for Disaster Risk Reduction also has a strong gender commitment. Various national governments have also been taking various steps towards engendering domestic CCDRR policies and plans. (These have been discussed in further detail in Module 2 Session A.)

However, a lot still remains to be done. Some of the key gender mainstreaming strategies currently in practice and the gaps and challenges in execution are given below.

1. **Policy Measures:** There is a growing awareness among national governments and development agencies on the need for gender mainstreaming in climate change and DRR policies and plans. UN Women (2016) reports that there is substantive mention of the word 'gender' in CCDRR laws, policies and strategies. However, the same report also points that 'gender' is largely understood as women and presented as victims of climate change in need of protection measures. Further, despite all this progress, many national governments often do not have gender as a key priority in climate action having to manage multiple cross-cutting issues. Often faced with making difficult choices on allocating scarce resources, these policies remain on paper and are not backed with programmes and budgetary allocations.

Gender Mainstreaming Startegy: **CSOs can take a strong lead for promoting gender-inclusive and transformative policy dialogues using the CEDAW commitment in national climate change planning processes. CSOs can also advocate for GRB or Gender-Responsive Budgeting to be adopted in the CCDRR sectors for translation of these policy commitments into budgetary allocation.**

2. **Institutional Mechanisms:** There is a lack of coherence between their national strategies, national CCDDR planning, and international agreements on gender like CEDAW that they have ratified (Otzelberger 2011). One of the major constraints towards this is that national strategies are led by planning and finance ministries, CCDRR plans are with technical ministries like agriculture, water, forest and environment, while gender policies are by social and women's ministries. In most countries, planning, finance and technical ministries have little or no gender understanding; while the social and women's ministries with gender mandates lack knowledge on CCDRR. Unless there are institutional mechanisms in place to bring these ministries together throughout CCDRR policy formulation and implementation, the gender policy prescriptions will not translate into practice. An even more vital gap in institutional mechanisms is the lack of spaces for civil society organizations (CSOs), especially women's groups, to participate in national planning and development processes.

Gender Mainstreaming Startegy: **CSOs can support technical ministries in undertaking sectoral gender analysis for CCDRR to enable evidence-based planning. CSOs can also partner with the technical Ministries for capacity building on gender mainstreaming.**

3. **Gender Analysis and Knowledge Management:** A gender-sensitive response requires a much deeper understanding of existing inequalities between women and men, and a contextual analysis of the ways in which climate change can exacerbate these inequalities. For example, while women may die more during floods and storms in Bangladesh due to cultural reasons, men may die more in Vietnam due to occupational reasons. Getting this level of gender analysis requires a high level of gender-disaggregated data collection as well as community participation in risk and vulnerability assessments. Unfortunately, there is lack of both at the community, national and regional

levels, which limits evidence-based gender analysis and planning (UN Women 2016).

The good news is that there is a body of work on gender and climate change that is constantly expanding on the 'directly' climate-sensitive sectors like food security and agriculture, forestry, water, disasters, as well as on social sectors such as health and education. However, the areas where gender dimensions appear less obvious – such as transport and infrastructure, energy access, housing, and formal or informal employment – are far less well explored. Even lesser research is done on emerging complexities brought about by the uncertainties of climate change to gender equality, recasting of gender roles, sexual and gender-based violence, child marriage, among others. It is not surprising thus that UN Women (2016) reports that knowledge generation and management remain key barriers to the meaningful inclusion of gender equality in CCDRR.

Gender Mainstreaming Startegy: **A key activity in this regard would be undertaking research especially in sectors where the gender impacts are not directly visible – transport, informal employment, migration, among others. CSOs can publish statistics and knowledge products highlighting gender dimensions within the sector, for raising awareness on need for gender integration and to be a handy document which can be directly used by the Technical Ministries.**

4. *Gender-responsive governance with women's participation and leadership:* The most important element in gender-responsive climate action is the participation and leadership role by the communities themselves, especially women and girls. There is a need for governments to adopt participative processes, especially at local level, so that CCDRR strategies and interventions can truly identify and meet the needs of those they aim to assist. In this way, processes can be forged that respond to local realities while feeding into a broader vision of climate change deceleration. Gender sensitivity and women's participation is also required in all these participatory processes, consultation and decision-making processes related to climate change adaptation. This needs to move beyond just creating spaces for women to be present but to recognize their capacities and the knowledge that they can contribute to such processes. Women specifically need to be involved in identifying and monitoring climate risks, including developing risk and

hazard maps and data, identifying gender-specific aspects of risk and vulnerability and crafting the responses to risk. Women must be fully involved in community level climate action groups/committees, disaster response drills and related activities.

Gender Mainstreaming Startegy: **CSOs can strengthen local knowledge base and enable direct participation to capture the ideas and knowledge of men, women and those with other gender identities. Formation and strengthening of women local groups and federations on CCDRR concerns both in rural and urban areas could be vital CSO activities.**

Additionally, it is important to empower communities, especially women, to voice their issues and concerns in national CCDRR policies and plans. An easy entry point for this could be increasing the engagement and political influence of CSOs advancing women's rights in national CCDRR platforms and policy making processes. While such CSOs do have a say at regional level, their participation in national decision-making is limited. There is a lack of any institutional mechanisms which could enable effective participation of these CSOs or even the women themselves in the decision-making processes.

Furthermore, there is also a severe under-representation of women in political participation in Asia and around the world. Women still hold only 25 per cent of the global seats of national parliaments (WEF 2020). Promoting gender-responsive governance, and having more women-leaders in electoral and executive positions in government, are necessary if women's voices are to be heard and they are to be included in the planning and implementation of CCDRR initiatives and strategies. This can also be done at the local level to begin with. For example, in India, there is a constitutional provision for ensuring that at least one-third of the elected representatives and leaders in rural and urban local bodies are women.

Gender Mainstreaming Startegy: **CSOs can also support women-leaders' participation, especially of those from poor and marginalized sections, in gender-responsive international and national climate negotiations. Identification and training of women-leaders from vulnerable communities to present their issues and concerns directly should be an important CSO activity.**

DISCUSSION POINT

Ask the participants what they think would be the key considerations that need to be kept in mind when undertaking gender analysis or enabling women leadership and participation in climate decision-making.

Facilitator Clues

> It is very important to ensure that gender concerns are not limited to men and women, and that all gender identities are analyzed in the local context while undertaking gender analysis, collecting gender data or enabling gender representation in decision-making. For example, while analyzing sexual violence in the aftermath of a disaster, it should be analyzed across all genders and not limited to women and girls. Gender needs assessment should include assessment of needs of LGBTIQ persons for privacy and separate hygiene facilities. Similarly, the cultural pressures on men to earn or take risk which can increase their stress should also be understood in order to design interventions like alcohol de-addiction counselling after disasters.

> Similarly, other intersectionalities related to age, ethnicity, caste, class or social identities also need to be considered. For example, data on mortality during disasters must include age-specific information to understand if there are any additional concerns of the girl-child, adolescent girls or elderly women. When enabling representation of women in decision-making platforms it should not be limited to one group of educated women but include indigenous women, (dis)abled women, women from different occupational categories, rural and urban background.

5. ***Gender mainstreaming and gender transformative approaches:*** Mainstreaming gender into policy processes, programmes and projects can help ensure that such processes equitably benefit everyone as envisaged in the human rights-based approach and leave no one behind principles so critical to achieving the SDGs. However, while these measures can advance social policy (including gender equality), they may not always enable a transformative structural change in gender relations. For this, it is important that while gender is integrated in plans and response measures, the focus is not only on addressing vulnerability but exploiting potential opportunities to further advance the goals of gender equality. At the same time, this also calls for the need to move beyond focus only on women but on men and other genders as well while planning and implementing CCDRR programmes.

Gender Mainstreaming Startegy: **Advocating for gender mainstreaming in national policies and programmes, CSOs can concentrate on designing and piloting gender transformative projects. Implemented in project mode with strong evaluation components inbuilt, these will have the potential to be adopted by the government for scaling up.**

6. ***Inclusion in plans and response measures:*** There is an increased recognition that CCDRR plans and response measures should take into account gender-differentiated risks, vulnerabilities and capacities. Unfortunately, in practice, the actual plans and programmes are still pre-dominated by technology and economic solutions, which are considered gender-neutral – even though they are often based on the 'male norm.' For example, when early warnings are provided via mobile phones, it benefits men more than women, not only due to differences in mobile technology access but also the cultural limitations of taking snap decisions. There is still a major need to focus on all response measures to be evaluated on gender outreach and to focus on inclusion of these in CCDRR plans and response measures. Policies and measures that focus solely on gender-specific vulnerability, however, run the risk of victimizing women. Thus, it is important that men, women and people from other gender identities must all be involved directly in planning and implementation processes. Community-based women-led CCDRR programmes should be the key gender mainstreaming approach. Unfortunately, not only are these not yet fully recognized in national policies and programmes but

there is also very limited donor funding available for implementing and scaling up such programmes, which are so important for achieving gender mainstreaming.

Gender Mainstreaming Startegy: **CSOs should focus on developing and implementing community-based CCDRR projects which are either women-led, and/or focus on specific vulnerable populations – elderly, (dis)abled, LGBTIQ, indigenous communities, ethnic minorities, migrants/refugees, among others.**

7. ***Addressing Vulnerability versus Exploiting Opportunities:*** Current gender mainstreaming approaches also have a strong focus on women's specific vulnerabilities and favoured intervention that put women at the receiving end of adaptation responses. They have, for a large part, not addressed the gender inequalities underlying these differences in vulnerability, and have lacked consideration of the roles, preferences, needs, knowledge and capacities of men and women, boys and girls at all levels, particularly at the national and regional levels. It is important for countries, CSOs and communities to take a closer look at their structural dimensions of gender inequalities and use climate adaptation programmes as a means to address these. Such 'gender opportunities' refer to the potential of a response to climate change that takes into account the roles, views, ideas, needs and capabilities of men and women to i) promote gender equality; ii) reduce poverty; and iii) contribute to successful climate change adaptation and mitigation strategies (Otzelberger 2011). A critical strategy towards this is to promote diverse livelihoods options for women in order to increase their resilience to hazards and to ensure that risks faced by women are not exacerbated by inappropriate development policies and practices (World Bank 2011).

Gender Mainstreaming Startegy: **CSOs can improve the understanding of gendered impacts of climate change within the national and local context and appropriate response strategies through training programmes and workshops on gender and CCDRR. Long-term engagement with existing government training institutes focusing on CCDRR would be even more effective.**

8. ***Availability of Climate Finance:*** Another critical element of gender-responsive climate action is the provision of financial resources. Some strides have been made in creating climate finance mechanisms that are gender-responsive, especially with gender being a component in donor driven investments. However, due to existing economic structures, financial resources to aid in the mitigation and adaptation of climate change are not as likely available to women as to men (World Bank 2011). Budget allocation for CCDRR implementation across scales and sectors should be prioritized for action that addresses gender needs. Furthermore, ensuring participation of women and other genders in decision-making on all aspects of climate-related financing so vital to the efficacy and efficiency, as well as equity, of resources, is still a long way ahead.

9. ***Addressing Sex, Age, Disability Disaggregated Data (SADDD):*** A cross-cutting area of concern across all the above is the limited availability of SADDD across all sectors related to climate change and especially during disasters. The risk from disasters is often exacerbated due to differences in male and female vulnerability, sexual orientation, age, (dis)ability, race, ethnicity, and others (GFDRR n.d.). Unfortunately, most disaster assessments do not focus on undertaking disaggregated assessments, with more than 90 per cent of the countries reporting to the Hyogo Framework Agreement not collecting SADDD (UNDRR 2015). Unless data are available to assess the differential vulnerabilities across these social dimensions, enabling gender and intersectionality responsive policies and programmes would always remain a challenge.

Gender Mainstreaming Startegy: **Creating gender and climate change tools covering entire programme cycle with specific focus on monitoring and reporting.**

10. **Focus on men and other gender identities:** Finally, it is important to note that a gendered approach to climate change should not simply be about women. Men and boys and those with other gender identities are also vulnerable to the impacts of climate change but often in different ways, and these need to be identified and communicated. Unfortunately, as reported in UN Women (2016), current climate policies still tend to equate 'gender' with 'women.'

CAPACITIES FOR GENDER MAINSTREAMING

Efforts of various agencies over the years have seen an increased level of awareness, policy commitments and implementation of pilot projects for addressing gender concerns. There have even been some very innovative women-led programmes being undertaken with support from multi-lateral agencies and donors. However, most of these, while having plans for scale, are not scaled up mainly due to lack of capacities at the national level. As mentioned earlier, most technical ministries have little or no gender understanding, and therefore lack the capacities for systematic integration of gender in CCDRR work. Thus, even when a gender mandate exists, it is often not connected to actual practice. There is often a gender disconnect in project and programme cycles – between relatively strong gender analysis in the conceptual basis and planning of projects on the one hand, and the much weaker integration of gender perspectives into implementation, monitoring and evaluation of CCDRR initiatives on the other. One of the biggest challenges for gender mainstreaming is building capacities of technical ministries for gender integration and mainstreaming in policies and programmes related to CCDRR.

WOMEN AS EQUAL PARTNERS AND ACTORS IN CLIMATE ACTION

Women can be powerful agents of change for climate action. Unfortunately, this potential remains untapped due to lack of gender integration in climate change action planning and more importantly due to lack of spaces for women to participate in planning and decision-making or take lead in implementation of climate actions. Women can be important agents of change; all climate actions, especially at national and local levels, involve women as equal partners and actors. They just need to be empowered to benefit from the resilience efforts.

There are countless examples where empowering women to exercise leadership within their communities contributes to climate resilience. It is important to know and learn from these stories of women change agents. Women can play a critical role in disaster preparedness. For example, when the water level rises, some women move to the nearest high locations and make temporary shelters to ensure their safety and that of their families. Others find refuge in the houses of relatives or friends on higher ground. Those who have the necessary resources increase the plinth level of their houses or their homestead. To protect their assets

and livelihoods, women try to store seeds in high places before floods come, which allows them to replant quickly after the floods have receded. Livestock is sometimes taken to higher ground, but safe places for cattle are often hard to find. Women also adapt their agricultural patterns, including intensifying efforts in homestead production and seeking non-farm production options. Some female farmers have switched to cultivating crops that can be harvested before the flood season, or to varieties of rice that grow high enough to remain above water when the floods arrive.

Most discussions on gender in the context of climate change has focused on exploring and highlighting the particular vulnerabilities of women to climate change impacts due to their gender roles and responsibilities. However, because of these very roles and their ensuing dependence on natural resources, women often have a unique understanding of their natural environment. Studies reveal that women express greater concern about climatic-induced calamities than men do about environmental problems. Therefore, women can play a very constructive role in environmental conservation, something that was often overlooked. In many South and South-East Asian countries – India, Nepal, Philippines – indigenous women play significant roles in sustaining and managing forests, which are critical for climate change mitigation, adaptation and disaster mitigation.

Women are also at the forefront of fighting climate change and helping their communities adapt to environmental changes. There is also enough evidence showing increase in community resilience where women are empowered to create institutional platforms that expand their own, their families' and their communities' endowments, agency and opportunities. Such empowerment opportunities can serve as a powerful springboard for building climate resilience.

In Vietnam, women – through the Vietnam Women's Union – plan and organize information sessions for other women at the commune level. They perform plays on DRR and disease prevention, and organize awareness-raising activities in their community. Women also play a critical role in fortifying their homes against storms. In Cambodia, women reported that in time of droughts, they borrow money from women's savings groups, which they give to their sons so that they can find work in the capital, Phnom Penh, or on farm plantations. However, what is also important is to explore how these collectives can become platforms for livelihood promotion of women.

EXERCISES

EXERCISE 1: HUMAN RIGHTS WEB

The key objective of this exercise is to sensitize the participants on the significance of universalization and indivisibility of human rights.

Materials Required:

Kraft paper, marker pens, spray gum, cards, ball of string, chart paper and felt pen. Simple whiteboard and markers can also be used if needed.

Process:

Step 1: Ask everyone to stand in a circle. You can also use the standard round conference room with all participants sitting across the table. Tell them that they have to introduce themselves and share two most important things about themselves:

- One thing that they need in life to be fulfilled or empowered.
- Another thing that if lost or taken away would make them feel disempowered/helpless.

These can be basic needs like food, water, shelter, health, education, employment; and/or strategic needs like family, societal acceptance, mobility, expression, and the like.

Then holding the ball of string, introduce yourself in the same way and throw the ball of string to someone else, while keeping hold of the end of the string. Ask that person to introduce himself/herself and pass the string ball to someone else while holding the edge of the string in their hands. The process is repeated with all participants and in the end, there has to be a big web of the string being held by all the participants.

Step 2: Write down all the points emerging on the cards and stick them on the kraft paper or write them on the whiteboard in a circle (see Figure 1-8). Convert the points to more meaningful and universally applicable examples as below:

- Need to have education
- Need to have water facility
- Need to have good health
- Need to have friends/family
- Need for better livelihood
- Need for basic amenities
- Need market space
- Need own house

- Need for security
- Need to have freedom to move where I want
- Need to have freedom to say what I want
- Need to be involved in decision-making that affects me
- Need to have leisure time, to relax, to enjoy
- Need to have money/assets of my own

Step 3: After all participants are done, ask them if the web that they have made among themselves has any link to the points. Ask them: "Are any of the groups related to each other? For example, does one have an impact on another, or vice versa?" If yes, what happens if:

- Someone does not hold their string, then the whole web is weakened. Participation of all is important.
- One person pulls his/her end of the string, it impacts on the whole web. No one should dominate.
- Two people are pulling on the string between them, it upsets all other participants. There should be no groupism.

Ask them to think of the web as a society and explain how these web rules are similar to what happens in the society. Now ask the participants to leave the web and come to the whiteboard.

Step 4: Ask them if any of the two points on the board are complementary requirements, i.e. we cannot have one without the other. For example, it is difficult to have education without mobility; and it is difficult to have mobility without societal support. Make the connections between the points on the whiteboard. Now ask them if there are any other such points which are interconnected. They can draw a line/arrow between all such points on the board until a web emerges. An example of how the final diagram should look as shown in Figure 1-8.

Step 5: Ask them to relate this web with the societal/web rules and think how these benefits are distributed among the society. Ask questions like:

- Is there any link between these points/needs and human rights recognized internationally?
- What happens when one person does not get his/her one need/right satisfied?
- What happens when one person hoards all benefits?
- Is there any link between Societal/Web rules and Approach to Human Development?

FIGURE 1-8: HUMAN RIGHTS WEB
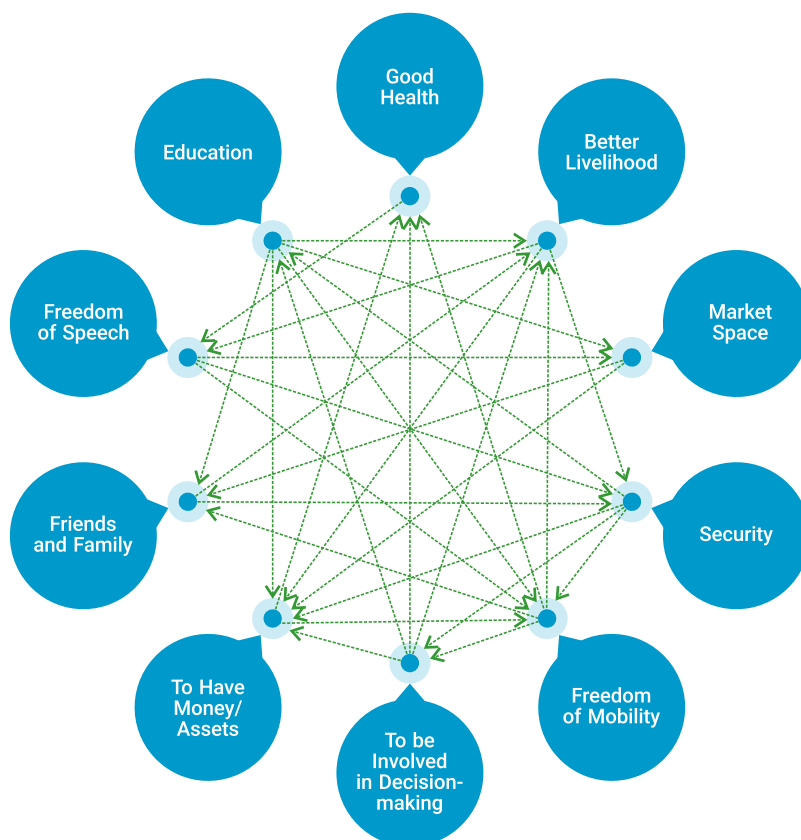
Learning Output: Conclude the discussion by saying that this is why these issues have been guaranteed to us as Human Rights and that "Every human being, irrespective of their class, caste, sex, religion or place of residence, is entitled to these human rights without discrimination. This is the concept of universalization of human rights. And the interdependence of the issues is why human rights are considered interrelated and, thus, indivisible."

EXERCISE 2: POWER WALK

The key objective of this exercise is to sensitize the participants on understanding the role of social constructs and gender in the context of LNOB.

Materials Required:

Large empty space, preferably open ground enough for participants to be able to stand in a straight line and walk 12 to 15 steps forward. Role play chits and water bottles.

TRAINER'S TIP

If space is not available, you can use chessboard with different figures provided to the volunteers to move. Begin from one end of the board to reach the other side.

Sample Power Walk Roles (adjust to country context)**:**
> 45-year-old female parliamentarian from a major city
> 35-year-old physically-challenged male factory worker
> 35-year-old male farmer with large land parcels and mechanized farming
> 45-year-old female farmer with very small parcel of land and three kids
> 30-year-old lesbian professional working in a multi-national corporation (MNC)
> 30-year-old female factory worker with two kids living in a slum
> 50-year-old high ranking male government official working in finance ministry
> 15-year-old female who takes care of her ailing mother and siblings
> 25-year-old male taxi driver who migrated from a neighbouring country
> 60-year-old male village chieftain with good political connections

Process:

Step 1: Bring all participants to the open space and ask for 10 volunteers. Ask each of the volunteers to pick a (role play) chit from the bowl. Tell them to keep the information on their assigned role a secret for now.

Step 2: Debrief the volunteers away from the other participants. Ask them to quietly imagine themselves in the assigned role, thinking about what kind of home and place they would have been living in, what type of facilities they have at home, what would be their education qualifications, occupations, monthly incomes, friends and social status.

Step 3: Divide the other participants in two groups and ask them to stand on different sides making space for the volunteers to walk in a straight line between them. Tell them they have to observe the behaviour of the volunteers and try to guess what would be the probable social and gender profile of the person.

Step 4: Ask the volunteers to stand in a straight line between the two groups (they all begin as equals). Keep a few (two to three) water bottles on the other side. There should be a distance of around 12 to 15 steps between the volunteers and the bottles.

Step 5: Tell everyone that you will read a statement and if the volunteers think that the statement applies to them positively, they take a step forward, otherwise they just remain where they are. Tell them there are no right or wrong answers and to make a choice based on what they think applies best for the role assigned to them in their country.

Step 6: From the above list, select around eight statements which are most suited to the audience or country context. Next, read the statements one by one. Go the next statement only after all the participants have made their choice. After all the statements have been read, ask the volunteers to remain wherever they are.

Step 7: Ask the audience who all do they think will be able to actually reach out and take the water bottles. Once they have identified two to four people, ask them to guess the profile of the person, based on their response to the statements.

Step 8: Once the audience has finished guessing on them, ask them to identify the persons and profiles of the last three people that they think have the least chances of getting the bottle. Ask them to reflect on the reasons for their guesses. Now ask all volunteers to share what is their role and why they are behind. Repeat with other participants, reflecting on the social roles and what the causes are which result in people moving ahead or staying behind.

EXAMPLE POWER WALK STATEMENTS
(Adjust to Country Context)

I eat two meals every day irrespective of season.

I have all basic facilities – water, toilets, electricity, etc. in my home.

I have all documents required for government social security benefits.

I am not in danger of being sexually harassed or abused.

I have control over my household finances.

I get minimum wages/income as per the law.

I don't have to work more than an hour at home daily.

I have good access to health services.

I can go wherever and whenever I want.

I am not in danger of being harassed by the police.

I can meet any government official as required.

I can influence decisions in my community/neighbourhood.

I can marry as and when I want.

I have access to finance and loans.

I have finished college education.

I can go to school/afford my children's school education.

I am not likely to face domestic violence.

I have time to relax and enjoy my hobbies.

Step 9: End by asking all participants to reflect on the following questions:
- Do they think that the bottles being provided were equally accessible to everyone and that the facilitator was ensuring the HRBA principle of non-discrimination?
- Are the people who are at the back actually responsible for their position? If not, what is?
- What can be done to address this situation and bring in non-discrimination and equality?

Learning Output: Conclude the discussion by saying that "Providing open access to resources and opportunities (or programme benefits) will not ensure that everyone can reach out to them. It is important to identify who are those most left behind and why. Then plan for ensuring that all of them have an equal access and that no one is left behind."

EXERCISE 3: GENDER CONCEPT CHITS

The key objective of this exercise is to bring a common understanding among the participants on various gender concepts.

Materials Required:

Chits from Handout 1 (Prepare one set for each group using larger fonts on A2 size paper. Include explanations, also in the chits.), kraft paper, and gum.

Process:

Step 1: Divide the participants into pairs of two (or groups of three) and give them a chit on any one of the sets given in Handout 1. Make sure all group have one set; if there are more people, get them to join existing groups.

Step 2: Ask the participants to discuss the concept in the chits between themselves. Give them 10 minutes to discuss and come back with a simpler explanation of the term, practical examples, as well as any distinct/complementary features that they know.

Step 3: Ask them to share their responses in the plenary and complement the responses by adding information from Handout 1.

Learning Output: As each of the sets is discussed, stick the chits on a kraft paper (pasted on a wall) for the terms to be visibly placed throughout the day of the training. Keep reflecting on them as and when required during the other sessions.

EXERCISE 4: HISTOGRAM ON CLIMATE CHANGE

The key objective of this exercise is to introduce the subject of climate change and get the participants to realize the process of climate change.

TRAINER'S TIP

For participants from different climate zones, you can also do the exercise in smaller groups by identifying a facilitator for each group and briefing him/her on the process.

Materials Required:

Kraft Paper with picture cards on different climate-related observed changes and impacts pasted on them as shown in Figure 1-9, and a pen.

Process:

Step 1: Begin with some discussion on the day's weather, if it matches the season or if it is different. Ask the participants if they have been observing such variations in the climate for quite some time now.

Step 2: After a few instances have been cited, spread the kraft paper on a wall and tell them that you would like to record these changes more systematically (you can also use whiteboard with written headings if the group is more vocal).

STRESS	BEFORE 10 YEARS	PRESENT STATUS
FIGURE 1-9: SAMPLE HISTOGRAM CHART		

Photo credit (top to bottom): VladisChern; egd; think4photop; Zenobillis; and Witsawat.S./Shutterstock.

Step 3: Point out to the picture of the first climate event – temperature – and ask them what changes they have observed in the temperatures in their area in the last ten years (if the group has a combination of young and old, it will be better to ask for changes in the last 20-30 years).

Note down the changes that they mention. Guide the participants to provide answers in indicators as used in Handout 3, wherever possible. The answers should come out as shown in Figure 1-10 below.

Step 4: Similarly, move on to the other heads. Sometimes participants may cross over to other issues during the discussion. It is okay, just make sure that you have recorded it in the correct box and are not repeating the point.

Step 5: Once the chart is completed, ask the participants to collectively reflect on the answers. Ask questions like:
- Do you really observe a trend in the weather changes over the years?
- Is it just weather or is it affecting your lives and livelihoods?
- Why do you think this is happening?

Learning Output: Conclude the discussion by saying that that is what is understood as climate change – "the changes in the specific seasonal weather conditions in a region. While natural causes also contribute to this, human activity is mainly responsible for climate change."

FIGURE 1-10: EXAMPLE OF ANSWERS

	BEFORE 10 YEARS	PRESENT STATUS
	Previously never went beyond 40°C	Currently it goes beyond 45°C in summers
	Peak summer was only 3 months	Peak summer months has increased to 5
	It used to be cooler in the evening	Temperatures do not go down until late night
	Christmas (or any local festival) would be really cold	It is not so cold during those days

Photo credit: VladisChern/Shutterstock.

EXERCISE 5: CCDRR AND RESILIENCE CONCEPTS

The key objective of this exercise is to clarify some of the core concepts related to CCDRR and Resilience.

Materials Required:
Balloon, pins, rubber-ball, slinky (bouncing spring coil), glass of water, piece of paper, piece of hardboard, piece of plastic.

Process:
Step 1: Divide the participants into pairs of two or groups of three people and give them copies of one concept from Handout 4. Ask them to read the concept definition and identify an example for explaining the concept. Give them 10 minutes to discuss.

Step 2: Ask them to come to the plenary and share the examples. Validate or correct the examples as applicable.

Step 3: Tell them that sometimes there is no specific terms for exposure, vulnerability, resilience, and the like in most Asian languages. It is sometimes difficult to communicate the same at community level. In order to explain this, some examples can be used.

Step 4: Take a glass of water and a piece of paper. Now ask the participants what will happen if you pour this water on anything. The general reaction will be that the thing gets wet. Now ask them, what will happen if you pour the water on the ground. How will it affect the piece of paper? It will not. However, if the paper is placed in the section where the water is pouring then it will get wet and soggy. Explain that this is what "Exposure" is all about – the state of being in a place where the chances of getting in contact with something uncovered is high. Now ask them what will happen if you put the plastic on the paper and then pour the water. The result will be that the paper will not get wet or soggy. Explain that this is "Susceptibility" – the likelihood of being influenced or harmed by a particular thing. So, in the above example, the uncovered paper was more susceptible to being damaged.

Step 5: Show the piece of hardboard and ask, if you pour water in both the uncovered paper and hardboard what will happen. The reaction will be both will get wet; but how much the cardboard will get soggy will depend on the amount of water that is poured, very little water will not crumple the cardboard as it could the paper. Explain that this is "Vulnerability" – the level of susceptibility to influence. Vulnerability is also often based on the amount of exposure.

Step 6: Take the pin and pushball/balloon. Ask them what will happen when you prick both of the pushball and balloon with the pin. The pushball absorbs the shock of the pin while the balloon bursts upon pricking. Explain that if pricking was considered a "disaster," then "resilience" is our capacities to absorb the shock. So, while the balloon could not survive the disaster, the pushball could absorb the shock and, thus, is more resilient. Add that this is what we aim to achieve through resilience building – to increase the ability to bounce back. Use the slinky (bouncing spring coil) to explain this concept of "bouncing back," or returning back to original position.

Learning Output: End the session with the example of sickness. Explain how when two people go to the market and it suddenly pours, then both are exposed to the rainfall. However, if one was to open an umbrella, then his/her likelihood of getting drenched would decrease and so would the susceptibility to being ill. Moreover, even if both got wet, then the age, general health and fitness, and other factors would be various parameters which would define how vulnerable the person is to getting ill. These same parameters along with (resilience) capacities like access to medical facilities, good nutrition and rest would determine how fast the person is able to bounce back to good health.

> **TRAINER'S TIP**
>
> If laptops are available, you can also do this exercise on the system using soft copies of the pictures to save paper.

EXERCISE 6: MATCHING CARDS FOR GENDER ROLES AND DIFFERENTIATED IMPACTS OF CCDRR

The key objective of this exercise is to sensitize the participants to existing gender roles and the differential impacts of CCDRR.

Materials Required:
Cards with various gender roles written (refer to Handout 5 for the various roles. Do not write the gender on the cards.), large brown kraft paper, gum, paper tape.

Process:
Step 1: Put up the kraft paper on a wall using paper tape. Divide it into columns and multiple rows as shown in Figure 1-11 below:

FIGURE 1-11: TEMPLATE FOR EXERCISE 6			
SECTOR	GENDER ROLES	CLIMATE CHANGE IMPACTD	GENDERED VULNERABILITY
WATER	Men		
	Women		
FOOD	Men		
	Women		
FODDER	Men		
	Women		
ENERGY	Men		
	Women		

Step 2: Distribute the gender role cards between the participants. Ask them to place the cards in the men's or women's column based on the gender which is generally associated with that role in their country. Tell them that they have to discuss as a group and then paste the card in the row related to the specific sector. Allow 15 minutes to place all the cards.

Learning Output: End by reinforcing the point that existing gender roles in society will result in men and women being differently impacted by climate change and disasters.

Step 3: Ask them, how they think climate change will impact the particular sector. For example, water or food security or energy. Then ask how this impact will affect men and how will it affect women. Write down the answers in small points in the respective cells. Do the same for a couple of sectors and then give them a copy of Handout 5 for further reading. Tell them that they will discuss this in more detail in the next session.

EXERCISE 7: MOSER FRAMEWORK FOR GENDERED CLIMATE RISK MAPPING

The key objective of the exercise is to get a basic understanding of the interlinkages between climate change and gender roles assigned to a woman.

Materials Required: Chart paper and pens.

Process:

Step 1: Divide the participants into four groups. Try to maintain homogeneity within the groups as much as possible. Now ask each group to think about one special occupational category of a middle-aged woman, whose lifestyle is known to most of the group members. They can choose from categories – farmer, fisherfolk, pastoralist, street vendor, home-based worker, garment worker. Ask them to narrow down on the geographical location of this woman.

Step 2: Ask each group to list out all the daily activities undertaken by this woman during a 24-hour period. Tell them to list all activities across all seasons which fall into the purview of this woman's work.

Step 3: Ask the group to list down the activities on a chart in the sample format in Figure 1-12 below.

Explain the difference between the different activities – production or income-generation are activities which finally earn them money like farming, goat rearing, dairy, fish marketing, tailoring, fodder management, forest produce collection, bee keeping, and the like. Ask them to include activities for which the women do not get directly paid but these contribute to their overall household income. Domestic activities include all those that are required to run their household including cooking, cleaning, washing, fetching water, child-care, elderly-care, nursing the sick, and the like. Social activities include participation in common festivities, weddings, funerals, public meetings, and the like.

Ask them to seek clarification if necessary. For example, participants often think of women's activities such as cowshed cleaning, or milking of animals as domestic works, whereas they should really be seen as productive activities. Tell them to keep one column between each group blank as it would be used in the later part of the exercise.

FIGURE 1-12: MOSER FRAMEWORK TEMPLATE FOR EXERCISE 7						
SECTOR	PRODUCTION/ INCOME-RELATED ACTIVITIES		REPRODUCTION/ DOMESTIC WORKS		LEISURE/ SOCIAL ROLES	
4 AM - 8 AM						
8 AM - 12 NN						
12 NN - 4 PM						
4 PM - 8 PM						
8 PM - 12 MN						

Step 4: Ask the participants to analyze the chart that emerged and list out the problems. For example:
- Women's productive work is largely unrecognized and unpaid.
- Overall, women do much more work and have little time for leisure.
- Women play little or no role in community management activity, and this is the area where decisions are made and these affect their lives.

Step 5: Ask them to list the various climate risks in their region. This should also serve as a recap from the previous session on climate risks. Once they have identified all risks, ask them to mark which of the risks would affect women's various roles and what the areas are that they see in their social role where they can discuss the disaster risk reduction, climate change adaptation and resilience activities. They can also identify multiple climate risks for the same work. This can be built into the earlier chart as shown in the example next (Figure 1-13):

SECTOR	PRODUCTION/ INCOME-RELATED ACTIVITIES	CLIMATE RISKS IMPACTING THE WORK	REPRODUCTION/ DOMESTIC WORKS	CLIMATE RISKS IMPACTING THE WORK	LEISURE/ SOCIAL ROLES	CLIMATE RISKS IMPACTING THE WORK
FIGURE 1-13: MOSER FRAMEWORK UPDATED WITH CLIMATE RISKS						
4 AM - 8 AM			Ex.: Fetchingwater	Water Stress		
8 AM - 12 NN	Ex.: Feeding cattle	Heat Water Stress			Ex.: Caring for the sick	Health risk
12 NN - 4 PM	Ex.: Rice farming	Heat Water Stress			Ex.: Participation in community activity	DRR planning
4 PM - 8 PM	Ex.: Tailoring	Heat Flooding	Ex.: Cooking	Heat Energy Stress	Ex.: Participation in women's meeting	Climate change planning
8 PM - 12 MN					Ex.: Sleeping	Heat Energy Stress

Step 6: Ask them to discuss on the following points within their group and to present the same to the plenary in the suggested format (Figure 1-14):

FIGURE 1-14: GROUP DISCUSSION TEMPLATE

Which **productive activities** of women are most affected by climate change?

Which **domestic activities** of women are most affected by climate change?

How are they affected?

Do you think women are more affected by climate change? Why?

Learning Output: Conclude on the point that "climate change will disproportionately affect women especially those from the poorer and more marginalized communities. There is the need to engage women from such communities in the process of DRR and climate change adaptation/resilience processes, so that the need assessments are more realistic and the local plans are more gender inclusive." Also tell them that Caroline Moser devised this framework for gender analysis in 1979 and we are using a simplified, adapted version for our reference.

TRAINER'S TIP

Instead of asking them to read the cases, you can also show them these short films and reflect. Divide them into two groups instead of three and share the links for these short videos to be seen on mobile phones.
a. She is the Change at *https://youtu.be/1FNOk84DUB8* (Nepal Forestry Case).
b. SWaCH Pune Seva Sahakari Sanstha at *https://www.youtube.com/watch?v=ybhX9e0K8KY* (India Waste Management Case).

EXERCISE 8: CASE STUDY REVIEW FOR WOMEN AS AGENTS OF CHANGE

The key objective of this exercise is to highlight the positive role that women can play in building resilience to climate change and disasters.

Materials Required: Case paper from Handout 6.

Process:
Step 1: Divide the participants into three groups and give them any one case from Handout 6 to read and discuss. Give them 15 minutes for this.

Step 2: Ask them to discuss specifically on the following questions:
- How do they see the role of women in these projects?
- How are these different from existing gender roles?
- How do these projects address gendered vulnerabilities?
- Are there any HRBA/LNOB approach elements included in these projects?

Step 3: Give them 30 minutes to discuss these questions and get them into a plenary. Give each group five minutes to make their presentation.

Learning Output: End by summarizing that "Women are also at the forefront of fighting climate change and helping their communities adapt to environmental changes. Evidence is also mounting that where women are empowered to create institutional platforms that expand their own, their families' and their communities' endowments, agency and opportunities, this can serve as a powerful springboard for building climate resilience more generally."

TEST YOUR KNOWLEDGE

STATEMENT	TICK IF TRUE	TICK IF FALSE
1. Human rights are guaranteed by the government and hence applicable to only citizens.		✔
2. Some human rights are more important than others.		✔
3. Economic growth is the key to development and will address all forms of inequalities.		✔
4. Climate Change will affect income inequalities more than other forms of inequalities.		✔
5. Women are more vulnerable to climate change.	✔	
6. All women and girls will be equally impacted by climate change.		✔
7. Rice yields in Asia will increase with global warming.		✔
8. DRR and CC Adaptation are the same terms and can be used interchangeably.		✔
9. Women and children are likely to die ten times more than men during disasters.	✔	
10. Climate finance will not affect development finances.		✔

SUGGESTED READINGS:

1. Aguilar Revelo, Lorena. 2009. *Training Manual on Gender and Climate Change*. IUCN, UNDP and GGCA. https://portals.iucn.org/library/sites/library/files/documents/2009-012.pdf.

2. GGCA. 2016. *Gender and Climate Change: A Closer Look at Existing Evidence*. Global Gender and Climate Alliance. https://wedo.org/wp-content/uploads/2016/11/GGCA-RP-FINAL.pdf.

3. Nellemann, Christian, Ritu Verma, and Lawrence Hislop. 2011. *Women at the Frontline of Climate Change: Gender Risks and Hopes. A Rapid Response Assessment*. Arendal and Kathmandu: UNEP/GRID-Arendal and ICIMOD. https://gridarendal-website-live.s3.amazonaws.com/production/documents/:s_document/165/original/rra_gender_screen.pdf?1484143050.

4. OHCHR. 2015. *Understanding Human Rights and Climate Change: Submission of the Office of the High Commissioner for Human Rights to the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change*. Geneva: Office of the High Commissioner for Human Rights. https://www.ohchr.org/Documents/Issues/ClimateChange/COP21.pdf.

5. Oppenheimer, M., M. Campos, R.Warren, J. Birkmann, G. Luber, B. O'Neill, and K. Takahashi. (2014). *Emergent Risk and Key Vulnerabilities*. *In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report*. Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-Chap19_FINAL.pdf.

6. UN Women. 2016. *Action Not Words: Confronting Gender Inequality Through Climate Change Action and Disaster Risk Reduction in Asia: An Overview of Progress in Asia with Evidence from Bangladesh, Cambodia and Vietnam*. Bangkok: UN Women Regional Office for Asia and the Pacific. https://asiapacific.unwomen.org/-/media/field%20office%20eseasia/docs/publications/2017/04/ccdrr_130317-s.pdf?la=en&vs=5239.

TRAINOR'S NOTES

MODULE _____   SESSION PLAN _____   PAGE _____

AGENDA   REMINDERS

TRAINOR'S GRID NOTES

MODULE _____   SESSION PLAN _____   PAGE _____

AGENDA

REMINDERS

GENDER AND
CLIMATE CHANGE

HANDOUTS

MODULE 1

GENDER CONCEPTS AND TERMINOLOGIES

SEX AND GENDER	**SEX** refers to biologically-defined characteristics that generally define humans as male or female. These are mainly based on genetics, anatomy, physiology and reproductive capabilities. It is universal, natural (people are born with it), a-historic and mostly unchanging, without medical treatment and/or surgery.
	GENDER refers to socially constructed set of roles and responsibilities associated with being girl and boy or women and men, and in some cultures a third or other gender. It includes the economic, social, political, and cultural attributes and opportunities, associated with certain groups of people with reference to their sex and sexuality. Learned over time as a result of social conditioning processes, gender roles vary greatly in different societies, cultures and historical periods. They also depend on socio-economic factors, age, education, ethnicity and religion. Although deeply rooted, gender roles can be changed over time, since social values and norms are not static.

EXAMPLES:
Only women can give birth and breastfeed. This is a sex-related difference. On the other hand, the expectation of men to be economic providers of the family and for women to be caregivers is a gender norm, which, although prevalent in many cultures, proves to be non-universal.

PRACTICAL POINTS:
> At birth, the difference in the biological characteristics between boys and girls is their sex. These biological characteristics, however, are not mutually exclusive and there are individuals who possess both male and female characteristics.
> As people grow up, society gives them different roles, attributes, opportunities, privileges and rights that, in the end, create the social differences between men and women.
> Sexual orientation, while generally referring to one's sexual or romantic attractions, also includes sexual identity, sexual behaviours and sexual desires.

TRANSGENDER AND INTERSECTIONALITY	**TRANSGENDER** is an umbrella term referring to individuals who do not identify with the sex category assigned to them at birth or whose identity or behaviour falls outside of stereotypical gender norms.
	INTERSEX refers to biological variation in sex characteristics, including chromosomes, gonads and/or genitals that do not allow an individual to be distinctly identified as female/male at birth. These include lesbian, gay, bisexual, pan sexual and transsexual persons.
	TRANSEXUAL refers to people who identify entirely with the gender role opposite to the sex assigned to at birth and seek to live permanently in the preferred gender role. Transsexual people might intend to undergo, are undergoing or have undergone gender reassignment treatment (which may or may not involve hormone therapy or surgery).
	INTERSECTIONALITY moves beyond the traditional notion of binary genders – men and women – and looks at other forms of social discrimination that combine, overlap, or intersect with existing gender discrimination. Intersectionality recognizes that identity markers (e.g. "female" and "differently-abled") do not exist independently of each other, and that each informs the others, often creating a complex convergence of oppression. Using the intersectionality framework means recognizing that a person or group of persons are affected by a number of discriminations and are often disadvantaged by multiple sources of oppression: their race, class, caste, tribe, gender identity, sexual orientation, religion, and other identity markers.

EXAMPLES:
Simply speaking, this means that the discrimination faced by a differently-abled female cannot be dissected based on her ability and gender but that the two-types of discriminations not only add up but also increase putting the person at a greater disadvantage. Another example on intersectionality can be looking at how same-sex female couples are legally entitled to both adoption and insemination, while often only adoption is available to their male counterparts.

PRACTICAL POINTS:
> All surveys/questionnaires should include a third gender option besides woman/man (for example 'other/none,' 'other gender identity' or 'other gender').
> Also ask yourself which other background variables might be relevant (for example age, race, area of residence, ethnicity, ability).
> While getting data for analysis from other agencies especially the government, insist on data disaggregated not only by sex but also by other gender and social variables.

GENDER CONCEPTS AND TERMINOLOGIES	
GENDER STEREOTYPES AND BIAS	**GENDER STEREOTYPED** are ideas that people have on masculinity and femininity: what men and women of all generations should be like and are capable of doing.
	GENDER BIAS is the tendency to make decisions or take actions based on preconceived notions of capability according to gender. It also often refers to the prejudice of accepting the "Male Norm" as the standard for analysis and decision-making.

EXAMPLES:

Girls should be obedient and cute, are allowed to cry; boys are expected to be brave and not cry; women and girls are better caregivers and men or boys are better at mathematics. The related bias is that women are preferred for nursing jobs while men are given preference for engineering jobs. Another example of a bias is that public transport is needed mainly for people to go to work; thus, all planning is done keeping this in mind. However, while this is important for both men and women, this has a "male norm" bias as men use public transport more for travel to work only while women need public transport for work as well as other activities.

PRACTICAL POINTS:
> Undertake a detailed gender analysis of the sector/issue before designing any project or programme.
> Map out the basic needs of men, women and other genders, in context to the problem that they face and not on how the accepted solution can be tweaked to meet the needs of all genders.

HETEROSEXISM AND HOMOPHOBIA	
HETEROSEXISM AND HOMOPHOBIA	**HETEROSEXISM** is the presumption that everyone is heterosexual and/or the belief that heterosexual people are naturally superior to homosexual and bisexual people. It is based on the idea that romantic and/or sexual relationships and feelings between a man and a woman is acceptable, and that all other relationships or feelings are unacceptable or outside the "norm."
	HOMOPHOBIA is the irrational fear of, aversion to, or discrimination against homosexuals or homosexual behaviour or cultures. Homophobia also refers to self-loathing by homosexuals, as well as the fear of men or women who do not live up to society's standards of what it is to be a "true man" or "true woman."

EXAMPLES:

Heterosexist name calling – "gay" used in a negative way (e.g., "that's so gay") at school and offices. Having separate and dedicated public toilet facilities for men and women, with no clarity on the utility preferences of transgender persons. Similar is the case with shelter facilities during disasters. Lesbian and bisexual women are more unlikely to have a cervical smear test, compared with women in general. Homophobia includes hate crimes due to sexual orientation of the victim, but also the high level of domestic abuse faced by gay and bisexual persons.
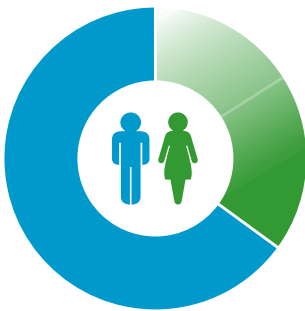
PRACTICAL POINTS:
> Identify the transgender population within your communities and support them to come forward.
> Create support groups especially for access to education, health care and during disaster relief activities.

Source: Adapted from jhpiego (n.d.); Chauhan (2017); Ramšak (2017).

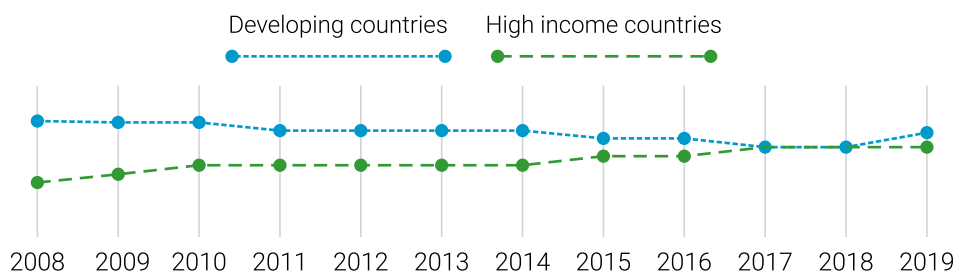**INFOGRAPHICS ON GENDER GAPS**

ECONOMIC PARITY

The global **gender pay gap** is stuck at **16%** with women paid **35%** less than men in some countries.

740 million women globally work in the informal economy.

For every dollar a man earns, women earn...

WAGE EQUALITY FOR SIMILAR WORK*

Developing countries   High income countries

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Wage equality for similar work has increased in high-income countries, while it has declined in developing countries

Average woman income
11.5k a year

Average man income
21.5k a year

Workplace Gap

Share of women in the labor force   **49%**

Share of women in skilled roles   **40%**

Source: Sharable infographics retrieved and adapted from Global Gender Gap Report, 2020 (WEF 2020) and Policy Brief: The impact of COVID-19 on women (UN Women 2020b).

INFOGRAPHICS ON GENDER GAPS

EDUCATION GAP

Globally,

65%
of women
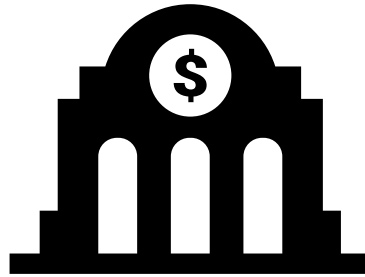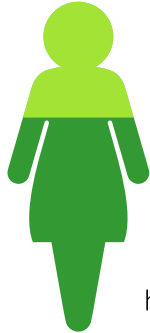
had an **account at a financial institution**
in 2017, compared to

72%
of men

Women aged **25 to 34** globally are **25%** more likely than men to live in extreme poverty

125 women

for every 100 men

POLITICAL EMPOWERMENT

Women's Political Empowerment

Global (153 countries)
Parliament (lower house seats)

25%
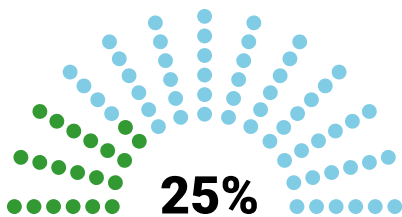
Share of congresswomen

Global ministries (153 countries)

21%
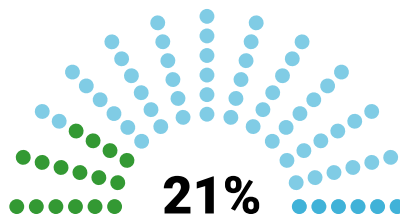
Share of women-ministers

Percentage of countries where a
woman took head of state office at
least once in the past 50 years
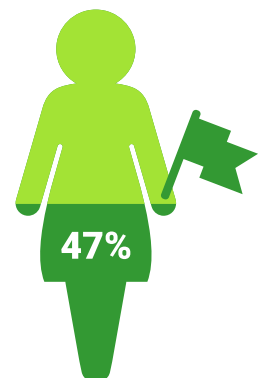
47%

INFOGRAPHICS ON GENDER GAPS

EDUCATION GAP

Primary Net enrollment rate	**Secondary** Net enrollment rate	**Tertiary** Gross enrollment rate
88%	66%	41%
91%	66%	36%
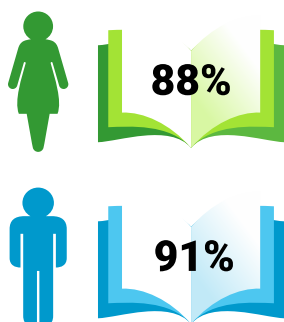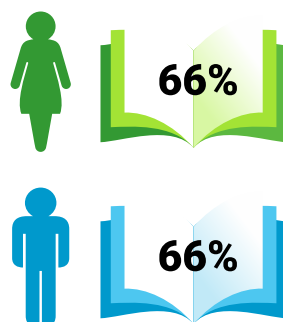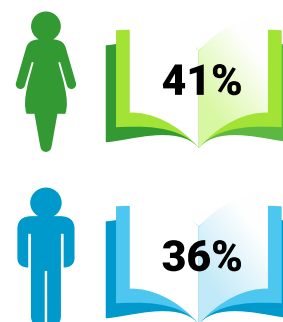
VIOLENCE AGAINST WOMEN AND GIRLS

Share of women who suffered intimate-partner physical and/or sexual violence

45%
Middle East and North Africa

38%
South Asia

32%
North America

31%
Sub-Saharan Africa

27%
Latin America and the Caribbean

23%
East Asia and the Pacific

22%
Western Europe

19%
Eastern Europe and Central Asia

31% Global
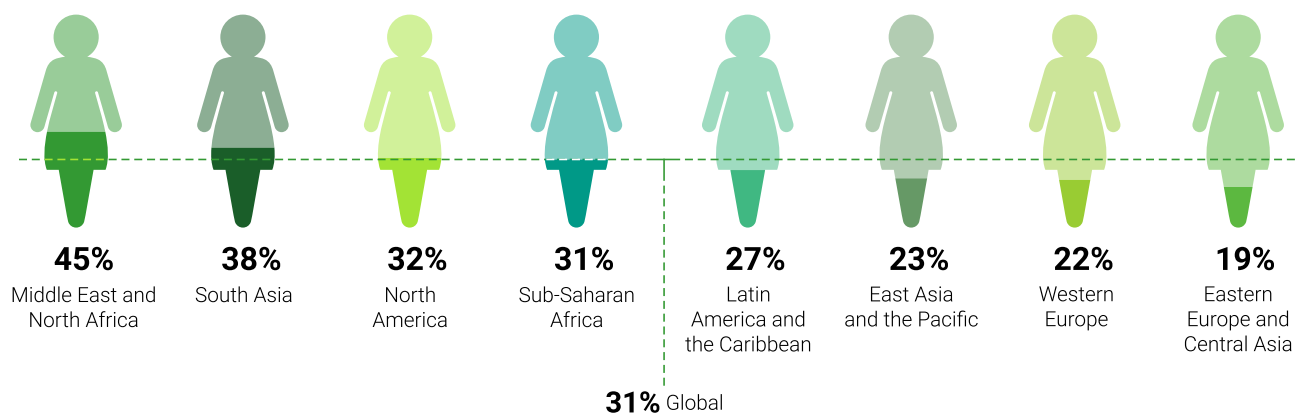
CARE GIVING ROLE

Women spend

3X
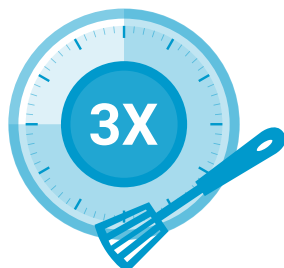
as many hours as men in **unpaid care and domestic work**, limiting their access to decent work.

More men between the ages of 25 to 54 are in the **labour force** than women:

94%

63%

OBSERVED CLIMATE CHANGES AND IMPACTS		
CLIMATE VARIABLES	**OBSERVED AND POTENTIAL CLIMATE CHANGES**	**RISKS AND POTENTIAL IMPACTS**
EXTREME HEAT AND TEMPERATURE RISE	• More days with high/extreme temperatures; More heat waves. • More days with low/extreme temperatures; More cold waves. • It is very likely that heat waves will occur more often and last longer.	> Mortality and morbidity during periods of extreme heat, particularly for vulnerable urban populations such as those living in shanties, those working outdoors in urban or rural areas, older people and those with pre-existing health conditions. > Risks from vector-borne diseases which arise due to conducive breeding environment that they receive from changing temperature and humidity conditions. > Reduction in renewable surface water and groundwater resources in most dry subtropical regions.
CHANGES IN PRECIPITATION LEVELS	• Increase in number of dry days; Longer dry spells. • Increase in winter rainfall. • Increase in high intensity precipitation events spread across fewer wet days. • Delay in onset of rainfall seasons. • It is very likely that the extreme precipitation events will become more intense and frequent in future.	> Increased food insecurity and the breakdown of food systems linked to warming, drought, flooding, and precipitation variability and extremes particularly for poorer populations in urban and rural settings. > Risk of severe ill-health and disrupted livelihoods for large urban populations due to inland flooding in some regions. > Loss of rural livelihoods and income due to insufficient access to irrigation water and reduced agricultural productivity, particularly for farmers and pastoralists with minimal capital in semi-arid regions.
COASTAL FLOODING AND SEA LEVEL RISE	• Coastal systems and low-lying areas will increasingly experience submergence, flooding and erosion due to sea level rise.	> Death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small island developing states and other small islands, due to storm surges, coastal flooding, and sea level rise. > Marine ecosystems, especially coral reefs and polar ecosystems, are at risk from ocean acidification. > Loss of marine and coastal ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for coastal livelihoods, especially for fishing communities.
CYCLONIC DISTURBANCES	• Changes in frequency and intensity of cyclonic disturbances.	> Health risks due to inadequate drinking and domestic water and decline in water quality leading to water-borne diseases. > Systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services such as electricity, water supply, and health and emergency services. > Risk of loss of terrestrial and inland water ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for livelihoods.

Source: IPCC-AR5 (2014a)

CCDRR AND RESILIENCE CONCEPTS	
CONCEPT	**DEFINITION**
CLIMATE	Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation and wind. Climate in a wider sense is the state, including a statistical description of the climate system.
CLIMATE CHANGE	Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. UNFCCC, however, focuses on climate change attributable to human activities, and defines it as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
GLOBAL WARMING	Global warming refers to the gradual increase, observed or projected, in global surface temperature, as one of the consequences of radiative forcing caused by anthropogenic emissions.
DISASTER	Severe alterations in the normal functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions, leading to widespread adverse human, material, economic or environmental effects that require immediate emergency response to satisfy critical human needs and that may require external support for recovery. UNISDR (2017) defines it as a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.
HAZARD	The potential occurrence of a natural or human-induced physical event or trend or physical impact that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources. In this report, the term 'hazard' usually refers to climate-related physical events or trends or their physical impacts. UNISDR (2017) defines it as a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.
RISK	The potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values. Risk is often represented as probability or likelihood of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. It is often used to refer to the potential, when the outcome is uncertain, for adverse consequences on lives, livelihoods, health, ecosystems and species, economic, social and cultural assets, services (including environmental services) and infrastructure. Disaster Risk is the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity.
EXPOSURE	The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could beadversely affected.

CCDRR AND RESILIENCE CONCEPTS	
CONCEPT	**DEFINITION**
VULNERABILITY	The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt. UNISDR (2017) defines it as the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.
SENSITIVITY	The extent to which something will be positively or negatively affected if it is exposed to a climate stressor (USAID 2014).
STRESSES	Stresses have been defined as 'pressures which are cumulative and continuous, such as seasonal shortages and climate variability, soil degradation and population pressure (Jones, et al. 2010).
SHOCKS	Shocks are sudden events such as floods, epidemics, droughts; but also wars, persecution and civil violence (Jones, et al. 2010).
IMPACTS (OF CCDRR)	Effects on natural and human systems. In this report, the term 'impacts' is used primarily to refer to the effects on natural and human systems of extreme weather and climate events and of climate change. Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services and infrastructure due to the interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system. Impacts are also referred to as consequences and outcomes. The impacts of climate change on geophysical systems, including floods, droughts and sea level rise, are a subset of impacts called physical impacts.
MITIGATION	A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs). This report also assesses human interventions to reduce the sources of other substances which may contribute directly or indirectly to limiting climate change, including, for example, the reduction of particulate matter emissions that can directly alter the radiation balance (e.g., black carbon) or measures that control emissions of carbon monoxide, nitrogen oxides, volatile organic compounds and other pollutants that can alter the concentration of tropospheric ozone which has an indirect effect on the climate. Simply put in by UNISDR (2017), it is the lessening or minimizing of the adverse impacts of a hazardous event.
RISK MANAGEMENT	The plans, actions or policies to reduce the likelihood and/or consequences of risks or to respond to consequences. UNISDR (2017) further defines disaster risk management as the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses. Disaster risk reduction is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.
ADAPTATION	The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.
ADAPTIVE CAPACITY	The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.

CCDRR AND RESILIENCE CONCEPTS	
CONCEPT	**DEFINITION**
COPING STRATEGY	The ability of people, organizations and systems, using available skills and resources, to manage adverse conditions, risk or disasters. The capacity to cope requires continuing awareness, resources and good management, both in normal times as well as during disasters or adverse conditions. Coping capacities contribute to the reduction of disaster risks.
RESILIENCE	The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation. UNISDR (2017) defines resilience as the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.
RESILIENCE CAPACITY	The ability of communities to survive, adapt and progress in the face of stress, without distress or loss of assets, while improving their current level of livelihood and health status.

GENDER ROLES AND DIFFERENTIATED VULNERABILITIES			
SECTOR	**MAJOR GENDER ROLES***	**CLIMATE CHANGE IMPACTS**	**GENDERED VULNERABILITY TO THE IMPACT**
WATER	Men: > Irrigation of cash crops > Manufacturing	> Increased water stress due to droughts, erratic rainfall and declining ground water.	> Increased conflicts over scarce water resources.
	Women: > Drinking and domestic use > Irrigation of food crops		> Increase in time and distance travelled for safe water. > Diversion of water will lead to lesser water available for food crops.
FOOD	Men: > Money for food	> Reduced food production globally and ensuing increase in food prices.	> Increased poverty as share of food bill in household expenses goes up.** > Increased mental stress for more income and financial management.
	Women: > Food and nutrition management > Cooking	> Forest conservation policies will reduce access.	> Increased poverty as share of food bill in household expenses goes up.** > Increased stress for food and nutrition security in family. > Skewed intra-household distribution pattern will lead to reduced food and nutrition intake for women and girls. > Indigenous and poor women dependent of forest will face more problems.
FODDER	Men: > Purchase of fodder > Free grazing	> Land resource diversion, especially for bio-fuels, can lead to decreased fodder availability.	> Increase in fodder costs.
	Women: > Collection of fodder > Free grazing		> Time and effort spent of fodder collection increases.
ENERGY	Men: > Electricity and crude oil for machines and vehicles	> Low emission energy policies will increase costs.	> Increase in energy expenses. > Increased poverty as share of energy bill in household expenses goes up.**
	Women: > Fuel and gas for cooking > Electricity for home and work	> Forest conservation policies will reduce access.	> Time and effort spent of fuelwood collection increases. > Increased poverty as share of energy bill in household expenses goes up.**
HEALTH	Men: > Money for medical expenses > Medical insurance	> Increase in morbidity due to heat waves.	> Increase in medical expenses can lead to families falling back into poverty.
	Women: > Caring for the sick	> Increase in vector- and water-borne diseases.	> Increased burden of caring for sick. > 22 per cent of women to lose wages due to absence from work for a sick child.

GENDER ROLES AND DIFFERENTIATED VULNERABILITIES			
SECTOR	**MAJOR GENDER ROLES***		**CLIMATE CHANGE IMPACTS**	**GENDERED VULNERABILITY TO THE IMPACT**

SECTOR		MAJOR GENDER ROLES*	CLIMATE CHANGE IMPACTS	GENDERED VULNERABILITY TO THE IMPACT
CROP FARMING	Men	> Cash crop production and marketing > Agriculture labour	> Average crop yields go down, exposing millions of farmers to lower yield.	> Reduced farm incomes will lead to higher migration for alternative incomes.
	Women	> Food crop production and storage > Agriculture labour		> Lower availability of labour days will further reduce income. > Reduced food crop yields will lead to food insecurity especially for subsistence farmers.
LIVESTOCK REARING	Men	> Management of large cattle and dairy farms	> Livestock will be adversely affected with rising temperatures, depending on the extent of changes in feed quality, spread of diseases and water resource availability.	> Large cattle farming could become less profitable or even non-viable.
	Women	> Management of small livestock, poultry farms		> Increase in cost of managing small cattle especially arranging fodder and water. > Increase in time spent on livestock management.
FISHING	Men	> Catching of fish	> Damage of ecosystems will reduce the productivity of fisheries and aquaculture, especially at low latitudes.	> More time spent at sea. > Need to venture in deep sea will increase fuel costs and need more mechanised boats. > Increase in costs will reduce profits from fishing.
	Women	> Processing and marketing > Pond fish farming		> Higher temperatures will make fish processing and marketing more difficult.
HOME-BASED WORK	Men	> Handloom and power looms	> Increase in number of hot days and heat waves. > Increase in fluvial and coastal flooding.	> Heat waves will reduce productivity.
	Women	> Fuel and gas for cooking > Electricity for home and work		> Energy costs will go up. > Loss of raw materials and infrastructure in floods. > Loss of workplace due to disasters. > No financial risk coverage/ credit access will mean falling back into poverty.
TRANSPORT	Men	> Private and public transport	> Low emission transport policies will be put in place.	> Increase in fuel and transport costs may reduce private transport usage for poorer families.
	Women	> Safe public transport		> Increased pressure on public transportation will affect women's safety and access to public transport.

GENDER ROLES AND DIFFERENTIATED VULNERABILITIES			
SECTOR	**MAJOR GENDER ROLES***	**CLIMATE CHANGE IMPACTS**	**GENDERED VULNERABILITY TO THE IMPACT**
COASTAL DISASTERS	Men > Risk taking behaviour > Saving lives and property > Information updates > Insurance and recovery	> Increased saltwater intrusion, flooding and damage to infrastructure.	> Loss of life > Occupational risks for fishermen. > Increased migration > Increase in stress and mental health. > Alcoholism and suicide rates can increase.
	Women > Storing household and emergency Items > Reproductive works- water collection, cooking > Child and elderly care > Maintain dignity and cultural inhibitions		> Women and children 14 times more likely to die/be injured than men. > 80 per cent of people displaced are women. > Reproductive workload escalates. > Health concerns due to salt water intake. > Sexual and gender-based violence increases.

* The gender roles mentioned here are not fixed and need to be contextualized. These are just indicative of what could be the differentiated gender roles.

** Households that have a higher share of food and energy in household expenditure generally fall in the lower income quadrant (poor households).

CASE STUDIES ON WOMEN AS AGENTS OF CHANGE

WOMEN TAKE LEAD IN DISASTER PREPAREDNESS – THE CASE OF BARISHAL, BANGLADESH

Barishal, on the Kirtonkhola River in Bangladesh, is predominantly slum-populated. The high levels of poverty in the city are worsened by the weather conditions – cyclones and monsoons flood the riverbanks, overwhelming the city's infrastructure and clogging it with waste. This means the spread of disease is always a threat. In 2007, more than 10,000 people died when Cyclone Sidr smashed its way through the city. Climate change means that the situation here will only get worse. And most of the time, there are few men around to help them deal with disaster; it is the women who are left to pick up the pieces.

But these women are made of sterner stuff. Josna and her friend Mahmuda, along with other local women, have formed a Women's Squad – the Hatkhola community disaster management committee, with help of the Bangladesh Red Crescent Society. The squads were created to give women a platform to speak about the issues that matter to them the most. The team focused on developing the area; improving roads, drains, washrooms and toilet systems, as well as training people in disaster preparedness. But they have moved way and beyond. They received disaster management training and were ready in November 2019 when Cyclone Bulbul hit the area.

Josna and Mahmuda's squad responded to an emergency. The squad made sure that children, the elderly, pregnant women and disabled people were taken to an evacuation centre. One of the them was Kobita, 18 and eight months pregnant when Cyclone Bulbul hit. As the water levels started to rise and swept under the tin doors of her hut, Kobita began to panic. Ankle-deep in water, she suddenly heard the mic from the local mosque crackle. But instead of the usual adhan – the Muslim call to prayer – a loud, echoey voice declared a state of emergency. Luckily, the Hatkhola Squad soon arrived and slowly escorted Kobita to the emergency shelter. "We keep a list of the most vulnerable," says Josna. "Kobita was a priority, so we got to her as soon as we could." The Hatkhola Women's Squad worked tirelessly through the night, making sure everyone in the slum reached the shelter. They carried small children for those who were struggling and provided regular reassurance to terrified families.

Once the worst of the cyclone was over, the squad made sure the shelters were safe, clearing up debris and arranging for food donations to be delivered to families in need. After the cyclone had passed, the women helped clear the debris and return families back to their homes. They also arranged for local donations of dry food for the needy and vulnerable.

The women also received praise from the local police. Officer Abu Bakar Siddik says, "The Hatkhola Squad was critical in getting the early warning alerts to the community. We hope this will inspire more women in Barishal to get involved with future search and rescue missions."

Source: Adapted from British RedCross (n.d.).

CASE STUDIES ON WOMEN AS AGENTS OF CHANGE

WOMEN-LED FOREST MANAGEMENT IN NEPAL

In Nepal, as in other parts of South Asia, women are responsible for the collection and management of forest products essential to the daily lives of their household. However, women are often neglected in the decision-making process within community level institutions devoted to the management of natural resources. WWF and its many partners work with government and local communities to help improve lives and restore forests as part of overall strategies to conserve large-scale landscapes and wildlife in Nepal. The focus is on empowering women to participate in local decision-making processes and stand up for their rights to forest resources and the benefits they provide. The projects also include introducing clean energy approaches to reduce the time women spend collecting firewood and ease the pressure on forests. Such approaches include biogas (gas produced from raw materials such as agricultural waste and manure), solar power, small hydropower plants, and fuel-efficient cook stoves. All of these improve lives and conserve nature – and women are strong custodians of their local forests.

This recognition of the essential role that women play in forest management can make a difference in terms of forest conservation. This happens mainly because women have different and complementary interests relative to men within a forest committee that stem from the differences in concerns and nature of dependence on the forest that women have relative to men. Better forest conditions directly affect the livelihood and the welfare of a large part of rural populations who rely on forest resources.

Radha Wagle, Nepal's first woman Joint-Secretary and Chief at the REDD Implementation Centre under the Ministry of Forests and Environment, is also working to make the forestry sector more inclusive for women and marginalized groups. They have finalized a Gender Action Plan that identifies ways to make forestry programs more responsive to the needs of women and encourages women's participation at all levels of government, civil society and the private sector, with support from the World Bank's Forest Carbon Partnership Facility. When Wagle was a young forest ranger in the eastern region of Nepal, she became aware of a stark paradox in the land use sector. With the significant amount of time women spent gathering fuelwood for energy use, fodder for livestock, medicinal plants and herbs, she saw the essential role women play in agriculture, livelihoods and natural resources management. Yet, she also observed – and experienced herself – how women were marginalized time and time again in this male-dominated field. "Some clients would request a male ranger for the service they sought, such as making a forest management plan, providing technical support or writing a letter. Even if I told them that I could do it, they would deny it and wait for a male ranger to become available," Wagle recalls. If this was happening in this region, Wagle became convinced it was happening across the country, and she was determined to do something about it. In 2015, she became the first woman Joint-Secretary at the Ministry of Forests and Environment in Nepal. In this role, she is focusing her efforts on increasing the engagement of Nepalese women in forest management.

<div style="background-color:green; color:white">**CASE STUDIES ON WOMEN AS AGENTS OF CHANGE**</div>

SWaCH MODEL OF LIVELIHOODS FOR WOMEN WITH WASTE MANAGEMENT IN PUNE, INDIA

Pune is not the only city that struggles to contain its waste. It is a common problem in most Asian cities, where increasing waste being dumped into landfills is becoming a major environment and climate concern. In 2000, India's national government issued its first Municipal Solid Waste Management Rules, requiring local governments to collect garbage door to door, separate recyclables from wet waste and put a stop to indiscriminate dumping. Like most Indian cities, Pune was ill-equipped to comply. However, rather than go for a contractor-based model or common waste treatment plant, the city opted for a livelihood promotion for poor model.

The idea grew from the fact that in Pune, as in most Asian cities, women formed a major constituent of waste pickers in the city. But Pune was different because the waste pickers in the city had unionized as Kagad Kach Patra Kashtakari Panchayat (KKPKP), and had been advocating for the rights of this previously fragmented and disempowered workforce since 1993. SWaCH thus grew as a pilot program of KKPKP and the Pune Municipality in 2005.

In SWaCH, each waste picker purchases shares in the cooperative. Waste pickers work in pairs to collect garbage directly from 150 to 400 households. They sort it and drop off non-recyclables at city-run feeder points, and make a living from charging customers a fee and selling recyclables to local scrap dealers. Those who service slum households also receive a per-household subsidy from the city to make up for the fact that fewer recyclables are usually thrown out in low-income areas. A council advocates for workers' rights and negotiates with the city for occupational health and safety standards, workers' benefits, equipment, sorting facilities and access to health care. To date, they have negotiated two long-term contracts with the Pune Municipal Corporation, and, for a time between contracts, SWaCH was able to maintain operations solely on user fees.

Pune looks different today than it did in the 1990s. More than 3,500 waste pickers have joined SWaCH's ranks, mainly lower caste women and "Dalits," previously known as "untouchables." They handle 1,000 tons of waste every day and recycle more than 70,000 metric tonnes of materials a year.

"Everybody has become more aware of the waste pickers," said Mini Shrinivasan, a SWaCH customer. "Their lives have become like a little more familiar for us, and now people have started thinking of them as working women." Beyond earning a more respected place in society, SWaCH workers are making more than ever before. Sonawane said she earns a monthly income of 13,000 rupees (US$188) – more than her husband – and receives an additional 300-350 rupees per week from selling the recyclables she collects. "I have built my house with my own savings," she said. "I have bought the appliances that I need and also saved money for my children's education." "A waste picker today in SWaCH is the owner of an enterprise that offers her a dignified livelihood," said Lakshmi Narayan, SWaCH's co-founder. "It makes for an inclusive city in many ways."

The arrangement also benefits the city economically. SWaCH estimates that the user fee model saved the Pune Municipal Corporation US$ 13 million last year, compared to a traditional tax-funded trash collection system. What's more, residents now separate dry and wet waste in their homes, a big change in behaviour from previous habits of roadside dumping. The result is a more efficient waste system as a whole.

Source: Adapted from Parsons, et al. (2019).