



Gender, climate change disaster risk reduction

This Thematic Brief provides quick guidance on the most important issues relating to gender, climate change adaptation and disaster risk reduction

This Brief is addressed to staff from development cooperation agencies who are involved in climate change adaptation and disaster risk reduction programmes and projects.

Here they will find information on the most important gender issues at stake and how to address them, indicators that can be used to monitor whether a programme is integrating gender dimensions, examples of gender-sensitive development actions and references to further information and tools related to gender, climate change and disaster risk reduction.

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Introduction

Climate change is a defining challenge of our time. The United Nations Framework Convention on Climate Change 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.”*** The UNFCCC makes a clear distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes (United Nations, 1992).



Climate change has a broad range of –mainly adverse– effects, many not easily reversible, impacting the planet and the people living on it.

The gender implications of climate change and related disasters touch on the domains of agriculture, food security, water, energy and natural resource management among others. In this thematic note, the focus lies on the gender dimensions of climate change adaptation and disaster risk reduction.

The main effects of climate change include:

- Higher and/or more extreme average temperatures and/or fewer frosts, affecting biodiversity, plant growth, disease and insect outbreaks, etc.
- Sea level rise due to thermal expansion of the oceans and melting of ice caps, causing damage and requiring huge investments in coastal protection or displacement of people.
- More extreme weather patterns, such as increased rainfall intensity, longer dry periods, and more typhoons and cyclones, having multiple effects such as droughts and/or floods, including damage to infrastructure, crops and natural resources.

(Dutch Sustainability Unit, 2014)

Climate change exacerbates disaster risk. Changes in global and regional climate patterns and cycles increase the frequency and intensity of natural hazards (cyclones, hurricanes, floods and heat waves). In this context, disaster risk reduction (DRR) aims to reduce the loss of lives and of social, economic and environmental assets of communities and countries. In order to develop equitable and effective climate change adaptation and DRR management interventions, gender issues need to be incorporated in them *(Carson et al., 2013)*.

The reason for integrating gender considerations into climate change adaptation and disaster risk reduction is based on the fact that women and men – in their respective social roles – are very differently affected by the effects of climate variability

(Carson et al., 2013).

“Disasters don’t discriminate, but people do... disasters reinforce, perpetuate and increase gender inequality, making bad situations worse for women.”

(UNISDR, 2009)

Gender issues in climate change adaptation and disaster risk reduction

Gender inequalities in climate change and disaster risk reduction

Climate change is not gender-neutral and affects women and men differently. Gender based behaviours and stereotypes about what women and men can and cannot do, or should and should not do, can further contribute to gender differences (International Federation of Red Cross and Red Crescent Societies, 2010). In the context of a climate-related disaster, women may suffer from a “double disaster”. Besides the material losses they suffer, women and girls are subject to a number of secondary or indirect impacts that arise from the event, including violence and trauma, pressure to marry early, loss or reduction in education opportunities, and an increase in their workload *(Bradshaw & Fordham, 2013)*.



While gender is an important concept and social category needed to understand vulnerability towards the impacts of climate change and disasters, it must be reminded that other parameters such as ethnicity, education, class, religion and geographic location may be equally significant and are essential to fully understand the contexts of inequality and marginalisation of different groups.

"People who are socially, economically, culturally, politically, institutionally or otherwise marginalized are especially vulnerable to climate change and also to some adaptation and mitigation responses (medium evidence, high agreement). This heightened vulnerability is rarely due to a single cause. Rather, it is the product of intersecting social processes that result in inequalities in socio-economic status and income, as well as in exposure. Such social processes include, for example, discrimination on the basis of gender, class, ethnicity, age and (dis)ability."

IPCC, 2014: Summary for policymakers. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. P.6

Climate change

- **Agriculture and Food Security:** Climate change touches on the four dimensions of food security: **food availability, food accessibility, food utilization and food system stability**. Women farmers currently account for 45 – to 80 percent of all food production in developing countries, depending on the continent. In Africa, two thirds of the female labour force is engaged in the agricultural sector (*FAO and ADB, 2013*). With climate change, traditional food sources become more unpredictable and scarce. A loss of harvest means a loss of income, often the only source of food and income for a household. Also rising food prices have a negative impact; they make food less accessible to poorer segments of the global population. With less food availability in a household, gendered relations and unequal power relations lead to unequal food distribution. Women and girls' health has been found to decline more than male health in times of food shortages (*FAO and ADB, 2013; UN Women Watch, 2009*).
- **Water Resources:** Climate change has significant impacts on the availability of fresh water resources, needed for domestic use and productive tasks. Climate change leads to more frequent floods and droughts. This has broad consequences for vulnerable groups, particularly women who are responsible for water management at the household level (*UN Women Watch, 2009*). In most developing countries, women and girls bear the heavy task of fetching water for their families. They spent a lot of time hauling water from distant sources. Decreases in water availability will jeopardize their families' livelihoods, increase their workload and have secondary effects such as lower school enrolment or diminished opportunity to engage in income-generating activities (*UNDP, 2013a*). Rarely the water coming from distant sources is enough to meet the needs of the household. On top of this, the water is often contaminated, which poses serious risks to health, one mostly impacting women and girls.
- One of the sanitation problems is for example arsenic contamination of groundwater. Floods intensify the level of exposure among rural people and socially disadvantaged groups. Arsenic poisoning causes health problems such as lesions, hardening of the skin, dark spots on hand and feet and swollen limbs. For single women this impacts their ability to get married, and in many cases unmarried women are more vulnerable to poverty and social exclusion (*UNICEF, 2008; UN Women Watch, 2009*).



- **Biodiversity:** Climate change is going to be a major driver for the loss of biodiversity. In rural areas of Africa and Asia, households are highly dependent on biomass such as wood, agricultural crops, wastes and forest resources for their energy and livelihoods. Biodiversity decline has a disproportionate impact on poor people in developing countries. In many parts of the world, deforestation has meant that fuel wood is located further and further away from the places people live. Women and girls are mostly responsible for collecting wood. This is a physically demanding and time-consuming task (2 – 20 or more hours per week). Consequently, women will have less time to carry out other tasks, earn money or engage in decision-making (politics) or other public activities, learn new skills, or simply rest. Girls are often kept home from school to help gather fuelwood, perpetuating the cycle of disempowerment. Along with this, when climate-related environmental degradation forces women to search further afield for resources, this exposes them to an increased risk of sexual harassment and assault (*UN Women Watch, 2009; UNDP, 2013a*).
- Biodiversity also comes in the form of knowledge on the environment that indigenous people and communities possess. Permanent temperature change will reduce agro-biodiversity, which in turn reduces traditional medicine options, potentially affecting health (*IUCN, 2008*).
- **Human rights:** Climate change and disasters may have tragic consequences for human rights. As described above, CC contributes to malnutrition, exposure to disease, declining access to water among other things. Climate change affects the economic and social rights (the right to food, health and shelter) of many individuals, this includes men and women (*UN Women Watch, 2009*).

Disaster risks

- **Exacerbated violence against women and girls (VAWG):** Existing structural and systematic (gender) inequalities are often exacerbated during disasters. This is also the case for VAWG. Because of their age and sex, disasters increase girls' vulnerability when their families and communities are least able to protect them. This puts them at increased risk of rape or sexual violence. They may be forced to resort to selling sex to meet their own or their family's needs during an emergency. Child marriage may increase as parents try to cope with crisis and protect their daughters as best they can (*Plan International, 2013*).
- **Psychosocial impact:** Why women may suffer more or more severely is less to do with them being women than to do with their position and situation in society as women. A study from Tamil Nadu (*Kumar et al. 2007*), cited by Bradshaw and Fordham (2013), showed Post Traumatic Stress Disorder (PTSD) was higher among individuals with no household incomes and those who were illiterate. Because women tend to occupy a lower socio-economic position than men, they may be more susceptible to psychological problems. Emotional health is also related to physical health and, once again, due to reproductive health risks and the social and economic limitations around dealing with these, women tend to be less physically well than men.
- **Deterioration in reproductive and sexual health:** While women and girls may suffer more from ill health linked to access to resources such as food and income, given their lower entitlements to these resources, they also face specific health issues related to their sex (*Bradshaw & Fordham, 2013*). Pregnant women suffer from lack of access to pre and post-natal care. Increased levels of maternal and child mortality are a direct consequence. When women with young babies are separated from



their husbands and close relatives, they often find themselves sharing shelter with more distant relatives or strangers. Out of discomfort they stop breastfeeding (*Bradshaw & Fordham, 2013*).

- **Early and forced marriage:** Early and forced marriages post-event seems to occur in the aftermath of disasters. Early marriage may also be associated with slow onset 'disasters' and food insecurity. In these cases, girls are being exchanged for food, and this phenomenon may increase as part of a climate change [mal]'adaptation' strategy (*Deen 2010*).
- **Loss of education for girls:** Disaster causes the disruption of schooling, often because of damage to the infrastructure, but also because of teacher absenteeism and damage to access routes. Willingness to school girls is far more strongly determined by income and the broader costs of education, than is the case for boys. There is also an opportunity cost to leaving girls in school: they may be withdrawn from education to take the place of their mothers if they have died or migrated, or to take over housework if their mothers need to go out to work or engage in reconstruction activities, or to help with housework and childcare given the difficult circumstances makes these tasks more arduous and time consuming. The negative impact on their performance from their reduced time for learning due to post-disaster chores may be compounded by stress and trauma. Girls may also be forced to leave school to help support their families, and there is an increased fear that they will enter unsafe employment such as sex work and begging. Once again, empirical evidence to demonstrate the extent of this is lacking however (*Bradshaw & Fordham, 2013*).
- **Poverty, insecure employment and trafficking:** Disasters are shocks that can push the non-poor into poverty, and push the poor into destitution. Great losses can be suffered to a household's asset base, and for women this can mean the loss of cooking utensils. While these losses often go unrecorded, these are very important to women, as they are used to generate income via making food to sell in the streets or door to door. Women's longer term poverty status is dependent on their access to income generating activities post-event and how quickly these can be re-established. If they cannot be re-established women may be forced to become dependent on the income of a male partner or relative, or be forced to turn to insecure employment 'opportunities' (*Bradshaw & Fordham, 2013*).
- The forced movement of women, girls and boys across boundaries for work, including work within the sex industry, is also a phenomenon noted post event. Trafficking may increase but it is important to note that the forced movement of children and adolescents by their parents for financial gain may be widespread in some cultures.
- **Migration:** Women who are left behind when men migrate can suffer a double impact from male migration. They may be left waiting for money that may never arrive, as the general literature around migration suggests some men may never send money or may start a new life and new family elsewhere. This may be compounded by the fact the household may have sold what little they had to finance the migration, leaving the woman without any means of survival. On the other hand, in localities long adapted to male out-migration, women and girls may find greater opportunities as they engage in non-traditional activities due to the absence of males. An example might be in Muzaffarabad, Pakistan where males have long migrated for work and women and girls have greater freedom than they otherwise would (*Bradshaw & Fordham, 2013*).
- **Changes to networks and family support:** Disaster events lead to a loss of friendship and kin network for both women and men, girls and boys. The ability to restore



networks may be more difficult for girls as parents may be more protective of them and not encourage them to go 'out' and meet new friends (IFRC 2012a). When adolescent girls are required to take on many of the household tasks, they have no free time to rebuild friendships and networks.

- Also, women depend on their networks for a whole range of activities, such as childcare and income generating activities. While it is true that female social networks are usually wider than male's, they have less ability to transform good networks into tangible resources than men.
- **Time burden:** Perhaps the biggest impact on women and girls is the escalation of hours in the working day. Women's already long working day may become even more elongated through added time needed to fulfil their three societal roles (reproductive, productive and community) or added activities within these roles. Less widely recognised might be the effect on adolescent girls who may have to juggle time spent in gendered productive, reproductive and community management roles and their role – promoted and supported by aid agencies – as 'school girl', blurring further their dual identity as adult/child (Bradshaw & Fordham, 2013).
- **Men may not request assistance:** Gender stereotypes and ideas about male behaviour might impede men to seek psychological help when needed in the aftermath of a traumatic experience. Also, feelings of pride might prevent them from seeking financial support when they need it (Gender and Disaster Network, 2009).
- **Early Warning Systems:** Warnings (transmitted in public spaces) in many cases do not reach women. Early warning systems often assume husbands will communicate with their wives and pass this information, however this is often not the case. Additionally, lower levels of education impede women's access to information, which causes a lacking awareness of how to act on warnings (UNISDR, 2009).

Several structural and cultural factors can explain gender inequalities in climate change adaptation and disaster risk reduction

- **Economic inequalities:** Women have unequal control over and access to economic resources, such as credit, labour or land, in comparison to men, mainly due to political marginalization and discriminatory legal practices. Likewise, women tend to have limited opportunities for employment, education, training and career advancement, which restricts their ability to improve their economic situation and leads to lower literacy levels and social status (FAO 2011; Levin 2011; Oxfam 2010; UNDP, 2013b).
- **Social inequalities:** Cultural norms can have limiting effects on women in ways that worsen their vulnerability to disaster risk. Women are responsible for domestic duties and care work and do not have the liberty to migrate to look for work following a disaster; when women's economic resources are taken away, their bargaining power is adversely affected (UNDP, 2013b)
- **Educational and information inequalities:** Women and girls experience higher levels of illiteracy. Two thirds of the global illiterates are female. Also, there are still more boys than girls enrolled at primary and secondary levels and three-fifths of the 115 million children who do not go to school are girls (UNESCO, 2009).
- After a disaster or during periods of economic stress, girls are often forced to drop out of school to help with chores in the household or to save money (in some countries this is also true for boys) (Alam, et al., 2005; UNDP, 2013b).



- Access to information, education and communication is critical to understand and benefit from early warning systems. These are in place in order to reduce the impact of floods, droughts, hurricanes, tsunamis and other disasters. Women's lower literacy levels make them less likely to respond to written early warning announcements and instructions, which increases their vulnerability.
- Other factors contribute to lowering women's capacity to respond to disasters in comparison to men, for example lower levels of access to communications technologies, which decreases their access to notification systems making women reliant on male members for information.
- **Political inequalities:** Women are often poorly represented at all levels of formal decision-making in society. Such political marginalization is one of the root causes of the socio-economic hardships that women face, which also contributes to their vulnerability to climate change and disaster risks. This power imbalance is in many cases sanctioned by law.

How to address gender inequalities in climate change adaptation, disaster risk reduction and emergencies

For climate change adaptation and disaster risk reduction programmes to be able to reduce as much losses of life and damages as possible, gender disparities need to be addressed.

Mainstreaming gender into **climate change adaptation** includes actions that:

- Enhance the existing adaptive capacity of communities. Indigenous knowledge of women and men farmers is a valuable entry point for localized adaptation. It is important to recognize the different knowledge of women and men in order to make sure that all knowledge is gathered and treated equally.
- Create and build new adaptive capacity at the community level, to deal with increasingly difficult and unpredictable conditions and changes in weather and climate. This requires focusing on capacity development at all levels, while recognizing the different needs and roles of men and women (FAO, 2013).
- Ensure that women's needs and priorities are voiced, understood and addressed. In most cases, the opinions and voices of women are simply overlooked. It is on the contrary important that both women and men are involved in a participatory capacity to inform climate change responses at a local level. For example, a project in the Andaman and Nicobar Islands recognized these differences via a Participatory Vulnerability Analysis that gave women space for awareness raising, sharing experiences, skills-training and forming women's groups. During this analysis, women expressed their needs and as a result ActionAid supported collective swimming and fishing classes, and training in financial and economic management (UNISDR, 2007).
- Avoid reinforcing gender inequalities, by ignoring the existing gender relations and power disparities between women and men. For instance, if gender relations are not taken into consideration the risk exists that post-recovery investments and grants will mainly benefit men.

More specifically, this can be articulated into the following actions at the micro level:

- Ensure that women farmers as well as men have access to heat-tolerant, drought-tolerant and fast-maturing crops and varieties, and that their cultivation and/or processing does not place an additional burden on women.



- Provide water for households and for productive use, ensuring that women are involved in designing the systems that meet their requirements.
- Include women in training sessions on water-conserving crop-management practices and ensure that the practices promoted do not place an extra physical burden on women.
- Promote crop diversification and crop mixing, ensuring that their cultivation and/or processing does not place an additional burden on women.

(Oxfam, 2010).

Mainstreaming gender in disaster risk reduction entails integrating a gender perspective into disaster risk preparedness and mitigation, in disaster response and in disaster recovery. Moreover, in the context of a disaster, adapting to new environmental conditions can be an opportunity for creating new social conditions based on the principles of social justice and equality. Post disaster reconstruction can be the chance to reestablish and strengthen the livelihoods of communities.

- **Carry out a gender-sensitive disaster risk assessment.** Risk assessment is a methodology that determines the nature and extent of risk. It analyzes potential hazards and evaluates vulnerabilities that could pose a potential threat to people, property, livelihoods and the environment on which they depend. These assessments include detailed quantitative and qualitative understandings of risk: its physical, social, economic, and environmental factors, and consequences.
- A gender-sensitive risk assessment can be achieved if gender issues are considered when planning and carrying out the main steps of risk assessment:
 - Identify the nature of the risk;
 - Determine the human vulnerability to the risk;
 - Identify the capacities and available resources for managing and reducing vulnerability;
 - Determine acceptable levels of risk.

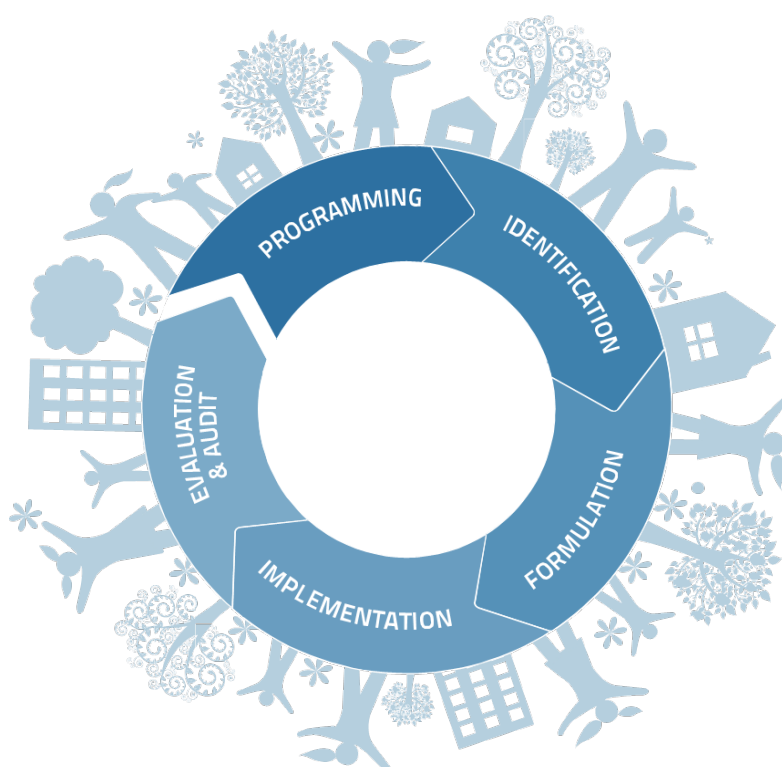
(UNISDR, 2009)

- Ensure that critical safety facilities and infrastructure (e.g. evacuation shelters and emergency housing, water, sanitation, and health systems) are resilient to hazards, accessible to both women and men, and that women have adequate privacy and security. Protect women and girls from the likelihood of increased violence during and following a disaster *(Oxfam, 2010; Bradshaw and Fordham, 2013).*
- Work also with men, in order to secure their support for programme or project activities that uphold women's rights and empowerment *(Oxfam, 2010).*
- Be aware of the needs of single fathers in post-disaster contexts. Caring for children, cooking and other household activities are usually not taught to men and boys. However, support to single-parented families is often automatically oriented towards women.
- Be aware of different vulnerabilities and concerns of different groups of women: widows, adolescents and women with disabilities.
- Support women's right to ownership and control of strategic resources such as housing land. A possibility is also to create "collective assets", for example a shared boat or land, as these are more sustainable assets, and it is easier for women to keep them *(Oxfam, 2010).*



- Include women's traditional knowledge and perception in the analysis and evaluation of the characteristics of key disaster risks, coping and response strategies (UNDP, 2013b). Women's indigenous and local knowledge is important for adapting crops and cropping systems in the face of encroaching drought and other potentially disastrous climate variations.

A roadmap for gender mainstreaming in climate change adaptation and disaster risk reduction



Gender equality considerations should be integrated throughout the whole cycle of development planning.

This Section proposes a roadmap for gender mainstreaming in the various phases of a programme – or project – lifecycle.

1. Analysis, programming and identification of country strategies

Programming and identification are strategic moments to promote gender-sensitive climate change adaptation and disaster risk reduction, tapping on the knowledge, resilience and talents of women. The most essential steps are:

To keep gender equality in the policy dialogue agenda;

To carry out gender sensitive analysis for the diagnostic stage.



Dialogue and negotiations related to disasters and climate change should:

Be grounded in the shared objectives of the global sustainable development agenda (in particular SDG's 13 and 5), in the UN Framework Convention on Climate Change, including the Cancun Agreement on Adaptation (2010) and the Doha Amendment to the Kyoto Protocol (2012), the Sendai Framework for Disaster Risk Reduction¹ (2015-2030) and in the common respect of the human rights framework, including gender equality: CEDAW and the Beijing Platform for Action.

Align with the country commitments (laws, policies, strategies) to promote gender equality for women and men in DRR and guarantee inclusive adaptation and mitigation strategies to climate change.

Analyse the different roles and take-off positions of women and men in society and the economy and use sex-disaggregated data in diagnostic studies. Gender country profiles or other sectoral studies should be used or commissioned.

Systematically involve and support "gender stakeholders", from Government, donors and civil society, at all stages. This can include gender coordination groups, gender focal points in ministries, gender experts and representatives of rural women groups, cooperatives, unions and CSOs. Technical tables on gender and climate change adaptation, disaster preparedness, risk management and emergencies.

Build on previous and current initiatives to promote gender equality in the sector or in contributing sectors, map existing needs and financing gaps, and avoid duplication of efforts.

Assess whether the institutions who will be responsible for programme management and service delivery have resources and capacities to promote gender equality and plan for competence development initiatives, including at service delivery level.

2. Formulation and budgeting

The results of gender analysis should be used to tailor the formulation of programmes and projects. The formulation phase is particularly important, as it affects all subsequent phases of the programme (implementation, monitoring and evaluation. This entails:

Explicitly address opportunities or constraints regarding gender and climate issues when developing strategies

Ensure that gender and climate ambitions are explicitly included in the intervention logic, e-g- by identifying concrete gender and climate-related results areas.

Include gender and climate adequately into objectives, outcomes, outputs, activities and indicators.

Design objectives and activities to address gender gaps identified and include them in programme documents, plans, logical frameworks, financing agreements and budgets.

Include and budget for initiatives to address specific needs and constraints faced by women or men, including long-term capacity building of rural women in collective governance of natural resources and rural productive activities.

¹ The Sendai Framework for Disaster Risk Reduction (2015-2030) is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015.



Allocate resources for gender mainstreaming, capacity building and awareness raising at all levels and in ways that are adapted to the needs of different target groups (E.g. programme staff, women and men beneficiaries, staff from relevant local institutions, representatives from local communities, service delivery institutions, marginalised communities, indigenous women, adolescent girls and boys);

Commit to pursue a strategy for continued gender mainstreaming in the programme (donor and country led processes). This may be formalized in an action plan which should then clearly assign responsibilities, resources and results to be achieved, as part of the broader programme's result chain.

Establish formal mechanisms of consultation with gender stakeholders.

Design and budget for participatory and gender-sensitive monitoring processes, particularly at service delivery level e.g. in assessment of a public early warning system that informs about upcoming extreme weather conditions.

Define performance monitoring frameworks and processes which can capture progress in gender-related objectives.

In direct budget support initiatives, include gender indicators in financing agreements between donor and recipient countries (e.g. useful indicators could be the existence of a gender strategy or plan of action for the national agency in charge of the coordination of early warning, number of representatives with gender expertise who sit on the National and local DRR Platforms/ coordinating mechanism, number of female scientists, social scientists and economists with gender expertise contribute to models that assess vulnerability and coping capacity.).

Respect equal opportunity principles in management arrangements and establish accountability structures for gender mainstreaming at programme level.

3. Implementation and monitoring

At this stage what is planned in relation to gender equality should be maintained, monitored and corrected as needed. The most important points to consider are:

Continued coordination, dialogue and consultation on gender equality within working groups on climate change adaptation and disaster risk reduction; with institutional stakeholders (such as the gender units of the relevant ministries) as well as with a broader range of actors from civil society, local governments and DRR coordination platforms/mechanisms.

Effective monitoring of the progress of the various gender dimensions of the programme and sub-programmes, including at service delivery level, collecting opinions and experiences of both women and men regarding their perception and valorization of access to new services (for example ensure that women farmers as well as men have access to flood-tolerant crops and varieties, and that their cultivation and/or processing does not place an additional burden on women).

Integration of gender in joint sector reviews and policy dialogues (particularly at the level of the SWAP committee);

Monitoring if resources planned for gender equality are spent, and if not, why.



4. Evaluation

Terms of Reference of (mid-term) evaluations should require gender expertise in the evaluation team and give account of the differential impacts of a programme on women and men, identify potential negative impacts on women or men and offer recommendations and lessons learned useful to further pursue gender equality in the sector.

Evaluators and monitors should be able to use participatory evaluation techniques and sex-disaggregated beneficiary assessments of service delivery.

Evaluations should also build on past gender evaluations of programmes in the sector.

GENDER TOOLS FOR THE DIFFERENT AID MODALITIES

An ample selection of analytical and planning tools useful at each phase of the development cooperation cycle, according to the different aid modalities, is available in the "Aid Modalities" Section of the EU Resource Package on Gender Mainstreaming in Development Cooperation.

The following Section offers a list of gender-analysis questions that can be used in Programmes related to climate change adaptation and disaster risk reduction.

Questions for gender analysis in climate change adaptation and disaster risk reduction

Gender analysis helps acquire a different perspective on the complexity of a development context, and understand how to better address other forms of social inequalities. It looks at how economic and social structures at multiple levels can reinforce, or help overcome, gender inequalities and imbalances in power relations between women and men.

In the area of climate change adaptation and disaster risk reduction, it is important that gender analysis maps the different vulnerabilities of women and men. A tool that can be used for this, which allows analysing risk and is the **Participatory Capacity and Vulnerability Analysis (PCVA)**. It is a participatory learning and action planning process which facilitates an understanding of the hazards faced by a population and the factors which make them vulnerable to these hazards, as well as identifying the capacities they have to respond to disasters (*International Federation of Red Cross and Red Crescent Societies, 2010*).



DIFFERENT LEVELS OF GENDER ANALYSIS

Macro analysis looks at national level law, policy and decision making including trade and finance policies and national development plans. It helps identify how climate change adaptation and disaster risk reduction programmes can contribute, or hamper, broader development strategies. It assesses whether legislation or policies contribute to gender inequalities, or to their elimination. It is particularly useful when programming or identifying development cooperation strategies, programmes and projects.

For example:

A gender analysis of a national climate policy that includes adaptation and mitigation measures may reveal how these measures have a negative impact on women. Climate policies and strategies that call for radical emission reductions and societal transformation have a differentiated impact on women and men. These policies tackle areas such as public transportation, accessibility of individuals, households and businesses to clean energy and their responsibility for energy efficiency, waste handling and consumption (Williams, 2013).

Meso level analysis looks at markets, institutions, services, infrastructures which serve as a link between laws/policies and people, enabling them to benefit (or be excluded) from policy effects: communication and transportation systems, health services, education, decentralized public services (revenues, rural development, land registration), credit institutions, markets and extension systems.

This is particularly useful at programme formulation, as it also assesses the extent to which gender roles, relationships and cultural issues can influence the effectiveness of service delivery and other policy and programme implementation mechanisms.

For example:

A gender analysis of the institutions and services responsible for Early Warning Systems could reveal how the assumption that Early Warning is gender-neutral has a negative impact on women. In Bangladesh in 1991, early warning information about the cyclone and the floods was transmitted by men to men in public spaces, rarely reaching women directly (ICIMOD, 2007).

Micro level analysis studies people: women and men as individuals, and the **socio-economic differences** between households and communities. It considers women and men's roles, activities and power relations within the household and the community, and how these influence their respective capacities to participate and benefit from development programmes. It is particularly useful at formulation, implementation and monitoring levels.

For example:

Gender analysis at micro level would reveal that women cannot swim or climb trees because these skills are taught to boys and not to girls. Or it could appear that during disasters, women tend to stay inside the house, since they are not allowed to move freely without a male relative or husband (UNISDR, 2009).

The following section proposes guiding questions for gender analysis in climate change adaptation and disaster risk reduction programmes, at macro, meso and micro levels.



Macro level

Macro level. Policies and laws

What gender equality commitments have been made by the government, for instance in the framework of the Beijing Platform for Action, CEDAW, the SDGs? Is there a law and/or a policy on gender equality in the country?

Do national adaptation programmes of action (NAPA) and disaster risk reduction management policies reflect these commitments through awareness of inequalities between men and women, and do they outline the means to address them?

Are there gender policies and action plans in climate change adaptation, disaster risk reduction and related sectors (e.g. agriculture, water, energy, local development,)? Do national climate change policies and disaster risk reduction management plans align to and support these gender plans?

Do current policies, laws and regulations (ownership, rights to inheritance and credit opportunities, vocational education, agricultural extension services) address women's and men's needs separately? Do they have discriminatory provisions? Do they have measures for equal opportunities and women's rights?

Macro level. How are decisions made in national-level institutions?

Are there decision makers (in Government, Parliament, Ministries of Energy and Environment) who are ready to champion gender equality and women's empowerment in climate change action plans and disaster risk reduction policies?

Are governmental institutions responsible for women's and gender issues, involved in decision-making at national policy and planning levels?

Are women's associations or other associations representing the interests of rural women consulted in decision making at national policy and planning levels?

Are there climate research centres doing work on women, vulnerability and climate-smart development? Are they involved in policy and programme discussions?

Is gender institutionalized within the relevant line Ministries: is there a gender unit, a gender focal point system? Are these involved in policy and programme level consultations?

Have donors and recipient government established thematic working groups on the different issues addressed by the programmes/projects? Is gender discussed in the working groups?

Are there gender thematic groups that could be involved in sector level consultations?

Macro level. Data and information

Are there policy documents or agreed gender assessments that collect information and statistics on the gender gaps and priorities in climate change adaptation and disaster risk management?

Is climate change data (e.g. on desertification, drought, floods and deforestation) collected and analysed with a gender-sensitive perspective and is sex-disaggregated data collected?



Are sex-disaggregated data available on women's and men's access to and control over material and non-material resources, e.g. ownership/usage of land, capital, water, crops, livestock and other factors of income production (from Labour Force or Household Surveys, for instance)?

Are sex-disaggregated data available on women's and men's access to financial resources, including microfinance and financial instruments for disaster risk management (e.g. micro-insurance).

Is information from evidence-based multi-hazard impact assessments after emergencies being generated and published? Do these include sex-disaggregated data?

Is information collected on the differential gender needs in disasters?

Have similar programmes/projects been implemented in the country? Were gender-sensitive evaluations carried out? What are good examples of women's empowerment in the study area? Which attempts to achieve gender equality were failures (e.g. because they were taken over by men or had adverse effects on women)?

Macro level. Monitoring frameworks

How is the country faring on gender equality targets established at international level, i.e. the SDGs and in particular SDG 13 on Climate Action?

Has the government developed indicators that allow for monitoring progress in climate action and disaster risk reduction from a gender equality perspective? Which data exists to show the impacts of the programme/project for women and men?

Has there been a gender analysis of government spending in this sector and in the sub-sectors? Does the government have a system to track the gender sensitivity of development programmes?

Is it possible to have a benefit incidence analysis by sex of beneficiaries? (method of computing the distribution of public expenditure across different demographic groups, such as women and men.)

In sector budget support modality, can payments be linked to progress made on the gender objectives and gender indicators? Is part of the budget earmarked for specific gender equality objectives?

Has the OECD-Gender Policy Marker been applied to donor's programmes supporting climate change adaptation (in rural areas)?

Meso level

Meso level . Service provision

Do early warning mechanisms and services reach women and men equally, and with the information and services that are needed?

If financial mechanisms or facilities are in place, such as insurance-related instruments for disaster risk reduction, are they accessible for women as well as for men?

What technology/technological skills training are available to women and men respectively? Are there data available on women's access to agricultural and climate-smart technology education?



Is disaster risk reduction mainstreamed in school curricula? Is a gender perspective integrated?

Are there plans to improve the outreach capacity of local-level service delivery institutions to poor communities and in particular to women?

Are there plans to train those in charge of agricultural service delivery on how to do it in a way that reaches out and benefits women, including the most marginalised ones?

Is there a gender balance in programme and project implementation units? At which levels?

Meso level. Decision making and consultation

If the programme envisages support to community-based organisations and cooperatives, are women represented and at which levels? Which women?

Are gender equality institutions and structures at local level being involved?

If there are mechanisms to increase access to productive resources, training, local markets, or employment, are there provisions to promote equitable access (E.g. climate-smart and resilient agricultural extension services).

To which extent are women able to participate in disaster risk management programmes? Are budgets reserved to build capacities among the poorest and more marginalised (rural) women? Were women's grass-roots organisations and other relevant stakeholders consulted?

Do initiatives exist to promote women's role in the management of disaster risk preparedness, response and recovery beyond their traditionally assigned roles (e.g. in community and organizational preparedness and in setting up warning systems and emergency communication channels)?

What are the social institutions preventing women from participating in decision-making and consultation?

Meso level. Data collection and monitoring processes

Which data can be collected throughout the programme to monitor the impacts for women and men? Who will be responsible for collecting this data, and how frequently? Will they be trained in participatory, gender-sensitive data collection techniques?

Are gender-sensitive risk assessments carried out?

How will consultation processes be organised at various levels? Will both women and men be involved in community level consultation processes? How are women's interests going to be represented? Is there a need to set up new fora?

Are adequate resources allocated for participatory consultation, monitoring and sex-disaggregated beneficiary assessments of services?

Are data collected at this level disaggregated by sex? What is the capacity of the national statistical office, and of enumerators, to collect sex disaggregated data and produce gender sensitive statistics?



Micro level

Micro level. Gender division of tasks and labour

What are women and men's traditional activities?

What is the division of (paid and unpaid) labour between women and men, young and old, in the community and in agricultural tasks?

What is the impact of women's (and girls') unpaid work on their opportunity to engage in paid work (or education)?

Are women primarily responsible for subsistence crops and men for cash crops? Which of these crops will be touched by climate change, and how?

Which land is cultivated by women? Which by men? Which plants and livestock do men and women breed and who receives benefits?

Does seasonal or migrant work affect the gendered division of labour? For instance who cares for children when parents migrate? How will climate change impact migration patterns?

How will climate change (droughts, unpredictability of rainfall, floods etc.) affect livelihoods and the gendered division of labour?

Micro level. Gender relations: Access and control over resources

What are the general economic and demographic conditions of the household? Of the community? What are men and women's main sources of income?

Which factors influence access to and control over resources; (for example, age, sex, wealth, ethnicity, peri-urban versus rural locations, education level, networks and patronage)?

Are there gender inequalities in access to and control over resources and benefits? For instance:

- time spent on agricultural or domestic tasks
- agricultural technology, extension services, mobile communication
- access to urban or rural markets, storage and transport of agricultural goods
- land inheritance, property and tenure or effective access to credit and savings

At the household level, who takes decisions about resources and activities? To what extent do women participate in decision-making about the production and distribution of the agricultural outputs (e.g. on planting, marketing and consumption of crops or water usage for agricultural or domestic consumption)?

At the community level, how are decisions made about resources and activities? Who decides on use of communal land? Do women participate in community level decisions? Are they able to voice their collective needs?

If community-based organisations exist, (e.g. cooperative, traditional sociocultural organisation, religion-based etc.), are women members? do they participate? Do women participate in management of natural resources and local cooperatives? At which level? If not, why?



Micro level. Perceptions about gender equality

What are women and men's perceptions on gender-based violence (domestic and at work) and harmful traditional practices?

Are women aware of their rights? Are they able to voice them in the community or with service providers?

Are men openly resistant to gender equality? Are there groups of men who are more supportive/resistant than others? Who can influence them?



Gender sensitive indicators for climate change adaptation and disaster risk reduction

Gender sensitive indicators aim at 'creating awareness of the different impacts of a development intervention on men and women, taking into consideration their socio-economic and cultural differences.' (FAO, n.d. – Gender sensitive indicators for Natural Resources Management). Gender sensitive indicators reveal valuable information to identify the specific problems faced by women and men. Using indicators will make it easier to work out how to include women's – as well as men's - knowledge, experiences, and perspectives in planning and implementing gender-sensitive disaster risk reduction policies or action plans, such as the Sendai Framework for Disaster Risk Reduction (UNISDR, 2009).

The table below provides some examples of gender sensitive indicators.

Area/Sub-sector	Indicator
Access and control over resources	<p>Increased access of women and men to inputs such as drought tolerant seeds</p> <p>Number of women and men who have access to heat-tolerant crops and varieties</p>
Access to climate smart and resilient technologies	<p>Number of women and men who have, and use, energy efficient technologies</p> <p>Number of women and men who have access to, and fully understand, ecological technologies</p>
Participation and leadership in decisionmaking processes	<p>Number of women participating in local, national and regional dialogues on climate change, adaptation and disaster risk reduction</p> <p>Examples of changes in women's decision making in family and livelihood matters due to their engagement in the project</p> <p>Percentage/number of women in leadership positions</p> <p>Evidence that women are consulted and involved in the development of policies, strategies, and plans (e.g. existence of consultation process and registration of women)</p> <p>Number of women's organizations, NGO's and cooperatives engaged in climate change adaptation projects</p> <p>Number of women who participate in climate change planning and research</p> <p>Number of men and women involved in natural resource management and conservation (water, forests, etc.)</p>
Land ownership	<p>Average number of hectares of land owned by women- and men-headed household (before and after the programmes activities)</p> <p>Number of women with secure tenure or usage rights to land (e.g., where sole or joint ownership or usage right is recorded on land title documents)</p>



Area/Sub-sector	Indicator
<p>Access to Financial services</p>	<p>Number and percentage of women and men who receive credit, by type of enterprise (and profitability)</p> <p>Proportion of credit provided to men and women</p> <p>Number and percentage of women and men with increased access to financial services</p> <p>Description of specific measures taken to increase women's access to financial services and products</p>
<p>Training and agricultural extension</p>	<p>Number of women and men participating in training in sustainable and climate-smart land, forest, fisheries and livestock management.</p> <p>Number and percentage of women and men receiving extension services</p> <p>Description of the number and type of extension activities targeted at increasing the productivity of women and men</p> <p>The number and percentage of women and men trained annually as extension agents, by sector</p> <p>Number and percentage of women and men trained in sustainable production technologies, soil and water conservation, pest and disease management, animal diseases, and basic veterinary services</p> <p>Number of women and men who have adopted an improved agricultural technology promoted by the project</p> <p>Number of households headed by women who have received training in and assistance towards disaster management</p>
<p>Social protection</p>	<p>Number and percentage of women and men accessing social transfers</p> <p>Evidence that social protection, land tenure, and financial services laws and regulations do not discriminate women</p>
<p>National policies and frameworks</p>	<p>Percent of projects in National Adaptation Programmes of Action (NAPA) that mainstream gender</p> <p>Percent of climate finance mechanisms that mainstream gender at the national level</p>



Area/Sub-sector	Indicator
Early Warning and Risk information	<p>Women's representatives from disaster-affected communities are consulted and contribute to hazard mapping and vulnerability assessment standards.</p> <p>Female scientists, social scientists and economists with gender expertise contribute to models that assess vulnerability and coping capacity.</p> <p>Risk assessment teams include members with gender expertise.</p> <p>Warning messages target women and men, with attention to age, culture, literacy, information access and sociocultural context.</p> <p>Consultation and participation of women in hazard-prone areas in formulating messages and evacuation systems.</p> <p>Engagement of women's organizations and women leaders in the design and planning of the warning and evacuation.</p> <p>Evacuation systems targeted at women and girls.</p> <p>Specific measures taken to ensure safety and security of women and girls in evacuation plans.</p>
<p>Sources:</p> <p>Asian Development Bank (2013), Gender Equality Results and Indicators, ch. 11.</p> <p>FAO, World Bank and IFAD, 2008, Gender in Agriculture Sourcebook. Mod. 4-5-10-12-16.</p> <p>Oxfam, 2011, Gender, Disaster Risk Reduction, and Climate Change Adaptation: A Learning Companion.</p> <p>UNISDR, 2009, Making Disaster Risk Reduction Gender Sensitive. Policy and Practical Guidelines.</p>	

Examples of gender-sensitive projects in agriculture and rural development

Several development and cooperation programmes have successfully addressed the issue of gender inequalities in climate change adaptation and disaster risk reduction management. Some examples are provided in the table below, and additional documents gathering good practices are listed in the following page.

.Programme/project	Challenges	Gender Strategy	Source
<p>Highlighting local coping strategies for drought</p> <p>The CRiSTAL Tool: Community based risk screening tool - adaptation and livelihoods</p>	<p>Overcome gender-specific vulnerabilities to climate-related hazards.</p> <p>Women and men have different vulnerabilities towards climate related hazards. Often disaster risk reduction is considered as "gender neutral". Consequently, women have</p> <p>Women have developed specific coping strategies to deal with hazards and climate-related risks. However, since women have little or no voice in decision-making, these strategies are often not</p>	<p>Introduction of a gender-specific vulnerability analysis in the framework of the analysis of hazards and their impact on livelihoods, highlighting specific coping strategies of women. This informs how gender-specific measures need to be incorporated in projects and programmes.</p>	<p>UNISDR, 2008, Gender Perspectives: Integrating Disaster Risk Reduction in Climate Change Adaptation. Good Practices and Lessons Learned.</p> <p>http://www.un.org/waterforlifedecade/pdf/2008_isdr_gender_perspectives_disaster_risk_reduction_cc_eng.pdf</p>
<p>Adaptation to Climate Change in China's Agricultural Sector</p>	<p>Close the gender gap in accessing training and information on innovative farm practices and agricultural technologies needed for climate change adaptation. Also the challenge consisted in guaranteeing equal participation of women and men equally at the level of implementation and management of projects.</p>	<p>Since more than 70% of the farmers in the region are women, a gender trust fund was used to conduct training programmes in innovative farm practices for women and also for project management officers and experts at each level. This fund supported initiatives to improve women's participation and capacity in the implementation and management of the water users associations and other project activities.</p>	<p>Levin, 2011, World Resources 2010–2011: Decision Making in a Changing Climate—Adaptation Challenges and Choices. P.87.</p> <p>http://pdf.wri.org/world_resources_report_2010-2011.pdf</p>

.Programme/project	Challenges	Gender Strategy	Source
Flood resilient livelihood system with special focus on woman farmers – “Resilient Seeds Production for Income Generation”.	Close the gender gap in accessing agricultural extension services In India, more than 84% of women are involved in agricultural activities, and as a result they become the greatest victims of climate change impacts. Woman farmers have very limited rights and control over resources like land and have insignificant participation in the state agriculture programmes and extension services.	Adoption of climate-resilient/climate-smart agricultural practices by women farmers, such as the utilization of appropriate resilient seeds . The seeds are flood-tolerant; they give good production even if the field is submerged in waters up to 18 days. Through training, women learnt the techniques of seed treatment using bio-inputs, which in turn lowered the price of these external inputs, having a positive effect on their profits.	Mani, N., Pandey, V., 2015. Inclusive Resilience – Stories of Small Marginal Woman Farmers. GEAG, Gorakhpur. http://www.geagindia.org/pdf/Inclusive-esilience.pdf
Solidarity through technology: the 572 emergency response hotline for women and girls in Haiti	Post-disaster relief is often gender-blind and lacks a participatory approach. Responses to the increase in GBV after the earthquake in 2010 were unsuccessful (women did not go to sexual violence clinics because of shame and security threat in case the aggressor still lived in the community).	Development of technology systems that streamline existing and effective community-based efforts to provide medical, legal and psychosocial services to survivors of violence. Launch of the first GBV Emergency Response Hotline in Haiti. Through the call centre, women and girls are provided with information on what to do after an incident of violence and access to direct services. The project allowed for the capture of a wide range of data on GBV in Haiti that serves to inform measures for the protection of women and girls from GBV.	Plan International, 2013, Because I am a Girl. The State of the World’s Girls 2013. In Double Jeopardy: Adolescent Girls and Disasters. http://becauseiamagirrl.ca/downloads/BIAAG/GirlReport/2013/BIAAG2013ReportInDoubleJeopardyENG.pdf



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