

**Mainstreaming Gender into
End-to-End Flood Forecasting
and Early Warning Systems
and
Integrated Flood
Management**

August 2024

Mainstreaming Gender into End-to-End Flood Forecasting and Early Warning Systems and Integrated Flood Management

Training Manual and Facilitator's Guide

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Abbreviations

APFM	Associated Programme on Flood Management	IWRM	Integrated Water Resources Management
CBO	Community-Based Organisation	K&I	Knowledge & Innovation
CARICOM	Caribbean Community	LGBTQI+	Lesbian, Gay, Bisexual, Transgender, Queer and Intersex
CBB	Caribbean Development Bank	M&E	Monitoring and Evaluation
CBFDM	Community-Based Flood and Drought Management	MRCS	Myanmar Red Cross Society
CEDAW	Convention on the Elimination of All Forms of Discrimination	NGO	Non-governmental Organization
DRR/DRM	Disaster Risk Reduction/Disaster Risk Management	NMHS	National Meteorological and Hydrological Services
ECOSOC	Economic and Social Council of the United Nations	RBO	River-basin Organization
EWS	Early Warning System	SADC	Southern African Development Community
E2E-FFEWS	End-to-End Flood Forecasting and Early Warning Systems	SADD	Sex and Age Disaggregated Data
FMP	Flood Management Plan	SGM	Sexual and Gender Minorities
FRM	Flood Risk Management	SDG	Sustainable Development Goal
GBV	Gender-based Violence	SWID	Slum's Women Initiatives for Development
GEWE	Gender Equality and Women's Empowerment	ToRs	Terms of Reference
GRB	Gender-responsive Budgeting	UN	United Nations
GRP	Gender Responsive Planning	UNFPA	United Nations Population Fund
GM	Gender Mainstreaming	UN-SPIDER	United Nations Platform for Space-based Information for Disaster Management and Emergency Response
GWP	Global Water Partnership	UN-SWAP	UN System-wide Action Plan
HAF	Harvard Analytical Framework	VFDM	Volta Flood and Drought Management project
ILO	International Labor Organization	WMO	World Meteorological Organization
IFM	Integrated Flood Management	WYN	Water Youth Network
IFMP	Integrated Flood Management Plan		

Introduction

Hazards, including flood events, have diverse effects on individuals, families, and communities as a whole. Applying a gender perspective to all phases of disaster management is thus of utmost importance: this proceeding ensures that the differing vulnerabilities and needs, capacities and skills of women and men, girls and boys, as well as those of other vulnerable actors (e.g., disabled people, the elderly, migrants, etc.) are considered within the existing socio-economic, political and cultural conditions of societies, and that interventions are of maximum benefit to those affected. Integrating gender perspectives into disaster management initiatives offers important entry points to address existing gender stereotypes, inequalities and discrimination, thereby contributing not only to the building of safer and more resilient communities, but also to more inclusive, socially just societies. However, up to this date, gender knowledge and mainstreaming skills of stakeholders (e.g., government agencies, local authorities, technical specialists from civil protection to the emergency services, and local residents) remain limited. As a result, gender mainstreaming oftentimes falls short in disaster management, including in the specific sectors of End-to-End Flood Forecasting and Early Warning Systems (E2E-FFEWS) and Integrated Flood Management (IFM).

This training manual addresses this situation. It aims at increasing the knowledge on gender and gender mainstreaming of regional, national and local stakeholders, and at building their capacity to mainstream gender and further societal issues entailing inequality and vulnerability into their area of work. Specifically, this training manual targets representatives from National Meteorological and Hydrological Services (NMHSs), Disaster Management Authorities, Civil Protection, Water and Sanitation Authorities, policymakers, River-basin Organizations (RBOs), community-based organizations or associations, non-governmental organizations (NGOs), and community flood management committees (and similar bodies). It comprises of nine modules that build on each other and introduce important concepts and definitions related to gender and E2E-FFEWS and IFM; identify gender dimensions of flood events; explain why gender mainstreaming is important; provide practical advice how to mainstream gender; explain the process of gender-responsive planning; and then, gender-responsive budgeting; explain the process of gender-responsive monitoring & evaluation; highlight how a gender and a gender+ perspectives can be mainstreamed in a project development process; introduce important additional resources and tools that support gender mainstreaming; suggest a post-training roadmap; and provide a summary of key messages. The distinct goals and learning objectives are outlined at the beginning of each module.

Following the training manual, this document also includes a facilitators' guide, which provides guidance and suggestions to facilitators how to present the topics and modules, including a sample outline of how the training could be delivered over the course of four days. However, the facilitators' guide is not a blueprint for organizing the training on gender and E2E-FFEWS and IFM: the content requires to be adjusted to the specific needs of the audience, the local context, and the time availability of facilitators and participants. In other words, this Training Manual should be considered as a basic text, to be adapted in each specific workshop, based on who the participants are; their previous level of preparation on the various topics addressed (gender, vulnerability, etc.); the

duration of the workshop; the possible participation of decision-makers, etc.

One key point to be considered throughout this training manual and facilitator's guide is that neither women nor men are a homogenous group: they have diverse interests, and their vulnerability to hazards is influenced by other factors such as age, sexual orientation, disability, and ethnicity. While this document focuses specifically on gender and its role in shaping vulnerability and measures to address respective issues, a more holistic, intersectional approach should be applied wherever possible. The training manual reflects this within the possible scope, most notably through a subsection on intersectionality and vulnerable groups as well as references to inclusive qualitative and quantitative data collection processes.

This training manual and facilitator guide is a supporting tool, and it is the responsibility of the users of this manual and guide to adapt it based on their needs and country/region for which it will be applied with various stakeholders.

Part I: Training Manual

Module 1: Understanding basic concepts and definitions

Goal

The goal of this module is to develop a thorough understanding of important concepts related to early warning, flood management, and gender. Understanding these concepts and definitions is a prerequisite for the successful integration of gender issues considerations into the entire value chain of E2E-FFEWS and Integrated flood management (IFM) approaches – the ultimate goal of this training manual.

Learning Objectives

At the end of this module, participants will be able to:

1. Understand and explain key concepts related to early warning, and flood management
2. Understand the different steps of E2E-FFEWS and IFM
3. Discern and better define the key concepts related to the Gender (and intersectionality).

1.1 Early warning and flood management-related concepts and definitions

1.1.1 Flood and flooding

There are various definitions of the term “flood” available. The definition applied by WMO contains three components: “1) rise, usually brief, in the water level in a stream to a peak from which the water level recedes at a slower rate. 2) Relatively high flow as measured by stage height or discharge. 3) Rising tide” (WMO, 2011, p. 14).

In the EU Floods Directive (2007/60/EC), the term “flood” is defined as “the temporary covering by water of land not normally covered by water. This shall include floods from rivers, mountain torrents, Mediterranean ephemeral water courses, and floods from the sea in coastal areas, and may exclude floods from sewerage systems” (European Parliament & Council of the European Union, 2007).

A third definition comes from the University of California’s Water Resource Council and is promoted also by the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER). Here, flood is defined as “a general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waters from the unusual and rapid accumulation or runoff of surface waters from any source” (UNSPIDER, n.d.).



Photos and videos show the severe flooding in Bangladesh - The Washington Post (2022)

Hereford – UK (2022) - Deluge delivers severe flooding in Britain (sfchronicle.com)



It is important to consider the existence of multiple types of floods. For example, let us highlight what are “flash flood” and “riverine flood”.

A “flash flood” occurs due to the excessive rainfall within a short period of time in mountainous areas or terrain.



Flash flood hits Jackson (USA), in 2019 <https://eu.jacksonsun.com/story/news/local/2019/07/10/flash-flooding-impacts-jackson-parking-lots-roadways/1698753001/>

A “riverine flood” is caused by the water level in a river exceeding its retention capacity due to heavy rainfall. A riverine flood occurs when a large amount of water is unable to drain downstream towards the mouth of a river and flows over the banks of a river or stream instead.



Riverine flood in Toronto region (Canada) om 2019 <https://trca.ca/conservation/flood-risk-management/>

The term “flooding” signifies “the effects of a flood as distinct from the flood itself, is defined as: Overflowing by water of the normal confines of a stream or other body of water, or accumulation of water by drainage over areas that are not normally submerged” (WMO, 2011, p. 1.4).



There are also different types of flooding – minor and major flooding – that come with distinct characteristics (UNSPIDER, n.d.).

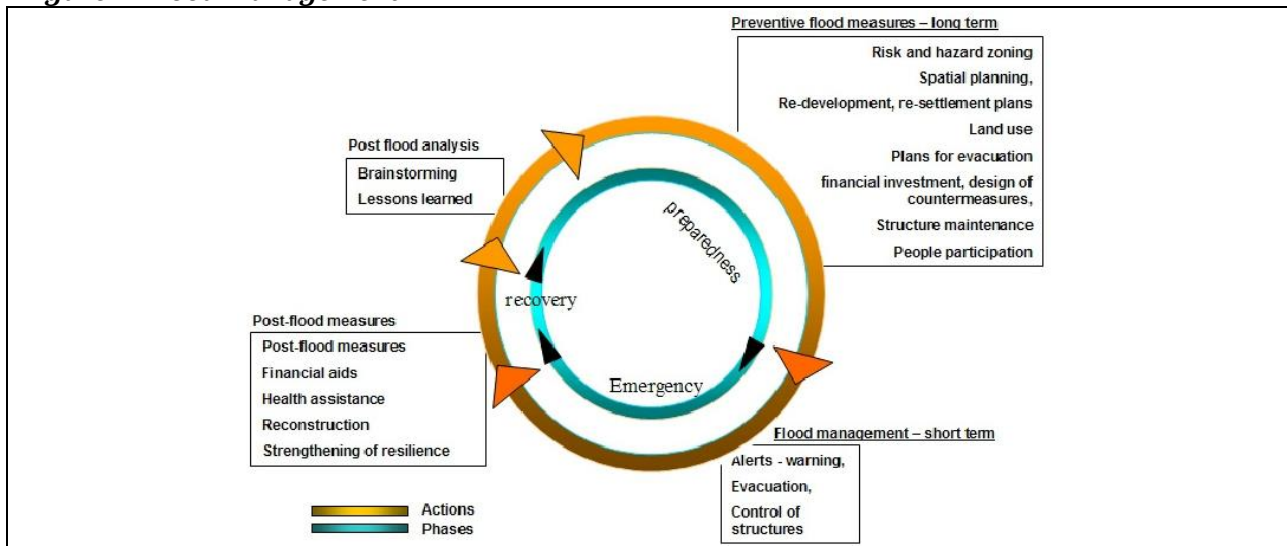
Minor Flooding

- Due to the accumulation of excessive surface runoff.
- Flood waters consigned to the flood plain immediately along a river/channel or in random low lying and topographically depressed areas.
- Flooding is relatively shallow and there is no perceptible flow of water as when inundation is rapidly spreading to adjacent areas.

Major Flooding

- Due to overflowing of rivers and lakes, unexpected and serious breaks in dikes, levees and other protective structures or uncontrolled releases of dam water.
- Coverage of a wide continuous area and rapid spreading to adjacent areas of relatively lower elevation.
- Flooding is relatively deep in most parts of the flood-stricken areas. Currents of flowing flood water will be swift as the flood spreads to other areas.

Figure 1: Flood management



Source: Franzi, L. (2012)

‘Flood management’ is an on-going process which mainly involves three primary phases – Preparedness, Emergency and Recovery – regardless of the nature of the events. Each phase is described below.

- **Prevention and Preparedness:** Prevention activities are intended to significantly reduce the severity or even eliminate the risk of flooding before it occurs. During Preparedness, the National/local agencies and communities develops capacities (through the establishment of the early warning system, vulnerabilities/risk mapping and zoning, flood management plans, knowledge and awareness, search and rescue and first-trainings, coordination mechanism between different stakeholders etc.) to face any flood events.
- **Response:** This phase involves providing immediate assistance such as emergency relief and search and rescue to the affected population after the flood event has occurred. The specific activities depend on the community’s characteristics and needs, but the primary goal is to provide first assistance to the population until recovery phase begins.
- **Recovery:** typically, provide assistance to the people and communities affected by floods to achieve a proper and effective level of functioning as before the flood events. These actions include temporary housing, reconstruction of social institutions and infrastructures, psycho-social and counseling and education to children, etc.

These three primary flood management phases and their activities are presented diagrammatically in figure 1. These activities under each phase or stage of flood management are linked and carried out as needed and not always sequentially.

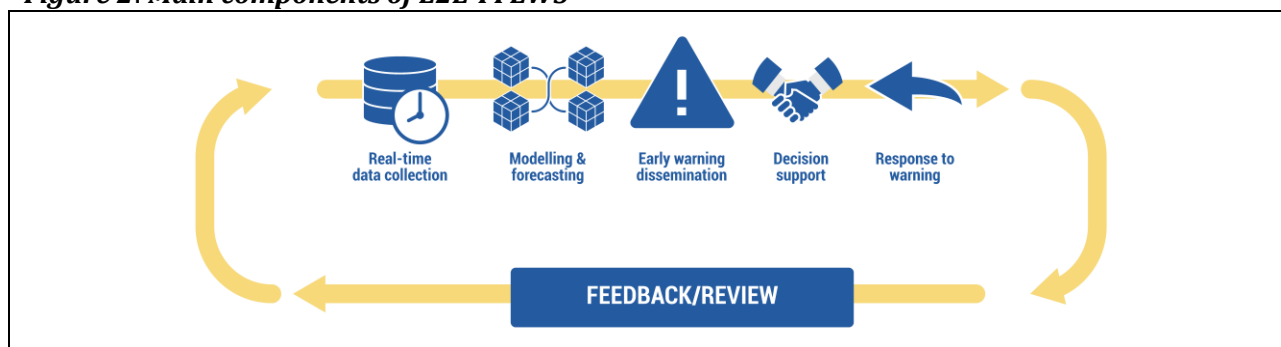
1.1.2 End-to-End Flood Forecasting and Early Warning Systems

Flood forecasting and warning as a focused activity in the hydro-meteorological sector is a relatively recent development. Flood forecasting and warning services have many local benefits, but on the

wider scale ultimately operate by the National Meteorological and Hydrological Services (NMHSs) in support of the civil protection and emergency response services. Forecasting and warning services are, in most cases, state services and their main goal is to deliver reliable and timely information to the civil protection services as well as to the general public. This should be accomplished with enough lead-time to allow people – including women and men – to take measures to protect themselves from flooding or take appropriate actions.

End-to-End Flood Forecasting and Early Warning Systems (E2E-FFEWS) is a framework to promote the enhancement of flood forecasting and early warning capabilities of NMHSs, which is interoperable at all levels from data collection to informing users and decision support systems. Figure 1 shows the main components under the complete framework of E2E-FFEWS; the bullet points below describe these in greater detail.

Figure 2: Main components of E2E-FFEWS



Source: WMO, APFM, and GWP (2018, p. 9)¹

- **Collection of real-time data** for the prediction of flood severity, including time of onset and extent and magnitude of flooding.
- **Preparation of forecast information and warning messages**, giving clear statements on what is happening, forecasts of what may happen and expected impact.
- **Communication and notification** of such messages, which can also include what action should be taken.
- **Interpretation of the forecast and flood observations**, in order to provide situation updates to determine possible impacts on communities and infrastructure.
- **Response to the warnings** by the agencies and communities involved.

Finally, after the response to the flood event, the **warning systems are reviewed and improved**. This presents the final component of E2E-FFEWS.

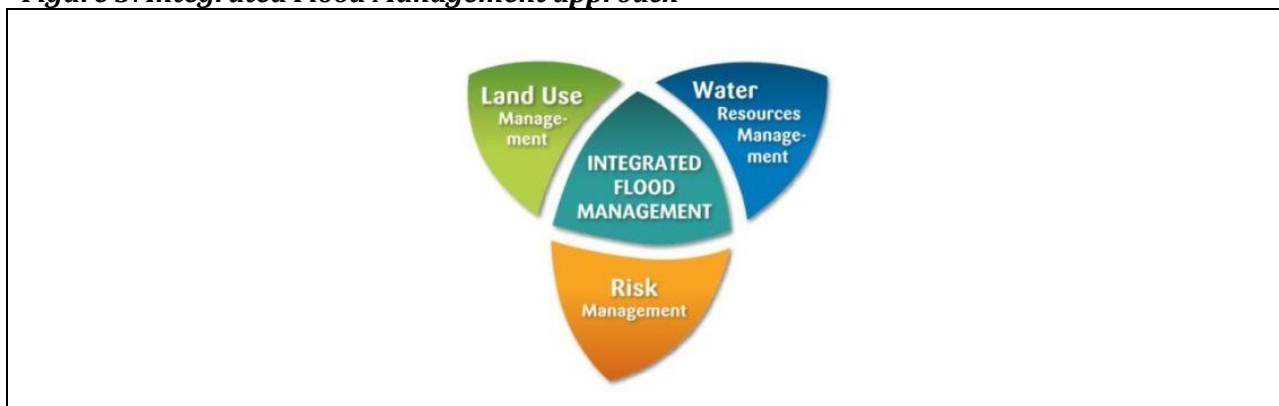
1.1.3 Integrated flood management

Integrated flood management (IFM) is a process promoting an integrated approach to flood

¹ <https://www.floodmanagement.info/get-help/end-to-end-early-warning-systems-for-flood-forecasting-e2e-ews-ff/>

management, thereby calling for a paradigm shift from the traditional, fragmented and localized approach. IFM integrates land, water and risk management in river basins under the concept of Integrated Water Resources Management (IWRM),² with a view to maximizing the efficient use of floodplains and to minimizing loss of life and property (Figure 2).

Figure 3: Integrated Flood Management approach



Source: Health & WASH (2014)

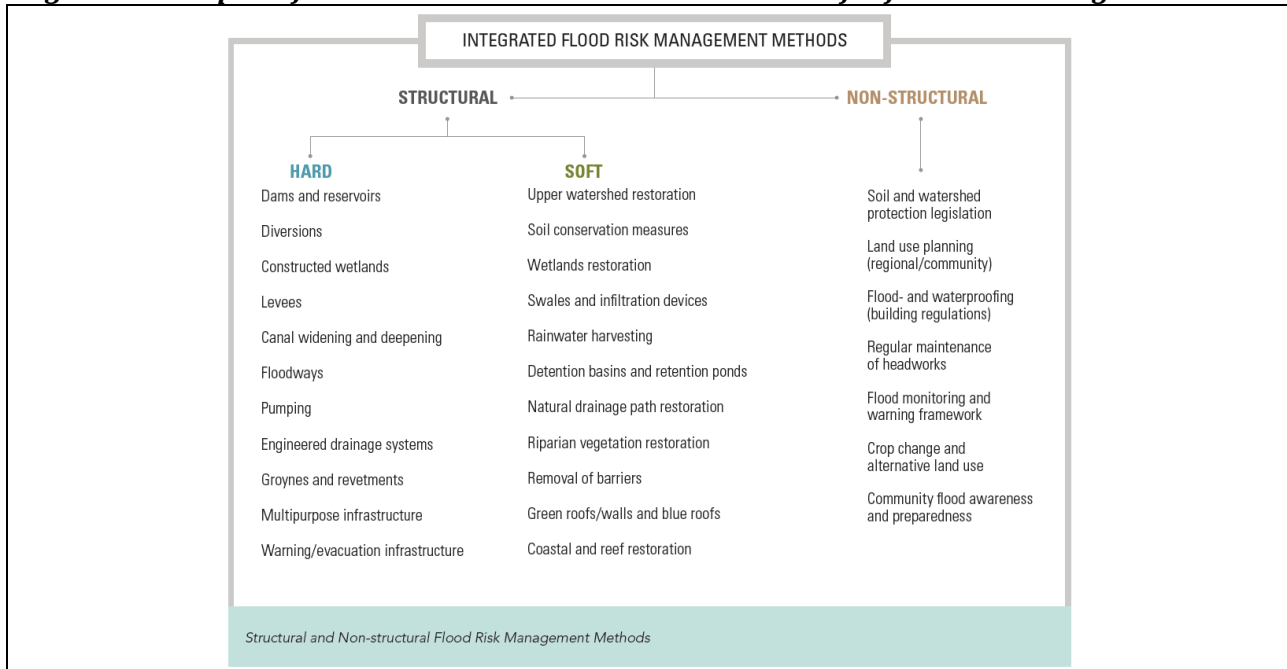
IFM, like IWRM, should encourage the participation of men and women, planners and policymakers at all levels. The approach should be open, transparent, inclusive and communicative; should require the decentralization of decision-making; and should include public consultation and the involvement of stakeholders in planning and implementation (APFM et al., 2009). Thus, the defining characteristic of IFM is integration, expressed simultaneously in different forms: an appropriate mix of strategies, carefully selected points of interventions, and appropriate types of interventions, namely structural or non-structural, short- or long-term.

The distinction between structural interventions or measures and non-structural ones is of importance in the context of IFM. Structural measures are defined as “measures, which are taken to protect people and property, that counteract the flood event in order to reduce the hazard or to influence the course or probability of occurrence of the event” (Hamburg University of Technology, n.d.b). In other words, structural measures involve the construction of artificial structures that, through a combination of science, technology and a bit of brute force, prevent a river from flooding, and/or mitigate the risk of flooding. However, structural measures are not always an adequate and sufficient response, as they cannot completely eliminate the risk of flooding as well as it can involve huge financial investments and lead to various social and environment impacts. This is where non-structural measures come into play. Non-structural measures use natural resources and people’s

² IWRM, as defined by the Global Water Partnership, is “a process which promotes the coordinated management and development of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems”. This approach recognizes that a single intervention has implications for the system as a whole, and that the integration of development and flood management can yield multiple benefits from a single intervention. See: APFM, WMO, and Global Water Partnership (2009) and (Global Water Partnership & WMO, n.d.)

knowledge of the river to reduce the risk posed by a flood. They “play an important role in reducing not only the catastrophic consequences of residual risks, but also adverse impacts on the environment” (Hamburg University of Technology, n.d.a). Figure 4 provides examples for structural and non-structural measures.

Figure 4: Examples of structural and non-structural measures for flood risk management



Source: WWF (2017)

1.1.4 (Integrated) flood management plan

Flood management activities should be carried out under a flexible but well-defined flood management plan (FMP) guided by flood management goals within the framework of national flood management policy and guidelines. The FMP usually starts with setting goals that are largely guided by local development objectives and driven by the need to reduce flood risks, secure livelihoods, sustain economic development and preserve environmental quality. The FMP provides insights on the existing vulnerabilities, capacities, exposures and risks for the flood hazards and is further demonstrated through flood risk and hazards maps. The plan clarifies the duties of the government, public corporations, organizations and communities in implementing measures. It also describes the sequence of disaster counter measures such as mitigation (flood elimination methods such as dams, reservoir, dikes, levees etc.), preparation (collection and dissemination of information, issuing and disseminating of forecasts and warnings, education and awareness), emergency response (evacuation, rescue), recovery, and reconstruction for the flood disasters (APFM et al., 2009). Most of the plans also have details of designated officials from the respective departments to be contacted during emergency periods. The FMP should be regularly revised or updated after flood events or mock drills/simulation exercises in consultation with stakeholders. This helps to ensure that lessons learnt, recommendations, and gaps are incorporated and addressed.

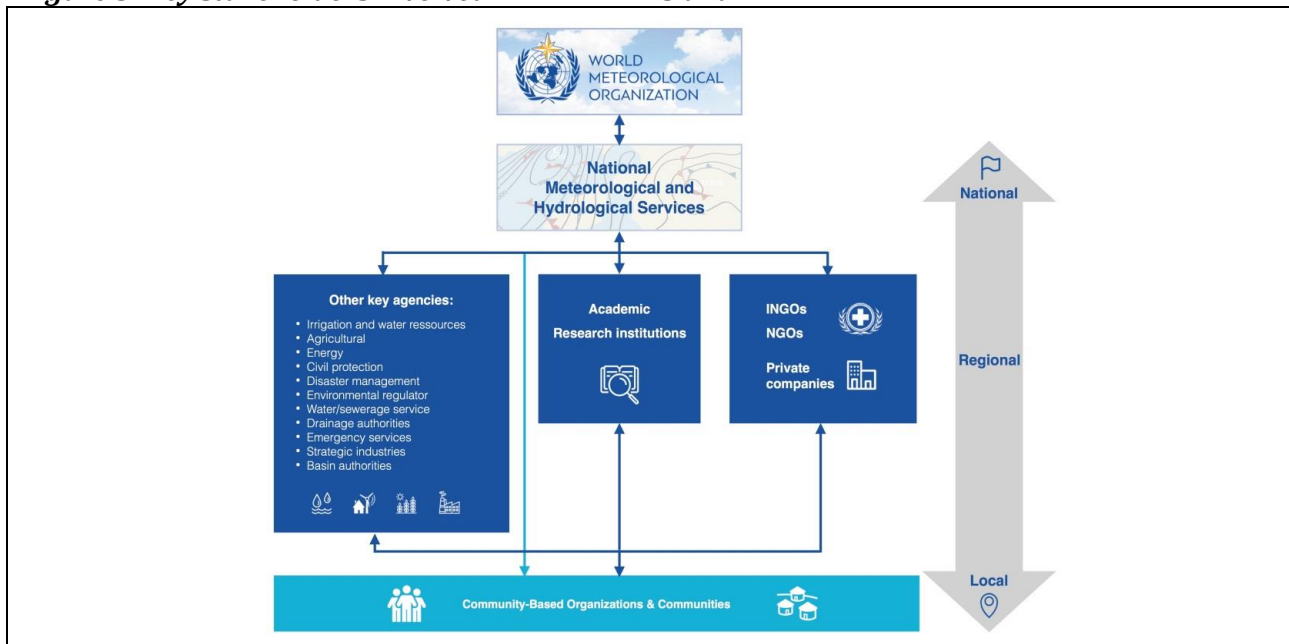
An integrated flood management plan (IFMP) should address the following six key elements that follow logically for managing floods in the context of an IWRM approach (APFM et al., 2009, p. 15):

1. Manage the water cycle as a whole (i.e., managing the land phases of the water cycle as a whole, taking into account the whole range of floods – minor and major)
2. Integrate land and water management (Land-use planning and water management should be combined in one synthesized plan with a certain common field, such as the mapping of flood hazards and risks, to enable the sharing of information between land-use planning and water management authorities)
3. Manage risk and uncertainty (the application of a risk management approach provides measures for preventing a hazard from becoming a disaster)
4. Adopt a best mix of strategies (the adoption of a strategy depends critically on the hydrological and hydraulic characteristics of the subject river system and region, and optimal solutions depend upon knowledge that is complete, precise and accurate)
5. Ensure a participatory approach (it is essential that a good representative range of stakeholders is involved in the IFM dialogue and decision-making process)
6. Adopt integrated hazard management approaches (a holistic approach to emergency planning and management is preferable to a hazard-specific approach, and IFM should be part of a wider risk management system).

1.1.5 Key stakeholders involved in E2E-FFEWS and IFM

Different stakeholder groups have different needs and requirements, based on their areas of interests, respective roles and responsibilities. In recent years the need for increased cooperation and collaboration across sectors and public participation has become more widely accepted or stressed: to achieve most effective results with regards to any E2E-FFEWS and IFM-related intervention, participation of a wide range of stakeholders, such as government agencies, technical specialists, NGOs, CBOs, and local residents, including men and women, is needed. Of particular importance in this context are flood prone communities – they are at the core of all flood management activities. The below graph provides an overview of stakeholders that should be involved in E2E-FFEWS and IFM.

Figure 5: Key stakeholders involved in EZE-FFEWS and IFM



Source: APFM-WMO (2017)

More detailed information on stakeholders and their roles can be found under section 4.7.

1.2 Gender-related concepts and definitions

The following gender-related concepts and definitions are mainly based on the UN Women Training Centre’s glossary. UN Women is the UN entity dedicated to gender equality and the empowerment of women, as well as further sources specified in the References.

1.2.1 Biological sex

The terms biological sex and gender are oftentimes used interchangeably. However, there are important distinctions we need to be aware of, in order to apply each term correctly. Biological sex is “the physical and biological characteristics that distinguish males and females” (UN Women Training Centre, n.d.c). Examples for biological sex include that females can breastfeed babies while males cannot (given that no health issues are experienced). Sex is biologically given and universal.

1.2.2 Gender

In contrast to biological sex, “gender refers to the roles, behaviors, activities, and attributes that a given society at a given time considers appropriate for men and women. In addition to the social attributes and opportunities associated with men and women and the relationships between women and men and girls and boys, gender also refers to the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. They are context/time-specific and changeable. Gender determines

what is expected, allowed and valued in a woman or a man in a given context. In most societies there are differences and inequalities between women and men in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision-making opportunities” (UN Women Training Centre, n.d.a). Examples for the concept of gender include that in many societies, women are expected to take on the role as primary caretaker for children, while men are expected to engage in income-generating activities.

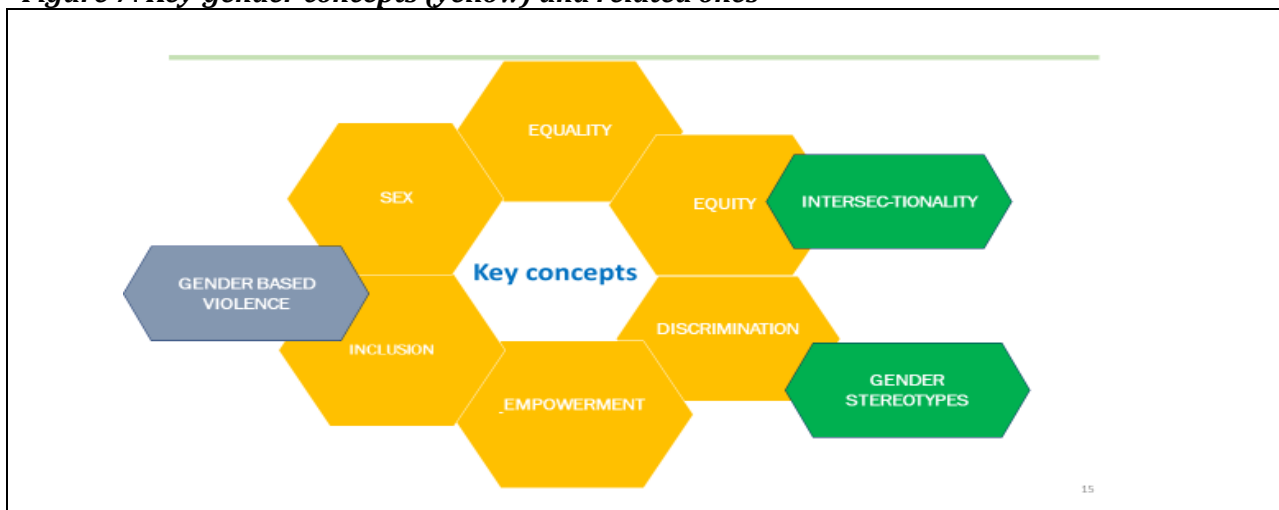
Figure 6: Main characteristics defining gender and sex

Gender	Sex
<ol style="list-style-type: none"> 1. Social construction 2. Changeable in nature 3. Connotes different social roles of 4. men and women in society, e.g., men as breadwinners, women performing household chores 5. (...) 	<ol style="list-style-type: none"> 1. Biological construction 2. Universal in nature 3. Connotes only physical difference 4. e.g., the way we are biologically born 5.(...)

Source: WMO/APFM, NODS and K&I – Gender workshop in Antigua September 2022 - Session 3 - Key concepts related to Gender

However, it is important to note that there are also non-binary gender identities, and many non-binary people identify with a gender that differs from their biological sex assigned at birth. Up to this date, the binary categorization of woman/female and man/male is inherent to most development and humanitarian programming. Thus, the focus of this training manual (and facilitator’s guide), at this initial stage, adopts primarily the binary definition.

Figure 7: Key-gender concepts (yellow) and related ones



Source: WMO/APFM, NODS and K&I – Gender workshop in Antigua September 2022 - Session 3 - Key concepts related to Gender

1.2.3 Gender equality (equality between women and men)

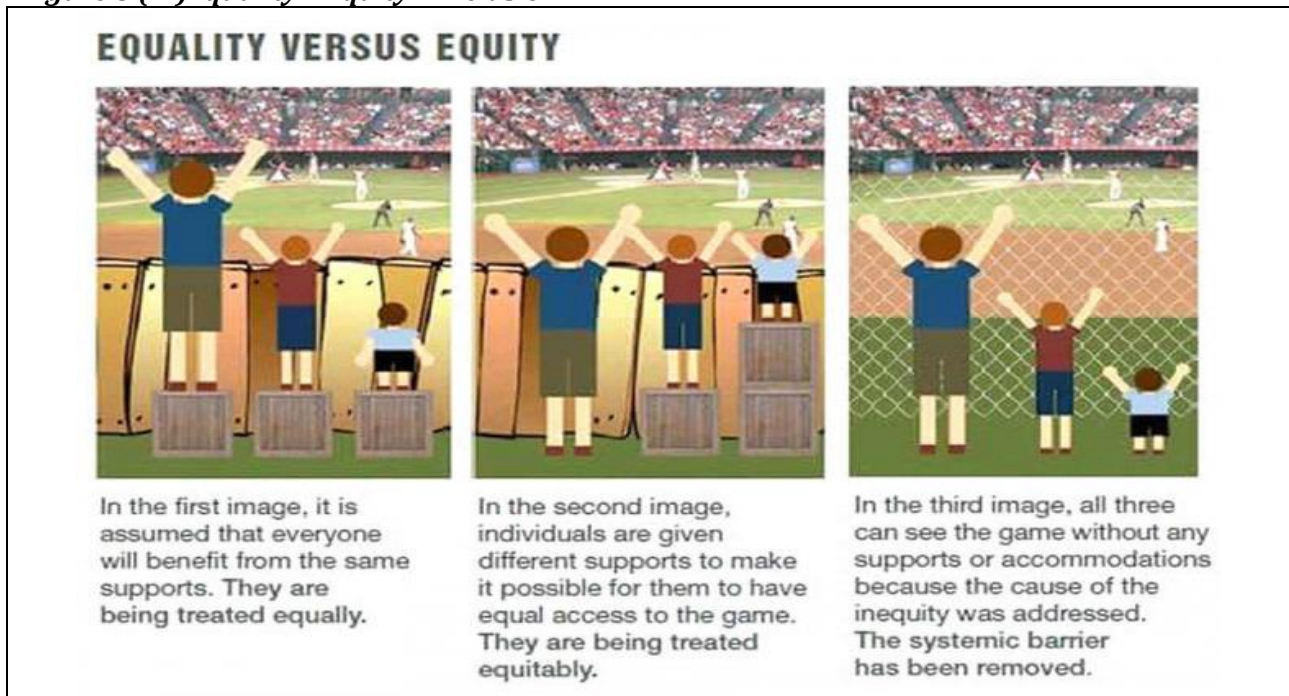
Gender equality “refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women’s and men’s rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality means that women and men enjoy the same status and implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men. Gender equality is not a women’s issue but should concern and fully engage men as well as women. Equality between women and men is seen both as a human rights issue and as a precondition for, and indicator of, sustainable people-centered development” (UN Women Training Centre, n.d.b). It is a goal to achieve through Equity measures (see following point 1.2.4) and the full engagement of men as well as women.

1.2.4 Gender equity

In contrast to gender equality, gender equity is a concept that some jurisdictions refer to with regards to the “fair treatment of women and men, according to their respective needs. This may include equal treatment, or treatment that is different but considered equivalent in terms of rights, benefits, obligations and opportunities” (UN Women Training Center, n.d.b). One example where an equitable approach makes sense is nutrition, given that women have different dietary needs than men, specifically during pregnancy and lactation. Gender equity entails that measures must be available to compensate for historical and social disadvantages (affecting women but also other disadvantaged groups, such as LGBTQI+ communities³ or people with disabilities), removing factors of discrimination (namely action or omission which has the effect, whether intentional or not, of limiting the possibilities offered to certain persons or groups because of their personal characteristics—gender, class, ethnicity, disability, sexual orientation, etc.), towards a better social inclusion (e.g., providing equal access to opportunities and resources for people who might otherwise be marginalized, such as those who have physical or mental disabilities and members of other minority group) “leaving no one behind”.

³ Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual: <https://lgbtqia.ucdavis.edu/educated/glossary>

Figure 8 (In)Equality – Equity – Inclusion

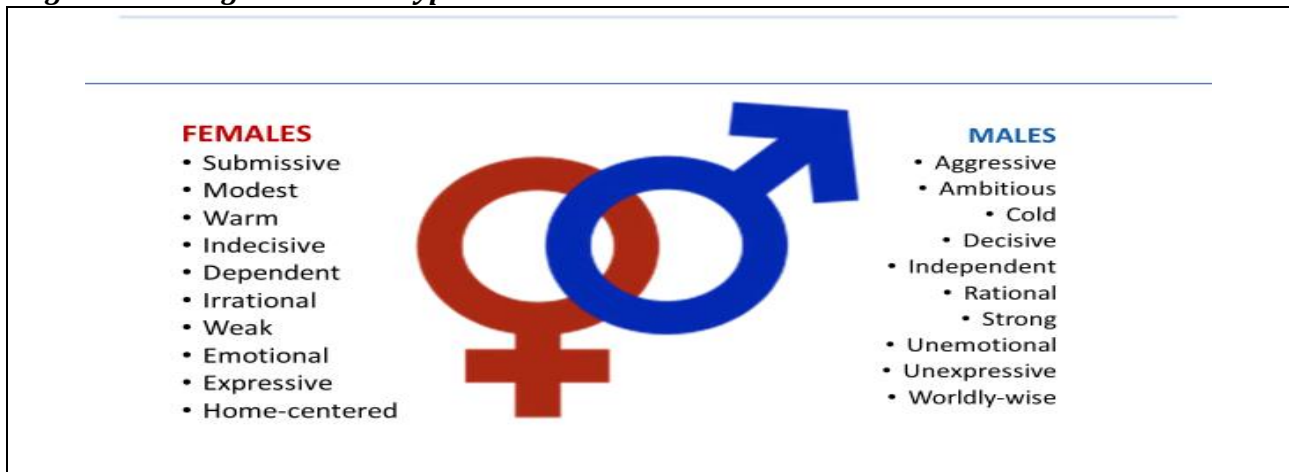


Source: <https://www.diffen.com/difference/Equality-vs-Equity1.2.5> Gender stereotypes

1.2.5 Gender stereotypes

Gender stereotypes are awards to men and women of certain characteristics or roles that produce the belief that these/those are related to gender. These stereotypes reinforce gender inequality by portraying assumptions that maintain inequality as biologically or culturally fixed.

Figure 9: Some gender stereotypes



Source: WMO/APFM, NODS and K&I – Gender workshop in Antigua September 2022 - Session 3 - Key concepts related to Gender (see: “Institute for gender research – Education video at learning.org)

1.2.6 Women empowerment⁴

It means enabling women (and men) to gain greater control and power over decision-making processes, creating critical awareness towards and providing appropriate resources for:

- Undermining institutionalized discrimination, structures of domination and normalized violence against women and girls
- Facilitating women's active participation in local and national decision-making processes and overcoming women's marginalization.

Gender empowerment entails a range of activities geared towards improving women's living conditions, individually and collectively.

1.2.7 Gender-based violence

Gender-based violence (GBV) in the broadest terms, is violence that is directed at individuals based on their biological sex, gender identity, or perceived adherence to culturally defined expectations of what it means to be a woman and man, girl and boys. GBV "is an umbrella term for any harmful act that is perpetrated against a person's will and that is based on socially ascribed (gender) differences between females and males. The nature and extent of specific types of GBV vary across cultures, countries and regions. Examples include sexual violence, including sexual exploitation/abuse and forced prostitution; domestic violence; trafficking; forced/early marriage; harmful traditional practices such as female genital mutilation; honor killings; and widow inheritance" (UN Women Training Center, n.d.c). Different types of GBV can be distinguished, including verbal, psychological, physical, sexual, and socioeconomic violence. GBV regards mainly women, girls, and sexual and gender minorities (SGMs), namely "individuals whose sexuality, biological sex, gender identity, or gender expression are different than the majority norms in a given society. SGMs include, but are not limited to, people that identify as queer, lesbian, gay, bisexual, asexual, gender non-conforming, intersex, transgender, and Two-Spirited" (Kim Robin van Daalen, et al., 2022). Increased GBV has been observed in both natural and human-caused crises and disasters, due to socioeconomic instability, structural power inequalities, healthcare inaccessibility, resource scarcity, breakdowns in safety and law enforcement, and increases in (perceived) stress (Kim Robin van Daalen, et al., 2022).

⁴ "Empowerment should be considered as a complex process that entails a societal actors' increase of skills, awareness, involvement in the decision-making process, etc., in synthesis an increase of their capacities to control their own environment and therefore to be active in such environment". The notion of empowerment is crucial in the context of the Community Based Disaster Management. People/communities, indeed, may have a major role to play in community risk/disaster management programmes and may be involved more effectively, as critical stakeholders, if they are fully conscious, empowered, and trained. Citizens' empowerment provides people with an opportunity to play more active role - a crucial aspect, considering that many of the disaster management programmes have failed to be sustainable at local level after their completion and communities' participation in these activities proved to be a critical element of sustainable disaster management. In order to be as effective as possible, local communities must be supported in the analysis of the existing hazards and their own vulnerabilities and capacities, as well as in the ways for intervention at the different disaster stages (preparedness, response, and recovery and reconstruction). Empowerment processes strengthen the resilience of communities prone to disasters. (see: <http://s.carismand.eu/p/c/a/carismand-d-07-01-ls2016-12-summary-834.pdf>)

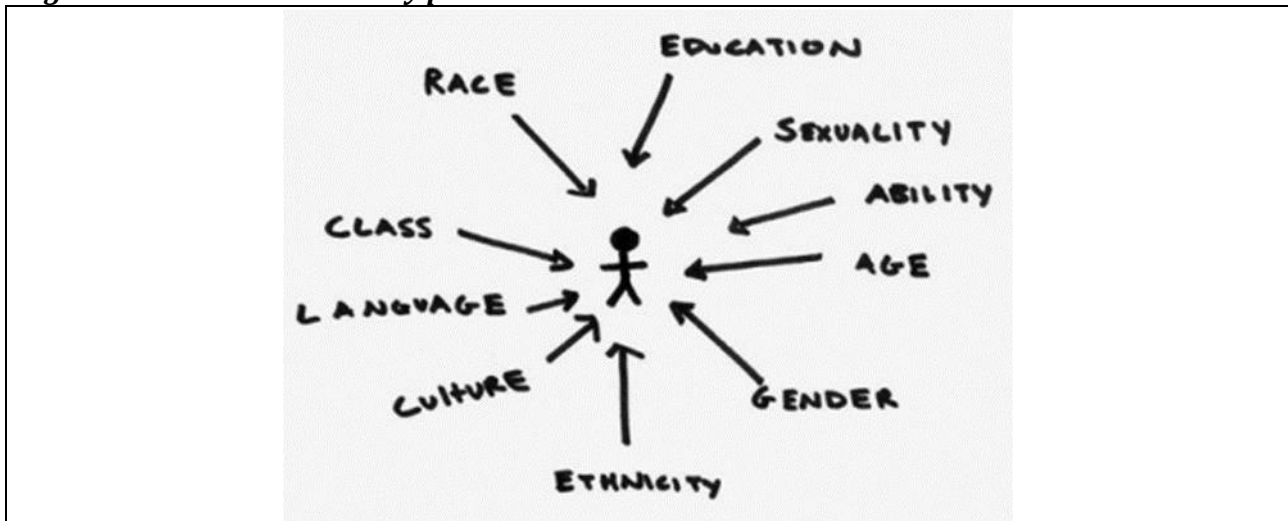
1.2.8 Gender perspective

When we speak about taking a ‘gender perspective’, we refer to “a way of seeing or analyzing which looks at the impact of gender on people’s opportunities, social roles and interactions. This way of seeing is what enables one to carry out gender analysis and subsequently to mainstream a gender perspective into any proposed program, policy or organization” (UN Women Training Center, n.d.).

1.3 Intersectionality and a note on groups with special needs

The concept of intersectionality is understood as “the complex, cumulative way in which the effects of multiple forms of discrimination (such as racism, sexism, and classism) combine, overlap, or intersect especially in the experiences of marginalized individuals or groups” (“Intersectionality”, n.d.). Broadly speaking, “Intersectionality promotes an understanding of human beings as shaped by the interaction of different social locations (e.g., ‘race’/ethnicity, indigeneity, gender, class, sexuality, geography, age, disability/ability, migration status, religion). These interactions occur within a context of connected systems and structures of power (e.g., laws, policies, state governments and other political and economic unions, religious institutions, media). Through such processes, interdependent forms of privilege and oppression shaped by colonialism, imperialism, racism, homophobia, ableism and patriarchy are created” (Hankivsky, 2014).

Figure 10: An intersectionality picture



Source: <https://iwda.org.au/what-does-intersectional-feminism-actually-mean/>

The key message here is that people’s vulnerability to hazards is influenced by the interplay of numerous factors such as age, disability, and ethnicity. This Training Manual and Facilitators’ Guide focuses on gender and the specific vulnerabilities and capacities and skills of women and men in the context of E2E-FFEWS and IFM. However, it is also of utmost importance to consider other identity-shaping dimensions and groups with special needs in any initiative to the extent possible. The table below presents definitions that will help stakeholders identify these.

Table 1 - Characterization/definition of some vulnerable profiles

Population group	Definition
Children	As stated in the Convention on the Rights of the Child, “a child is any person under the age of 18” (UNICEF, n.d.).
Lesbian, gay, bisexual, transgender, queer and intersex (LGBTQI)	As per the understanding shared by numerous UN agencies, “the terms lesbian, gay, bisexual and pansexual refer to people’s sexual orientation, that is, who they experience sexual attraction towards; while transgender refers to gender identity, that is, “someone whose gender differs from the one they were given when they were born”. Terms like genderqueer and non-binary refer to people who fall outside the construction of gender as male or female. Intersex people are born with physical or biological sex characteristics such as reproductive or sexual anatomy, hormones or chromosomes that do not seem to fit the typical definitions of female or male” (UNRISD et al., 2015).
Old age / older population/ older persons	The definitions available for these terms vary widely but within UN agencies it is generally agreed that old age / older population / older persons are those aged 60 years and over (UNFPA & HelpAge International, 2011). Elders can hold a real decision-making power within a community and have a key role in restoring/maintaining the social network (HelpAge, 2005). Elders can therefore play a positive role in the active participation of citizens/actors. Therefore, their potential as both human resources and holders of knowledge should not be wasted but, on the contrary, enhanced. In any case it must be kept in mind that the status of elders differs widely, according to the different geographical contexts.
Persons with disabilities	The Convention on the Rights of Persons with Disabilities and its Optional Protocol (CRPD, 2006, A/RES/61/106) defines persons with disabilities to “include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others” (UNHCR, n.d.). People with disabilities tend to have the least access to voice and representation in society. In dealing with community participation, special attention should be paid to avoid their exclusion (ILO, 2003).
Migrants	While there is no formal legal definition of an international migrant, most experts agree that an international migrant is someone who changes his or her country of usual residence, irrespective of the reason for migration or legal status ⁵ . Migrants are often people who, on the one hand, lack access to land, housing and vital services and suffer from livelihood pressure as they face the day-to-day insecurity of work and finances. More particularly, they can suffer from social exclusion processes, worsened by a minor knowledge of the territory where they now live. (Marta, 2009).
People living in marginal areas	People living in informal settlements and remote locations, are often populated by economically disadvantaged groups and vulnerable social groups (minorities, ethnic groups, etc.). These groups may be particularly vulnerable to floods and droughts due to factors such as spatial location (e.g., near riverbanks), underdeveloped infrastructure and basic facilities, environmental degradation, lack of knowledge about hazards and/or fatalistic attitudes about hazards. Development in marginal areas occurs mainly in an unorganized and dispersed manner, which disrupts community participation and social networks.

⁵ <https://refugeesmigrants.un.org/definitions#:~:text=key%20refugee%20definitions-,Migrant,for%20migration%20or%20legal%20status.>

Module 2: Gender dimensions of flooding events

Goal

This module identifies common gender dimensions of flooding events, and typical gender issues that occur in the context of E2E-FFEWS framework and IFM. Based on these, the goal of the module is to demonstrate why gender mainstreaming is important, and which benefits gender mainstreaming can have for individuals, households, and communities as a whole.

Learning Objectives

At the end of this module, participants will be able to:

1. Identify common gender dimensions of flood events
2. Be aware of specific gender issues related to E2E-FFEWS and IFM.

2.1 Common gender dimensions of flooding events

Flood events affect women and men, boys and girls differently (as well as specific human groups, such as the elderly, the disabled persons, etc.). The reasons for this situation are mainly connected to social norms and role behaviors that are deeply enshrined in societies even before flood events occur. One important example is the traditional division of labor: society typically expects women to fulfill reproductive tasks – tasks that are centered on domestic work and caregiving, such as childcare, cooking and cleaning. Men on the other hand are typically expected to engage in productive tasks – tasks associated with generating an income. If women engage in income generation, they may experience what is at times called a “double burden:” a situation in which they continue shouldering most of the domestic tasks in addition to having a paid or unpaid job outside their home.

In case of flood events, these roles and responsibilities lead to distinct vulnerabilities of women and men. For instance, women’s self-rescue efforts may be restricted due to the expectation to look after family members (Hunter, Castro, Kleiber, & Hutchens, 2016). Particularly in the aftermath of flood events, women are likely to experience an increase in workload, as tasks such as fetching water and providing food for the family become more challenging. Furthermore, children and elderly people may require additional care due to sickness or harm. Based on an example from Cambodia, Figure 6 summarizes key concerns and changes in women’s workload pre-flood, during-flood, and post-flood.

Figure 11: Summary of key concerns and workload of women related to flood situation,

Pre-Flood	L	During-Flood	L	Post-Flood	L
Food security	↗	Lifesaving skills	↘	Food security	↗
Energy	↘	Safety and security	↗	Households' debts	↗
Assets and belongings	↗	Health and hygiene	↗	Psychological stresses	↗
Early warning system	↘	Privacy	↗	More intensive works	↗
More intensive works (including productive work)	↗	Difficulty to travel	↗	(including productive work)	↗

Note: L = Level of concern and workload (↗=High, ↘=Low)

Source: Chanthy & Samchan, (2014)

This figure is just an example and could be questionable (e.g., food security could be considered an issue also during flood; hygiene is often an issue in post-flood). However, it still serves to highlight how numerous (and, in part, diversified) are key concerns and changes in women’s workload pre-flood, during-flood, and post-flood.

When assessing the gender dimensions of flood events, another important component to consider is women’s participation in public life (including their engagement in activities directly with men). Up to this date, women’s political participation is limited and their representation in decision-making structures lag behind men’s. This inequality also manifests in the sector in question: many women are still not involved in conservation, watershed management, flood management committees and other preparedness and response activities that help reducing flood occurrence and impacts in their areas, especially when compared to the share of men engaged in these tasks (ADB, 2016). An example comes from a flood-prone region in Indonesia, where research found that women were not considered to take part in important processes, such as hazard identification and vulnerability assessments, early warning system and information dissemination, and decision-making. As we will see in the following sections, this is not only an issue with regards to the effectiveness of the adopted measures, but also an issue from a rights-based perspective. A further example comes from the village of Sangabili in Côte d’Ivoire (one of the pilot sites of the Volta Flood and Drought Management Program - VFDM⁶) where women were not part of the local Committee in charge of the management of local hazards and became active members of such a Committee only thanks to the CBFDM activities in Sangabili. From 2022, women from both the village’s communities (Koulango and Lobi) are active members of the Community Flood and Drought Management Committee.

Independent from flood events, unequal power relations between men and women can lead to the severe issue of gender-based violence (GBV). However, as research shows, rates of GBV go up during and in the aftermaths of disasters, including flood events. In 2010 for instance, when heavy floods hit Pakistan, incidents of rape, early marriage, and other forms of GBV spiked (Bukhari & Rizvi, 2015). Risks of experiencing GBV are particularly high among those displaced, living in temporary shelters and camps (International Federation of Red Cross and Red Crescent Societies, 2015). Experiencing rape, sexual harassment, domestic violence, and other forms of GBV adds to victims’ emotional,

⁶ See: https://www.floodmanagement.info/floodmanagement/wp-content/uploads/2022/10/Manual-CBFDM-VB_FinalVersion.pdf

psychological, and physical suffering and can have long-term consequences on their physical and mental health. This situation may also impact women's capacity to care for their families and engage in income generation.

Biological factors play an important role, too, when we speak about the gender dimensions of flood events. For instance, aspects of daily life, such as maintaining personal hygiene, become more challenging during and after flooding: if toilets and hygiene facilities are hit, people must resort to open defecation – a situation of particular concern for women who have to sacrifice their need for privacy and dignity, especially during menstruation. Further, menstrual hygiene products may be scarce and menstrual waste disposal even more challenging than under normal circumstances (Bhattacharjee, 2019). Similarly, physiological factors must be considered: for instance, self-rescue efforts, such as climbing trees and swimming, are particularly challenging for pregnant women and other vulnerable groups, like people with disabilities or elderly people. Wearing traditional clothes, such as saris, can hinder such efforts additionally (Hunter et al., 2016).

As we have learned in the first Module, gender and gender empowerment do not only refer to women but also to men, and the relationship between women and men. Thus, it is important to also shed light on some of the distinct vulnerabilities men experience in case of flood events. As data show, men, especially young and middle aged men, at times feel pressured to engage in risk-taking behavior, such as rescue activities (Rufat, Tate, Burton, & Maroof, 2015), and generate an income to provide for their family. Navigating the job market during and after flood events is oftentimes particularly difficult, and the stress experienced may lead to mental health problems, including hazardous alcohol and drug consumption. Having said this, men's vulnerabilities are oftentimes less well known and discussed, not least due to prevailing gender stereotypes based on which men are perceived as strong and as requiring least assistance. Furthermore, flood events can impact the power dynamics within communities and households; an increase in gender-based violence (GBV) during and in the aftermaths of disasters is a typical indicator for this.

Textbox 1 summarizes these and further gender dimensions of flood events by pointing out women and men's distinct vulnerabilities. It is important to note though that these examples are not exhaustive and refer to specific contexts; they cannot be generalized.

Textbox 1: Examples for women and men's distinct vulnerabilities in the context of flood events

- In many societies, women are expected to perform so-called reproductive tasks, such as caring for children, the elderly, and sick household members; cooking and cleaning; and providing water for household purposes. Oftentimes, in case of flood events, these tasks become more difficult and time-consuming (to quote an "extreme" example: In January 2022 during Cyclone Ana floods, in Malawi, a heavily pregnant woman found herself perched in a tree in a course of running away from floods. Staying there for 6 days and gave birth to a baby boy 'Chisomo'. That woman had a displaced family, was in labor pain and gave birth).
- Women are underrepresented in public life, including in relevant bodies such as flood committees (see the cases of Côte d'Ivoire and Indonesia above). This makes it more likely that women's needs remain unmet, and their vulnerabilities overlooked in all phases of flood management.

- Incidents of violence against women rise during and in the aftermath of disasters (see the case of Pakistan above).
- Due to cultural norms, women in some countries have not learned to climb trees or to swim. Being pregnant or wearing traditional clothing (e.g., sari) are factors that put them at an even higher risk of drowning.
- Women may have limited access to flood-related information (e.g., due to illiteracy, limited access to information and communication technologies, or because they are busy with caretaking), which may lead to a reduced level of preparedness and ability to respond to flood events (as it happened in Tabota, Benin, one further pilot site of the VFDM project before the implementation of the CBFDM activities in 2021/22⁷).
- Due to social norms, vulnerabilities of men are oftentimes not as visible and less recognized and talked about.
- Rescue activities and other risk-taking behavior put men at risk, and the pressure to generate an income and provide for their family can cause high levels of stress and lead to mental health problems

However, women play a positive function in the response to flood.

- Women are also more sensitive to natural and human risks due to their higher capacity to understand the social and economic impacts and their deeper awareness of societal, microeconomic, and environmental aspects of everyday life affecting them and their families. Often, they contribute more to the preparedness and response to a crisis.
- Women have skills that can make them “keys to hazard prevention”. In many societies, they manage and use natural resources on a daily basis and can draw from them in emergencies, such as food preservation.
- Women are often important “risk communicators” as they have a central role in the family (looking after children, the elderly, etc.).
- Women are also more likely than men to pay attention to emergency warnings and are more safety conscious. They have informal health-care skills and experience in treating physical and mental conditions and often further formal/informal professional qualification that can be important for disaster preparedness, response and recovery (health care, teaching, counselling, etc.).
- Women provide often assistance with health and hygiene, food security and safe drinking water, among others.
- Finally, many women-led organizations around the world show the potential of women in disaster preparedness, response and recovery.

But many factors exacerbate women vulnerability in flood.

- Non availability of Gender disaggregated information, in particular on human settlements, access to social institutions and services (e.g., transport infrastructure, electricity and water supply).
- Lack of information related to marginalized groups leading to serious consequences for them.
- Lack of forecasts and warnings recognize that men and women (and different social groups) access, process, interpret and respond to information in different ways.
- Lack of available information in accessible formats to vulnerable groups’ Failure to provide relevant information taking into account knowledge, mode of communication, language.
- Poor equipment for forecasters and professionals in emergency situations: warning information is vague, does not take into account the specific needs of vulnerable groups.
- Lack of gender-responsive programming, monitoring and evaluation.
- Lack of Gender responsive budgeting that prioritizes the unique needs of vulnerable groups, and the identification of sustainable financing mechanisms that enable a pre-emptive approach to inclusive social protection during an emergency or disaster.

Sources:1) WMO/APFM, NODS and K&I – Gender workshop in Antigua September 2022 - Session 4 – Gender dimension of flood events; 2)Flood resilience portal - Why are some people more vulnerable to the impact of floods than others? Available at: <https://floodresilience.net/why-are-some-people-more-vulnerable-to-floods/>

⁷ Cit.

Textbox 2: Examples of issues related to disadvantaged groups in the Volta Basin

The floods are at the origin of a situation of great vulnerability of the populations in several zones of the Volta basin where the means of fight or resilience vary according to the capacities of the men and women affected. The following issues should be taken into account.

- **Health issues:** in the Volta Basin, women, children, young people and vulnerable people (disabled, elderly, etc.) represent the vulnerable groups most affected by the risks of flooding. In effect, the living environment of the communities concerned is often quickly affected during floods, which exposes the victims to falls and drowning, physical injuries, diarrheal diseases and malaria, sometimes leading to cases of loss of life, especially children. It is also noted that pregnant women and children are very vulnerable people, whose needs and concerns are often not taken into account during community displacements, which increases the risk of diseases and genital infections in particular). Women being responsible for domestic hygiene, water supply, food and management of household health problems; flood risk management cannot be done without their contributions. Women, girls, the elderly and the disabled are the most affected.
- **Economic and social issues:** in all the countries of the Volta Basin, floods severely affect the social and financial conditions of women and young people whose livelihoods are already precarious and very weak. Despite government efforts to facilitate women's access to land, it is always noted in the communities that women and young people have difficult access to agricultural land. As a result, they are forced to carry out their agricultural activities in areas with high exposure to flooding; because they do not have the economic means, or the social attributes necessary to access fertile and productive land. These people or groups of people often occupy unproductive marginalized lands and suffer the loss of their crops during floods, which exposes them more to food and nutritional crises, to a drop in their income, to poverty, and weaken them further. Moreover, the balance of power (physical and financial) between the different social strata, reproductive activities and the low level of education of women are not likely to facilitate the good participation of women, girls and other vulnerable groups.
- **Security issues:** in the Volta basin, we note that the people who are victims in the event of floods are for the most part the weakest (women, children, young people, the disabled, vulnerable groups), the marginalized who live in uncomfortable, unhealthy areas, areas at risk and with few means for their subsistence. The disorganization of social services, infrastructures, and goods leads to social tensions, promiscuity, with sometimes the deterioration of morals, and even leading to the dislocation of families, to the increase in thefts, physical attacks, and more generally to the increase in gender-based violence.
- **Environmental issues:** in the Volta basin, the floods induce, among other things, the modification of the living environment, the proliferation of waste, the difficulties related to sanitation, pollution and soil degradation. The management of this situation requires anticipation through, among other things, the strengthening of women's resilience.

Source: GWP-WA (2023)

2.2 Specific gender issues related to E2E-FFEWS and IFM

Now that we have gained an overview of the gender dimensions of flood events, we move to identifying specific gender issues that frequently occur in the context of E2E-FFEWS and IFM.

2.2.1 Gender and the chain of E2E-FFEWS

Data Collection

Economic, social, and cultural information is important for effective vulnerability and risk mapping, and for impact assessments for forecasting as well as for following flood events. Flood risk mappings help in understanding relations between human populations, their environment, and weather, water and climate information. They indicate settlements and social institutions (e.g., transport, power and

water supply infrastructure) at risk for a disaster event. However, data are sometimes not adequately collected and not updated regularly (Ouseteya et al., 2017) With regards to gender, data are oftentimes not collected disaggregated by sex – but they should be. In fact, the collection of sex and age disaggregated data (SADD) is most desirable (World Bank/GFDRR, 2021). Moreover, some vulnerable groups can play a very important role in data collection. In the frame of the VFDM project a study to evaluate multidimensional factors of vulnerability and risks in areas of the Volta basin exposed to various hydro-meteorological hazards (floods and droughts) has been implemented in 60 sites, collecting data, among others, on the communities' exposure to flood. Very relevant data were provided by the elderly and by women, the first, thanks to their deep historical memory on past events; the latter due their deep sensitization on the social and economic impacts off those events (VFDM, 2021). So, a real support from community members in such data collection is crucial, both to have information that is often otherwise unavailable, and because hydrological and meteorological services often lack competences in this respect and have limited staff. Finally, communities support data collection also since they look at the safety of the hydro-met stations with protection structure, avoiding, as far as possible, vandalism (and in case of theft or damages, need to inform or alert national hydro-met technicians⁸).

Modelling and Forecasting

One common problem with the forecasting mechanism for flood events is that it does not provide information in a style that matches the technical and non-technical knowledge of the general population or representatives of communities and associations. Especially women and other vulnerable groups are therefore oftentimes heavily dependent on other people and institutions (e.g., communities or local agencies) to receive updates and flood forecasts. This should not be the case – women and other vulnerable groups should have guaranteed access to relevant information, which must be tailored to their level of comprehension. Likewise, women's (or elderly's) knowledge (e.g., historical memory) should be utilized in the context of modelling and forecasting.

A second issue is that sex-disaggregated data and information, or ideally SADD, are required for a successful impact-based forecasting, yet forecasters and emergency professionals working in the National Services are oftentimes not equipped to visualize specific risks and impacts on the area where flooding might potentially occur. Moreover, as stated above, hydrological and meteorological services often lack competences in this respect and have limited staff (so, there is a need of more individuals tacking-up studies in this respect)⁹. As a consequence, the distinct needs of women and children (and other vulnerable groups) who make up a large share of the affected population thus may not be captured adequately: stakeholders may produce general forecasts and warning information instead of impact-based forecasts tailored to the population and specific context.

⁸ E.g. this issue is included in the agreements related to the installation of 5 hydro-met stations in 5 communities of the Volta Basin under the component on Community-Based Flood and Drought Management in the frame of the VFDM project (VFDM, 2024).

⁹ There are some projects that wish to contribute to fill this gap (adopting also a gender approach). E.g., the granting of training scholarships targeting women in Burkina Faso; which has made it possible to have a significant number of professional women in hydrology and meteorology, who participate in the process of E2E-EWS-FF and IFRM (see Textbox 8, below).

Early Warning Dissemination

Generally, women are most affected by the lack of early warning systems or timely availability of the warning. This is due to a variety of reasons, including a lack of awareness on the source of the warning, limited understanding of the warning, and the neglect of responsible agencies to address this situation and provide them with relevant information that considers their knowledge, language, and way of communication. Indeed, early warning is oftentimes targeted at community leaders or household decision-makers which are usually (but not always) men. This happens quite frequently with severe consequences: for instance, a study carried out after the 2014 Kelantan flood in Malaysia showed that women did not receive early warning information prior to the emergency. This resulted in increased damage experienced by women-led families, the elderly and physically challenged individuals who used their local knowledge and previous experience instead to make decisions regarding time and place of their evacuation (Hafizah et al., 2017).

Textbox 3: Example from Bhutan – findings from a gender assessment of an early warning system at the community level (first part)

Risk knowledge and prevention

- The majority of women are not aware of safety routes and evacuation sites.
- Women perceive that they do have knowledge about floods.
- Risk zones have been identified and marked in the villages. However, not all community members are aware of this.

Communication and dissemination

- There is a need to design communication materials with picture and illustrations to disseminate information on the flood EWS to the 40% of community members who are illiterate, as many were unaware of the hazard zonation maps and safety routes.
- Women preferred mobile phones as a means of communication rather than sirens. This reflects the fact that women who do not frequent public places may not hear sirens. This gendered need should be considered in EWS design (which could combine both sirens and mobile alerts).

Monitoring and warning services

- Less women than men are involved in monitoring and warning services for the flood EWS in Bhutan.
- Only those women working in the flood management divisions and departments are involved in the monitoring and warning services for the flood EWS. Low representation of women (less than 20%) is found in organization working in this area.

Please note that this and all other case studies are context specific – findings may differ depending on the specific context.

Source: ICIMOD (2016)

Conversely, in Costa Rica, in the “Comités Comunales de Emergencia” in the region of Rio Turrialba and Rio Sarapiquí, have been organized and strengthened within the framework of the EWS, the majority of their members are women¹⁰. Nevertheless, at least in Turrialba, the majority of their leaders (4 out of 5) are men. A further “positive” approach, in this respect, has been adopted in Sangabili (Cote d’Ivoire) (see the Textbox that follows). In both cases, women (and some vulnerable people) at

¹⁰ Proyecto Sistemas de Alerta Temprana para Riesgos Hidrometeorológicos en Costa Rica para la cuenca del río Sarapiquí”. See: <https://docplayer.es/8487444-Resumen-ejecutivo-5-i-metas-y-metodologia-5-ii-involucramiento-de-socios-del-proyecto-5-iii-involucramiento-de-la-comunidad.html>

the community-level, not only receive information, but also contribute to producing it. The communication process is two-ways. More specifically, in Sangabili, women, men and other vulnerable groups at the community or local levels were involved in the design and development of this early warning system. We must however recognize that this is a somewhat particular case (although not unique), and this is certainly not the rule.

Textbox 3bis : WAP group on “Alertes hydro-météorologiques Sangabili” and radio ZANZAN in Cote d’Ivoire - “Voices from the field”

“To respond to the right need of the population of Sangabili to promptly have functional information for an early warning of floods and droughts and, also, to return to the Community of Sangabili the information captured by the hydro-meteorological station installed in their village (and having in mind the situation of relative isolation of Sangabili, when the track is not practicable), SODEXAM created a WAP group on 18 December 2023 for the dissemination of this information. This is a special procedure for Sangabili. Normally, SODEXAM provides information to local authorities, who, in turn, have the task of transmitting it to the communities. In this case, however, there is a direct channel (via the WAP group) between SODEXAM and other technical services (e.g. General Direction on Water Resources Protection and Management in the Water and Forest Ministry, among others) and the Community of Sangabili. Through this WAP group a HYDRO METEO bulletin reaches in real time the Community, since representatives of the Flood and Drought Management Committee of Sangabili, as well as other people in Sangabili belong to this WAP group (in particular the leaders of the Youth Association). And they themselves can enter information - including feedback - into the WAP group. The information that the citizens of Sangabili receive through the WAP group in French can then be disseminated to the rest of the population (first of all to women, well-organized in Sangabili through their association) in local languages (Lobi and Koulango) through the Community’s loudspeakers (all the members of the youth association understand French fluently and are able to translate in one or both the community languages). Moreover, through the WAP group the HYDRO METEO bulletin reaches in real time also the ZANZAN radio (a “radio de proximité”), which provides for the dissemination of information translated into the languages of the two communities also resorting to specific visual and audible codes corresponding to the various alarm levels.

So, the Sangabili community is receiving Meteo information through two channels: the WAP group + the loudspeakers and/or the radio Zanzan. It should be emphasized that this mixed communication system was not conceived by SODEXAM alone, but instead in a participatory and joint manner between SODEXAM and community representatives, especially young people (who were also trained for managing effectively). So, it is an “agreed” and “shared” system that allow to solve, as far as possible, issues, such as the poor connectivity in Sangabili, the little number of people from Sangabili having a mobile phone suitable for accessing the WAP group (and related capacities and available credit).”

(Ahmed Lamine Soumahoro – Head of Office Hydrometeorology and Energy Services SODEXAM, Côte d’Ivoire)

Source: VFDM (2024)

Decision Support System

As already stated in section 2.1, women and other vulnerable groups are often not given the opportunity to participate in planning, management bodies and decision-making forums, although they are important stakeholders (and this is true also in the specific context of E2E-FFEWS and IFM). While having under-privilege, marginalized and vulnerable people participate directly in consultations may be more challenging to organize and might take longer to achieve but it will result in more inclusive and thus better outcomes (considering also that, in addition, consultations should include representatives from organizations that work with vulnerable groups and are committed to gender equality and women’s empowerment). However, in practice, this oftentimes falls short, too. We can

find just a few cases such as the one de Barrio Corazón de Jesús (Costa Rica)¹¹ some women (and men) decided to organize themselves in a committee that was in charge of dealing with emergency situations – increasingly frequent – representing the community in the negotiations with the institutions on the relocation of families (and moreover, the CBFDM activities in the Volta Basin, also, were particularly important, since they entailed the inclusion of women in the decision making on flood at the community level).

Further, gender is not viewed as a “core competence” those engaged in decision-making must have, which leads to a lack of gender expertise available in the respective bodies and forums. Where such expertise exists, it tends to be found in either: (a) the sectors traditionally associated with gender and women’s issues; or (b) the programs that directly address women’s concerns or gender equality efforts.

After receiving early warning from the concerned agencies, the decision makers or entities for responding to an emergency should give special attention to the specific impacts identified based on gender-specific data and information. Otherwise, timely assistance will not be delivered to women leading to increased impacts on their lives, households, livelihood, etc.¹²

Textbox 3ter : Women representatives in Flood and Drought Management Committees in the Volta Basin - “Voices from the field”

“8 out of the 21 members of the Management Committee in Tabota are women. Through their presence in the committee, the position of women in Tabota has improved and we can make our voices heard much more than in the past. Raising awareness among women continues and our awareness has clearly improved. We are very aware of the existence of the Flood and Drought management plan which provides necessary guidance on what actions we must take to prevent or reduce floods and droughts related impacts. And we are also committed to implementing further development actions, such as the promotion of improved stoves for cooking and hygiene measures in the village area” which was a challenge before this project.

(Philomène M Betti, Woman member of the Floods and Drought Community Management Committee in Tabota, Benin)

“There were no women in the Bushfire Management Committee that existed before. Thanks to the VFDM project, the existing Committee expanded its scope and became the Flood and Drought Management Committee, and women were invited to join this revamped committee. Moreover, this CBFDM revamped Committee includes both women of the Koulango Community and representatives of the Lobi Community. During the meetings of this Committee, the women can actively share their concerns and be part of the decision-making. Very often, the problem to be addressed is brought by a woman to the Committee’s attention and the Committee works on these issues, taking into account the opinion of all its members.” I am happy that this project provided this opportunity for the integration of community individuals to work together on common issues.

(Salamata Kadou, Lobi Woman leader, Sangabili, Cote d’Ivoire)

Source: VFDM (2024)

¹¹ Proyecto Sistemas de Alerta Temprana para Riesgos Hidrometeorológicos en Costa Rica para la cuenca del río Sarapiquí”. See: <https://docplayer.es/8487444-Resumen-ejecutivo-5-i-metas-y-metodologia-5-ii-involucramiento-de-socios-del-proyecto-5-iii-involucramiento-de-la-comunidad.html>

¹² Flood resilience portal - Why are some people more vulnerable to the impact of floods than others? Available at: <https://floodresilience.net/why-are-some-people-more-vulnerable-to-floods/>

Response to Warning

The fundamental purpose of flood warning is to enable individuals and communities to respond appropriately to a major threat and to reduce, as much as possible, the risk of death, injury, and property loss. Communities and end-users of the warning should have sufficient time to take necessary actions and make arrangements for the impending flood event or, at least, moderating their negative effects. Flood warnings, therefore, are required to inform those at risk on the timing and the extent of the flood, including which areas will be affected and, most importantly, which escape routes or accesses to evacuation center are available. It is important that the agency or authorities responsible for issuing forecasts and warnings has a good understanding of the roles and responsibilities of other relevant agencies and the general public. However, in reality, the approach applied often overlooks gender and gender discrimination. On the one hand, women are often less informed by the authorities and technical services; while on the other they are the ones who have to take on most of the burdens related to the warning response. In Salima TA Khombedza and Kalonga (Malawi) over 350 households were displaced due to floods March 2023. These were staying in camps. Men just rest whilst women cook, serve food, take care of kids, attend ante-natal, under five clinics, needs special care & materials during menses, fetch firewood, draw water, etc. Women carry bundles of firewood on their heads make their way through flood water from the forest to home for cooking on daily basis. Some are washed away when crossing the river. Others are raped right there in the forest. Some are bitten by snakes.

Beyond this, the lack of adequate awareness of gender (and of the characteristics of the various vulnerable subjects) by NMHS and civil protection services (as well as the lack of relevant data e.g., SADD data) leads to response measures that are not tailored (or not sufficiently tailored) to the features and needs of various groups of people (in particular those affected by vulnerabilities). There are situations where this happens (such as in Imola, a city in Italy¹³ subject to very strong floods, also in 2023 and 2024), also thanks to the fact that, in the management of the EWS, in addition to the civil protection, the NMHS and the disasters' respondents, public social services are also involved, as well as multiple NGOs that work with specific categories of vulnerable subjects and citizens' committees.

Role of government or authorities in having gender sensitive response interventions are important in order to ensure needs of women, men and other vulnerable groups are accounted and supported with a tailored measure. In most cases, a common response mechanism is applied in the community which might not be sufficient. For example: a common evacuation center for both men and women might not be gender sensitive.

Textbox 3quarter: Example from Bhutan – findings from a gender assessment of an early warning system at the community level (second part)

Response capability

- Gender balance needs to be brought in capacity building activities through affirmative action for women (as well as and disadvantaged men and women).

¹³ <https://accting.eu/research-lines/research-line-1-valorising-local-knowledge-in-the-frame-of-the-community-based-disasters-management-and-mitigating-exposure/>

- There is a need to make people aware of the hazard zonation maps, as only 36% reported being aware of such maps in their local area.
- Not all respondents were aware of what the siren sounds like and many reported being confused with an ambulance siren. There is a need to differentiate the siren for EWS from those for other emergencies.

Please note that this and all other case studies are context specific – findings may differ depending on the specific context.

Source: ICIMOD (2016)

2.2.2 Gender and the IFM process

The common process of IFM is that the flood manager performs contextual analyses to understand key issues, including the primary types of flooding the area experiences; the physical characteristics of the watershed; local weather and climate trends; the social characteristics of the area, including gender-related issues; the potential for community engagement; and the relevant actors. During the designing and planning of IFM measures, a gender analysis should take place to generate data that facilitate a greater understanding of women and men’s vulnerabilities and needs, and the roles and responsibilities they can take on in the overall risk management process and decision-making. To achieve this, a gender analysis typically includes questions that assess women and men’s access to the local infrastructure and services; their participation in public life, including in decision-making roles; knowledge, beliefs and perceptions in society; and power-relations within households and communities, engagement in the community-based activities and associated impacts of the IFM measures applied at the community, local, national, and regional levels. In practice, however, gender analyses (most probably during the Social and Environmental Impact Assessment studies) are rarely undertaken in the necessary detail and quality (and even if high-quality data are being collected, effective utilization of these is oftentimes compromised due to limited gender knowledge and skills of those in charge). This has severe impacts on the quality of IFM approaches and can even lead to the ineffectiveness of respective measures, putting some population groups at greater risk.

Module 3: The importance of gender mainstreaming

Goal

The goal of this module is to demonstrate why gender mainstreaming is important from a rights-based and an historical perspective. It introduces specific international instruments and commitments, including those directly related to gender and E2E-FFEWS and IFM.

Learning Objectives

At the end of this module, participants will be able to:

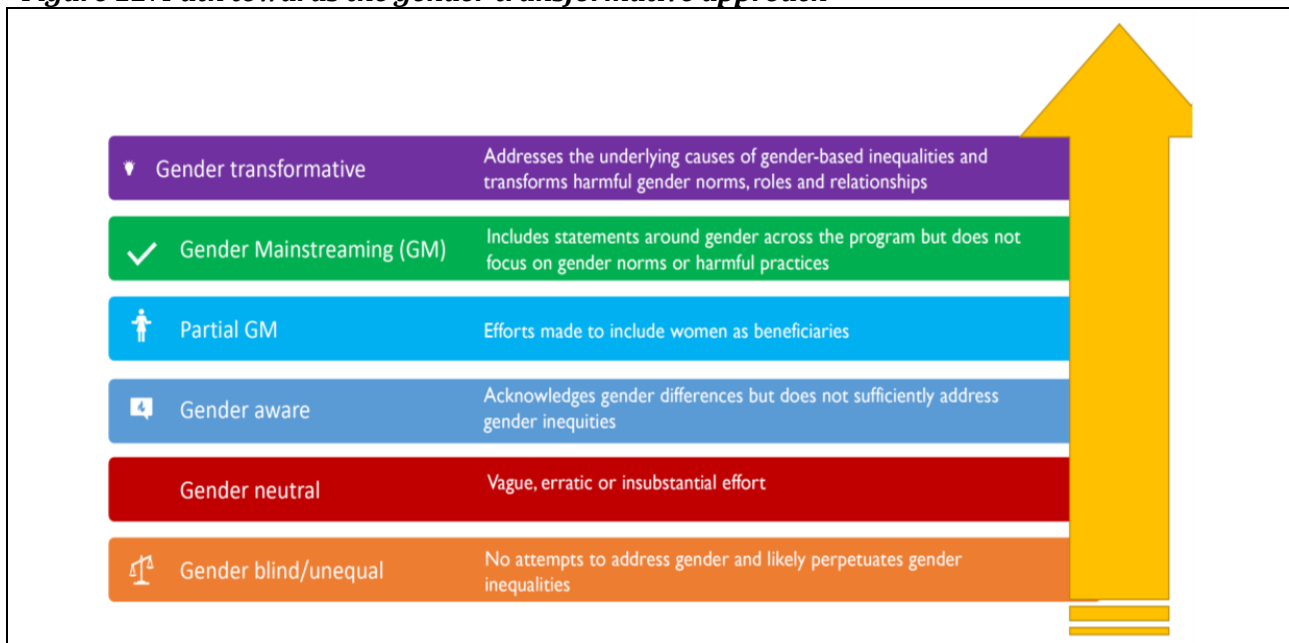
1. Understand the importance of gender mainstreaming, in general and from an historical and a rights-based perspective
2. Know specific international instruments and commitments that support gender mainstreaming.

3.1 Gender mainstreaming in the frame of the (rights-based) approach evolution along the last decades

The concept of gender mainstreaming was first defined in 1997 by the Economic and Social Council of the United Nations (ECOSOC) and since then is the chosen approach by the UN to realize human rights, which include the rights of women and girls. According to the ECOSOC definition, “gender mainstreaming is the process of assessing the implications for women and men of any planned action, including legislation, policies, or programs, in all areas and at all levels. It is a strategy for making women’s as well as men’s concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and societal spheres, so that women and men benefit equally, and inequality is not perpetrated. The ultimate goal is gender equality” (OSAGI, 2002, p. v).

As can be seen in the figure below, gender mainstreaming is the penultimate stage of a historical path that is seeing the increasing importance of gender issues in social and environmental implementation. The ultimate step is the gender transformative, an approach that goes beyond the symptoms of inequality to tackle the norms, attitudes, behaviours and social systems that underpin inequalities. It also makes it possible to analyse the degree of integration of gender in planning and decision-making processes.

Figure 12: Path towards the gender transformative approach

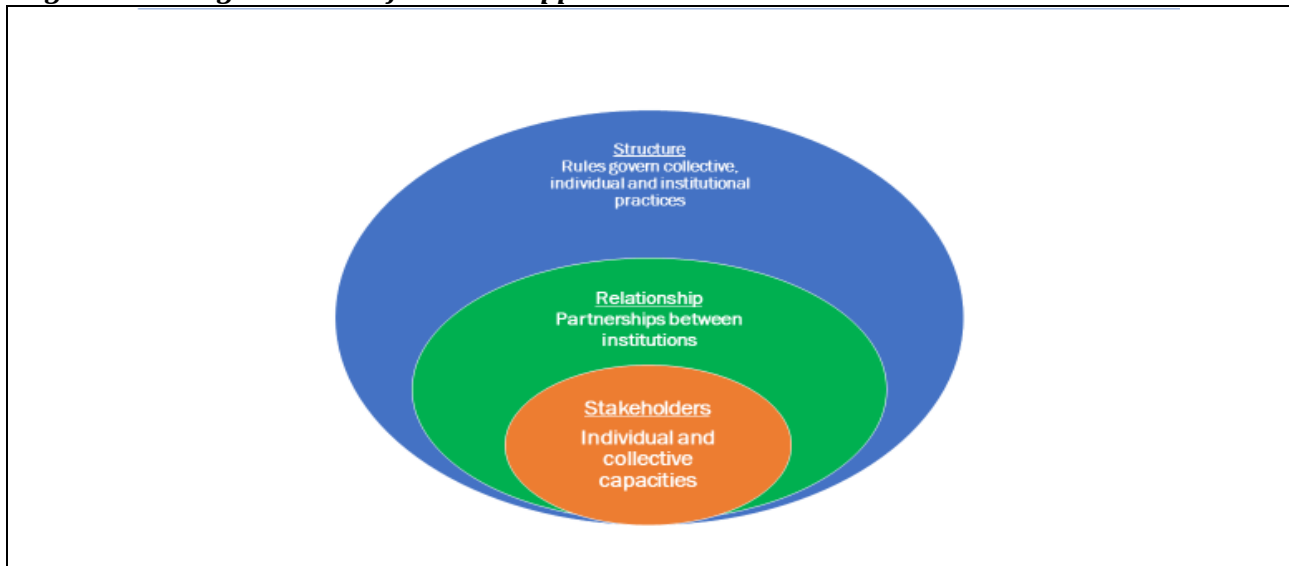


Source: https://www.gwp.org/globalassets/global/gwp-sam_files/publicaciones/2021/gender-at-gwpo-for-sam-lam-webinar-august-12.pdf

The gender transformative approach requires involving stakeholders in a critical examination, challenge and questioning of gender norms and power relations that underlie inequalities at various

levels: from each individual to the relations among individuals and institutions; and the institutional structure.

Figure 13: The gender transformative approach



Source: Wallis Chelsea (2023)

Gender is also important from a human rights perspective: as the Office of the High Commissioner of Human Rights states with great clarity, “gender equality is at the very heart of human rights and United Nations values. A fundamental principle of the United Nations Charter adopted by world leaders in 1945 is ‘equal rights of men and women’, and protecting and promoting women’s human rights is the responsibility of all States” (UNOHCHR, n.d.b).

Textbox 4: Global frameworks that are milestones regarding gender equality and women’s empowerment

- Universal Declaration of Human Rights, 1948
- International Covenant on Economic, Social and Cultural Rights adopted by the United Nations General Assembly on 16 December 1966
- Convention of the Elimination of All Forms of Discrimination Against Women (CEDAW), 1979
- Cairo Declaration and Platform for Action, 1994
- Beijing Declaration and Platform for Action, 1995
- Sustainable Development Goals (SDGs), 2015 (with specific –but not only -reference to the SDG5)

Over the course of time, the international community developed further conventions, declarations, policies and plans that focus explicitly on GEWE, highlight its importance and identify necessary actions to address inequalities between women and men, girls and boys. Among the most important frameworks at the global level are the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the Beijing Declaration and Platform for Action, and, more recently, the 2030 Agenda and the stand-alone Sustainable Development Goal (SDG) 5 on achieving gender equality and empowering all women and girls.

CEDAW is informally thought of as an international “women’s bill of rights”: adopted in 1979 by the UN General Assembly, it is exclusively devoted to GEWE, legally binding, and thus a defining document in any gender equality work. CEDAW’s prime objective is the prohibition of all forms of discrimination against women. As of 2020, the convention has 189 states parties, meaning that the vast majority of UN member states committed to “respect, protect, promote and fulfill the human rights of women under all circumstances” (UNOHCHR, n.d.a).

Although not legally binding, the Beijing Declaration and Platform for Action from 1995 is often seen as complementary to, and a strengthening of CEDAW. It recalls and embodies the same rights and principles as those enshrined in instruments such as the Universal Declaration of Human Rights and acknowledges that “many women are also particularly affected by environmental disasters” and dedicates one of its twelve critical areas of concern specifically to women and the environment.

As demonstrated through the stand-alone SDG 5 (and previously Millennium Development Goal 3), the international community considers GEWE as an important end in itself. Furthermore, the 2030 Agenda has made GEWE a cross-cutting, integral part of achieving all SDGs through gender mainstreaming with a call to leave “no one behind” and acknowledges that “gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world” (United Nations, n.d.).

In addition to these commitments at the global level, there are regional frameworks that guarantee comprehensive rights to women. An example is the African Union Convention on Protocol to the African Charter on Human and People’s Rights on the Rights of Women in Africa – the so-called “Maputo Protocol”; or the Inter-American Convention on the Prevention, Punishment, and Eradication of Violence against Women (Convention of Belém do Pará); or also – at a more restricted level – the CARICOM Gender Equality Strategy. Further, many countries have developed their very own GEWE policies and strategies.

Regarding specific UN frameworks and internal accountability mechanisms for gender mainstreaming, the UN System-wide Action Plan (UN-SWAP) must be mentioned. The UN-SWAP was first created in 2012 and “enabled gender issues to be mainstreamed systematically and measurably into all major institutional functions of the UN system entities” (UN Women, n.d.b). In 2018, the second generation of the UN-SWAP – UN-SWAP 2.0 – was developed. Its key focus is “on results, and includes monitoring activities and outcomes for gender-related Sustainable Development Goal results” (UN Women, n.d.b).

3.2 Commitments specifically related to gender and E2E-FFEWS and IFM

Over time, the international community also took note and increasingly documented the importance of GEWE in areas related to E2E-FFEWS and IFM: for instance, the commitments at the end of the International Year of Freshwater, in December 2003, the General Assembly proclaimed the International Decade for Action “Water for Life” from 2005 to 2015. Resolution 58/217 stresses that

the “goals of the Decade should be a greater focus on water-related issue and implementation of water-related programs and projects, whilst striving to ensure women’s participation and involvement in the water-related development efforts” (UNDESA, 2004). It highlights the importance of the participation and full involvement of all relevant stakeholders, including women, children, young people, older persons, persons with disabilities, indigenous peoples and local communities, in the implementation of the preparedness and resilience measures at all levels.

Another example is the Sendai Framework for Disaster Risk Reduction, adopted in Japan in 2015. While some critics state that “text on women, women’s rights and gender equality remained fairly weak up through the final document” (WEDO, 2015), the framework follows a “whole of society approach” and additions, such as the Ha Noi Recommendations for Actions on Gender and Disaster Risk Reduction (DRR) were developed by countries to ensure a gender-responsive and inclusive implementation of the Framework (UN Women, 2016). The United Nations Framework Convention on Climate Change should be also quoted, since it includes a Gender Action Plan that is updated at each CIP meeting.

Textbox 5: Gender related instruments at global level in relation to Climate Change issues

- The Kyoto protocol (UNFCCC – 1992)
- World Conference on Disaster Risk Reduction (Yokohama, 1994)
- Hyogo Framework for Action 2005-2015
- Promoting gender balance and improving the participation of women in UNFCCC negotiations and in the representation of Parties in bodies established pursuant to the Convention or the Kyoto Protocol (2012)
- Sendai Framework for Disaster Risk Reduction 2015-2030
- The Gender Action Plan of the United Nations Framework Convention on Climate Change (updated at each COP meeting)

Module 4: Ensuring that E2E-FFEWS and IFM processes are gender-sensitive

Goal

While Module 2 explained the gender dimensions and issues of E2E-FFEWS and IFM, this module focuses on how to ensure that E2E-FFEWS and IFM processes are gender-sensitive. The goal hereby is for participants to learn how to mainstream gender in practice and ensure that good practices and lessons learnt are reflected in the respective policies and plans.

Learning Objectives

At the end of this module, participants will be able to:

1. Know key steps required for successful gender mainstreaming in various phases of flood management including E2E-FFEWS and IFM
2. Better understand individual roles and responsibilities with regards to mainstream gender
3. Feel more confident in mainstreaming gender in their area of work.

4.1 Gender-sensitive E2E-FFEWS steps and processes

The previous modules explained concepts and processes relevant to E2E-FFEWS and IFM and demonstrated gender dimensions and issues inherent to these. To recapitulate, important steps and processes of E2E-FFEWS as introduced in Module 1 include data collection, modelling and forecasting, early warning dissemination, decision support, and the response to warning (see Figure 2 above).

During the **data collection** process, along with the hydrology, meteorology related data and information, social data must be collected in sex-disaggregated format (ideal are SADD). With regards to the specific case of assessments this means that men and women are being consulted, and that gender-specific questions are being asked (e.g., about men and women's distinct roles and responsibilities in communities). Women themselves should also be encouraged to collect relevant data and information and share these with authorities. Furthermore, engaging women as assessment staff and data collectors is good practice. Moreover, women and men visiting the river stream or water bodies can be trained to collect water level information which can be shared with the relevant authorities for monitoring, forecasting and validation of the flooding events, as it happens in the experience of the Flood Citizen Observatory in Brazil (Degrossi et al., 2014).

Textbox 6: Gender-sensitive data collection

An example of how to integrate gender into data collection processes comes from **Talad Kao, Prachinburi province, Thailand**. Here, Ms. Darunee Tharathippayakul, a community leader, led the participatory risk assessment for her area which was conducted at a community recreation area near Hanuman canal. Community members including men, women, older people, young people and children were separated into different, mixed groups. The community map was developed, highlighting safe and flood prone areas in different symbols and colors. Lists of vulnerable groups and community members including elderly, patients, people with disabilities, pregnant women and small children were prepared. Details of available resources, important people and networks as well as their contact information were also collated. Flood impacts based on past community experiences were identified and prioritized. Locations of community leaders, vulnerable groups and community resources (e.g., loudspeakers, evacuation center, meeting area) were marked on maps so that the community would be aware of who and where to help first. Finally, all Participatory Risk Assessment tools which had been developed were presented and agreed upon by community members (ADPC, 2015).

SWID – the Slum's Women Initiatives for Development, an organization led by grassroots communities committed to building resilience and security in food, health infrastructure and land tenure for marginalized groups in **Uganda** – provides another powerful example in this context: Flooding is a regular occurrence during heavy rains in the Jinja Municipality's informal settlements of Walukuba-Masese, Mpumudde, and Kakira. When floodwaters swell, they enter homes and gardens, destroy crops, block roads, and disrupt livelihoods. SWID organized community-led risk mapping and analysis exercises, training 107 grassroots leaders and showing communities how urban flooding, poor waste management, inadequate public toilets, blocked drains, and health risks were all linked. Subsequently, grassroots leaders from the three communities convened Local-to-Local dialogue meetings. In Kakira, the group met with local leaders and health officials to address sanitation problems. They raised community awareness about household hygiene, such as hand washing, boiling drinking water, and reducing draining system blockages by properly disposing of polythene bags (The World Bank & GFDRR, 2015).

A third example came from a small farming flood prone community in the Caribbean. From prior knowledge and experience, the team was aware that the men and women within the community, due to different gender roles and conditions, had different access to information and thus varying levels of preparedness and vulnerability. The

women, especially widowed, elderly and disabled, who were mostly in the home and less mobile within and outside of the community, had limited access to information and knowledge related to disaster risks. In order to prepare for the storm, the team conducted a rapid gender analysis, using the short questionnaire below:

- a) How many persons are within the home (male and female)?
- b) What are the ages?
- c) Are there any disabilities?
- d) What are the practical and strategic needs of household members?
- e) Who does what within the home? (Gender roles)
- f) Who has access to resources and what resources? (CDB, 2020)

The preparation of **forecast information** and warning messages includes giving clear statements on what is happening, forecasts of what may happen, and the expected impact. During these processes it is important to ensure that data and information are presented in ways that are understandable for all segments of society, including people who may not have technical knowledge or are illiterate. Amongst others, this can be achieved through the use of pictograms or thanks to people playing a role of “Intermediaries” (e.g., schoolchildren, who can often be excellent informants for their families). Indeed, it is important to not limit information for ensure that it is understandable for all.

It has been already observed above that in the NMHSs, there are lack of female hydrologists and meteorologist’s modelers and forecasters and usually this role is more male dominant. In the context of the education, it is important to ensure that governments encourage more female students to take studies in hydrology, meteorologists and disaster management in general STEM related courses (see the example related to Burkina Faso in the Textbox 8).

Textbox 7: Women’s participation in disaster preparedness

An example that reflects the participation of women in preparedness activities comes from **Bacheuli village in Chitwan District, Nepal**. Here, two of the five members of the Disaster Management Committee are women, including the Committee Coordinator. Further, training on disaster response and EWS are designed to also target women, children, elderly and disabled people (ICIMOD, 2014).

A further example reflecting the participation of women in preparedness activities comes from the Río Sarapiquí basin in Costa Rica. More than 200 people in 20 communities participated in the different activities. The Communal Emergency Committees of the region were established in which the communities have been organized, strengthened and trained. Most of the members of these committees are women, who show great commitment and clear leadership. These committees have strengthened the capacity to issue reliable alerts well in advance. Now they can receive timely and adequate information, instead of having to wait for see the overflow of rivers to activate and communicate alerts¹⁴.

Finally, we can note that women occupy positions of responsibility that allow them to play very important roles in the process of DRR and DRM in the countries of the Volta Basin. Mid-2023, the person in charge of the departmental DRM-DRR platform of Atacora is a Lady in Benin; the participation of women in the various activities of the Integrated Crisis Management Coordination Framework (CCGICCI) as well as those of the Interministerial Crisis Management Center (CGIC) in Côte d’Ivoire; the participation of women, together with men, in the activities of the national consultation platform for the prevention of natural disaster risks in Togo (GWP-WA, 2023).

¹⁴ Proyecto Sistemas de Alerta Temprana para Riesgos Hidrometeorológicos en Costa Rica para la cuenca del río Sarapiquí”. See: <https://docplayer.es/8487444-Resumen-ejecutivo-5-i-metas-y-metodologia-5-ii-involucramiento-de-socios-del-proyecto-5-iii-involucramiento-de-la-comunidad.html>

During early warning information generation, the NMHS are suggested to provide impact-based forecasting for floods sharing details on the possible impacts on women, men and other vulnerable groups. Although it is known that the impacts between these groups of people can be very different, as has already been said previously¹⁵, both due to the lack of reliable data on the matter and to the lack of capacity on the part of the NMHS in this regard, this, up to now, practically never seems to happen (as demonstrated, among other things, by the same bulletins concerning the Volta Basin, which only report aggregate data or distributed by portions of territory on the expected impact on people, but never specified by gender or highlighted vulnerable subjects; and this despite the great emphasis of the VFDM on the matter (VFDM, 2024).

With regards to **early warning dissemination**, it is important to ensure that all community members know through which channels the information will be disseminated so that everybody receives the information. It is also important to make sure that the selected channels are accessible to women and men. Thus, responsible authorities must consider potential challenges, such as the digital divide between women and men that persists in many places.

Textbox 8: Women's empowerment in the context of early warning dissemination

A first example is the granting of training scholarships targeting women in Burkina Faso; which has made it possible to have a significant number of professional women in hydrology and meteorology, who participate in the process of E2E-EWS-FF and IFRM. The person in charge of the Department of Water Studies and Information (DEIE) at the General Directorate of Water Resources (DGRE) is one of the women benefiting from such an initiative in Burkina Faso (GWP-WA, 2023)

Under the Community based Flood EWS project of ICIMOD, Ms. Bhaba Barman is empowered in her village in **Abhoipur, Assam, India**. She is appointed caretaker of the community-based flood early warning system instrument installed at the Jiadhah River in Abhoipur, responsible for disseminating early warning information to downstream communities and authorities. The village chiefs come to her to know of the flood situation. She is proud of being the voice of safety and preparedness in her village. Like Barman, Rinku Singh in Sarpallo, a village in Mahottari, Nepal, feels responsible for her village. Following the out-migration of men for work, the responsibility of disaster preparedness has fallen upon women. Rinku Singh is one of the few literates among the adult population in Sarpallo. The early warning system has eased her anxieties as she knows that information about floods will reach her when it matters most (ICIMOD, 2018).

Ms. Erica Asakabila (Kunkua village Bongo district, Ghana) refers: "The community-based activities implemented in the Kunkua village, Bongo district of Ghana provided opportunity for me to learn various aspects of floods and drought management. I am happy to be part of village committee now and will be involved in capacity development activities and decision-making. Also, the local meteorological station data and warning from the project EWS will provide daily and weekly bulletins which will help us to take timely decisions on harvesting and drying of millet crops" (VFDM, 2022).

Ms. Mariam Kamegate (Women Association of Sangabili President, Côte d'Ivoire) states: "Community flood and drought management project activities in Sangabili have strongly involved women. Whether through our association, among the youth, or in the floods and drought management committee, we women are leading role. Our skills have been greatly strengthened in the management of flood events" (VFDM, 2024).

¹⁵ Flood resilience portal - Why are some people more vulnerable to the impact of floods than others? Available at: <https://floodresilience.net/why-are-some-people-more-vulnerable-to-floods/>

Finally, Ms Djibril Meri (president of the Groupement des femmes of Daoudé Canton; agricultural farmer, Togo) asserts: “Before the awareness raising activities carried out by the VFDM project partners in Daoudé, I did not know the practical importance of weather information. A lot of useful training has been done here for the women and all the people in the canton of Daoudé. We have now gained knowledge to sow seeds at a minimum distance of 35-40 meters from the edges of streams which can reduce the flood impact on the crop. We have also learned to fight against soil erosion and to replace the trees we cut down. Awareness has also been raised to prevent the risks of children falling into flooded streams when they go to school: we now accompany them, or even identify and point out safer routes for them.”

A further example is the establishment of a National Network of Women Leaders on Early Warning, Prevention and Management of Risks and Disasters, which is operational in Mali (GWP-WA, 2023).

Throughout the **decision support** phase, it is important to include women in all consultations and to make sure that their voices are being heard: it is not only about attendance, but most importantly also about providing women with the opportunity to speak and contribute to decision-making processes. Close collaboration with women’s groups and female leaders, and the involvement of NGOs and relevant government entities working on GEWE is helpful in this regard.

Textbox 9: Gender equality and women’s empowerment can contribute to reduced casualties

In **La Masica, Honduras**, no deaths were reported after Hurricane Mitch (1998), an outcome some attribute to an active community education program undertaken by the Central American disaster prevention agency six months earlier. Gender lectures were given and, consequently, the community decided that men and women should participate equally in all hazard management activities. When Mitch struck, the municipality with this initiative was prepared to vacate the area promptly, thus resulting in no deaths. Women participated actively in all relief operations. They went on rescue missions, rehabilitated local infra-structure (such as schools), and along with men, distributed food. They also took over from men who had abandoned the task of continuous monitoring of the early warning system (IADB, 1999).

After the 2018 flood, the Kudumbashree District Mission launched for the first time an all-women disaster response team in **Kozhikode, Kerala, India**. Named ‘Pink Alert’, the team consists of 100 female members, aged 25 to 45, selected on the basis of their health and willingness to volunteer for service. The focus of the ‘Pink Alert’ is on saving the lives of women and children within and even outside the district, who are usually the most affected and most helpless during calamities and disasters. The response team was trained by officials from various governmental and non-governmental organizations (All women disaster, 2018).

Women’s empowerment can also entail a stronger involvement of men in flood management, as it happened, f.i. in Malawi. In the Chikwawa District a Gender mainstreaming workshop in flood management at the community level was organized by the Malawi Red Cross in March 2023. A participant said after the workshop: “I have been volunteering for various community development work in the Ndkawera region (Malawi). Previously it was only women of the community who were doing volunteering works. However, when the gender mainstreaming training workshop was conducted it was suggested men of the community should also participate in various flood management. We have been working together with male volunteers in planting Bam-boo tree on the riverbanks to ensure there is reduction in soil erosion. Following the gender mainstreaming training, I have been sensitizing more men to participate in flood management activities, community development in general. We are working together for the development of our community” (K&I, 2023).

While making decisions it is important to consider the gender relations and dynamics on site and formulate **responses to the warnings** that are suitable for affected populations as a whole. These must then be communicated to everyone – including women and men. After the response to the flood event, the warning systems are reviewed and improved. This evaluation process should also apply a gender lens and ask what worked well and what could be improved with regards to women and men’s vulnerabilities and needs, capacities and skills in flood management.

Textbox 10: Assessing EWS from a gender perspective

ICIMOD undertook a study of EWS in **Bhutan** from a gender perspective. To this end, a total of 23 organizations working in DRR and EWS in Bhutan were consulted. The assessment found that these implementing organizations neglected adequate consideration of gender in their approach. Men dominated most of them, and women were not sufficiently included in decision-making processes or implementing activities for EWS. Ensuring a greater gender balance among the workforce is expected create a healthier environment and lead to greater consideration of gender issues in E2E-FFEWS processes. Further, the assessment revealed the need for better coordination and linkages among organizations engaged in disaster management and EWS on the one hand and those involved in addressing gender equality and social justice on the other (ICIMOD, 2016).

A workshop on Risk Management from a gender and inclusion perspective was held in May 2023 within the framework of the project “Community management of floods in Turrialba” (**Costa Rica**). The aim of this workshop was to facilitate a great inclusion of women and other disadvantaged groups in the prevention and management of floods, including their inclusion in the EWS chain. In addition to representatives of the partner institutions, community leaders from the communities most affected by the floods in Turrialba participated. “They taught us a lot about the importance of inclusion not only from a gender perspective, but also considering all the disadvantaged people; that everyone should participate, including people with disabilities. Each one is prepared. Before we were not aware of these things. Now we have understood that everyone must be valorized; we must involve everyone according to their needs and abilities. They taught us a lot about the role of different actors. Now there is a family emergency plan; and starting from it, a community emergency plan.” (Katherine Rodriguez Vega - teacher) (K&I, 2023).

Assessing EWS from a gender perspective can also be facilitated by the gender of people who are involved. E.g. the appointment of a woman as head of the service in charge of weather forecasting in Mali; a woman holds who the position of Head of the Weather Watch and Forecast Division at the General Directorate of National Meteorology in Togo (GWP-WA, 2023)

Last but not least, at the stage of **feedback-review**, women and vulnerable groups should be duly involved. As far as possible, involved communities should be consulted at the end of the process, trying to understand, as better as possible, how it worked for being able to improve it in the future. Since these are subjects who may have been affected to a greater extent than others, the opinion of women and vulnerable people is essential (e.g., as well-done in Turrialba, Costa Rica¹⁶ – see K&I, 2023).

The below table summarizes the key points of gender mainstreaming in E2E-FFEWS related steps and processes.

¹⁶ During a community feedback-review meeting at the end of the process (around 80 participants, including many women, as well as elders and disabled people), it was noted that the assistance to vulnerable people, by disaster-responders and volunteers, was excellent; however, some people refused to be helped/assisted (so, the way to approach this people should be improved).

Table 2: Summary of gender mainstreaming actions into key E2E-FFEWS and IFM-related steps and processes

E2E-FFEWS related steps and processes	Gender mainstreaming actions to address typical gender issues
Data collection	<ul style="list-style-type: none"> • Where applicable, collect data in sex-disaggregated format (ideal are SADD) • In case of assessments, ensure that male and female beneficiaries are consulted, and that gender-specific questions are being asked (e.g., about men and women’s distinct roles and responsibilities) • Encourage women to collect relevant data and information
Modelling and forecasting	<ul style="list-style-type: none"> • Ensure that data and information are presented in ways that are understandable for all segments of society, including people who may not have technical knowledge or are illiterate (e.g., use of pictograms)
Early warning dissemination	<ul style="list-style-type: none"> • Ensure that all community members know through which channels early warning information will be disseminated • Identify and chose channels that are easily accessible for women and men.
Decision support	<ul style="list-style-type: none"> • Make sure that women are included in any consultation • Collaborate with women’s groups and involve NGOs and the Ministry/Department working on GEWE.
Response to warning	<ul style="list-style-type: none"> • Make sure that response plans are communicated to those populations that will be affected • Consider gender relations and dynamics on site in the formulation of response plans
Feedback-Review	<ul style="list-style-type: none"> • Ensure that women/vulnerable groups are part of feedback and review meetings.

4.2 Gender-sensitive IFM steps and processes

As stated in Module 1, IFM is a process promoting an integrated approach to flood management, thereby calling for a paradigm shift from the traditional, fragmented and localized approach. IFM integrates land, water and risk management in river basins under the concept of IWRM, with a view to maximizing the efficient use of floodplains and to minimizing loss of life and property. As we have also learned in Module 1, structural and non-structural measures play a key role in this context. Gender must therefore also be considered in the planning, implementation, and monitoring and evaluation of these measures. Important steps to do so include the collection of sex-disaggregated data (ideal are SADD) whenever possible; ensuring that men and women are consulted throughout all processes and gender-specific questions are being asked and deeply considered during assessments (with particular, although not exclusive, reference to Environmental Impact Assessments/EIA and Social Impact Assessments/SIA ¹⁷ that should also outline specific

¹⁷ “Disaster impacts, since they depend directly on social, economic and cultural structures, have an uneven social distribution in line with social class differences, ethnicity and gender. These distinctions require the inclusion and recognition in SIA of an ethical perspective oriented towards socially balanced impact management, particularly sensitive to vulnerable social groups and including environmentally sustainable criteria (Aznar-Crespo et al, 2021).

recommendations in this respect¹⁸) and contextual analyses (e.g., about men and women's distinct roles and responsibilities in communities, including flood management); and the empowerment of women to take on active roles in IFM-related steps and processes. The case studies below reflect good practices for gender-sensitive structural and non-structural measures that serve as examples.

Textbox 11: Case studies reflecting good practices for structural measures

A good practice comes from **Chókwe, Mozambique**: After the disastrous effects of the 2000 Mozambican floods in the Chókwe district, the International Labor Organization (ILO) responded with skill development trainings for women and men after their primary occupations, namely agriculture and informal trade, were severely impacted by the flood. Specifically, 87 percent of the participants were women as they were overrepresented in the affected sectors. The training focused on rehabilitating local marketplaces, supporting small animal breeding, training in the use and maintenance of motor-pumps and the making and repairing of agricultural tools, and training on sustainable local development and elaboration of local projects. This was particularly beneficial for women as the training paved the way for them to take on new activities and roles in order to generate income for their survival and to recover from the adverse flood impacts (Tutnjevic, 2003).

In Guyana, another good practice was established in 2015: The local Mangrove and Restoration Project was the first initiative implemented by the Government as a means of protecting coastal communities from flooding without the use of sea walls or other manmade infrastructure. Women make up 80% of participants and they serve as educators, protectors of the forest, growing mangroves and planting seedlings (Aguilar, Granat, & Owren, 2015).

Textbox 12: Case studies reflecting good practices for non-structural measures

One good practice is the Oxfam-led response and community-owned recovery from the **2010 Pakistani floods**: At the outset of the Oxfam intervention, households were asked to register one household member to receive cheques or inputs. They were encouraged to put women forward, but this was not mandatory. As a result, 25 per cent of direct beneficiaries were women, totaling approximately 6,500 households (39,000 individuals). Of households where women were directly targeted, approximately 60 per cent were female-headed, while the remaining households put forward a woman for direct participation or receipt of inputs. However, regardless of the sex of the household member directly participating or receiving inputs, it was intended that interventions should benefit the entire household, including women. Women were also engaged in reconstruction activities where possible. For instance, house repair was a task often performed by women, which also limited women's participation in public works. In response, where possible, Oxfam and partners established teams of 10 to 20 women who worked together to rehabilitate houses within their community; but in some communities this was not possible because there was no interest in forming such arrangements (Oxfam, 2012).

Another good example of women's participation in recovery activities comes from **Myanmar after Cyclone Nargis** hit the country in 2008. The Myanmar Red Cross Society (MRCS) established Village Tract Recovery Committees, which included at least two female representatives. These committees were responsible for the coordination of the recovery program. The selection of the recovery programs' beneficiaries included as criteria single female-headed households and other vulnerable groups, such as the elderly, large families, and people with disabilities. Before any activities began, additional preparatory meetings were conducted to finalize the project monitoring and implementation systems. It became clear that the selected female beneficiaries, especially those with large families and those who were the heads of household, found it difficult to participate in a full day of work due to their responsibilities at the household level in looking after other family members. In response, MRCS included a psychosocial component in the project (International Federation of Red Cross and Red Crescent Societies, 2010).

¹⁸ E.g., in an EIA Advisory Review in Bangladesh, it is recommended to develop a good quality Gender Action Plan before the start of the programme and to strengthen the gender capacity of responsible organisations, in order to enable the implementation and monitoring of the Gender Action Plan (NCER, 2014).

A third good practice that demonstrates the importance of gender mainstreaming comes from **Bacheuli village in Chitwan District, Nepal**, where flood is a devastating and recurring disaster. A vulnerability assessment of the community flood hazard revealed that lack of awareness, poverty incidence, unequal access to resources, physical vulnerability, lack of meaningful participation of women in early warning systems, and traditional beliefs were the key underlying causes of the unsafe and more vulnerable conditions in the community. The village has a Disaster Management Committee comprised of five members, two of which are women. The village also has its own search and rescue team, the members of which know the special needs of women, children, the elderly, and those with disabilities. Training on disaster response, including early warning systems, was provided by the District Development Committee and Practical Action. Women, children, the elderly, and those with disabilities were specifically oriented. The early warning messages and alerts and dissemination means are gender neutral. Attention was given to gender issues while forming the Local Development Management Committee and in the selection of participants for the training courses (ICIMOD, 2014).

A fourth and fifth example are represented by the Gender mainstreaming workshop in flood management at the community level organized by the Malawi Red Cross Society in the Chikwawa District as a response to the Tropical Cyclone Freddy in March 2023 (see above), as well as by the Red Cross Society of **Costa Rica** in May 2023 in Turrialba (see Textbox 10 above).

A final example is a Community-Based Flood Management Program in **Bangladesh** that included some key gender-sensitive features:

- inclusion of gender-disaggregated data in the reporting systems
- setting recruitment quotas for female volunteers of 50 per cent in Community Disaster Management Committees, and 30 per cent in Community Disaster Response Teams
- holding basic first aid and disaster risk reduction trainings for both men and women, and other courses
- like Traditional Birth Attendant training for women based on self-identified needs and priorities
- taking gender differences in vulnerability into account when planning and implementing disaster mitigation measures
- providing livelihood-support measures according to the different needs of men and women
- involving local political and religious leaders as active volunteers when addressing issues of cultural and religious constraints to women's participation (International Federation of Red Cross and Red Crescent Societies, 2020)

Textbox 13: GENDER in the governance system of the Volta Basin Authority

"The interest and contributions of women, men and vulnerable sections of society are taken into account in policy formulation, capacity development, planning, development and investment operations in the energy sector 'water' (Volta Basin Water Charter, Art. 4).

"(BVA) pays particular attention to transboundary water cooperation, gender and traditional customary law" (Volta Basin Water Charter, Art. 6)

"The Authority and the States Parties undertake to pay particular attention to the interests and contributions of women, men and vulnerable groups" (Volta Basin Water Charter, Art. 131)

"The Authority, in cooperation with the States Parties, shall ensure the equitable representation of gender in the specific bodies established by this Water Charter. (Volta Basin Water Charter, Art. 139).

Moreover, VBA is preparing a specific "Gender Chart" for contributing to Strengthening gender mainstreaming in the general governance of VBA bodies and for fully integrate the fight for gender equality into the overall mission to fight poverty and inequality (GWP-WA, 2022)

4.3 Gender analysis

Some of the gender mainstreaming actions introduced in the previous sections require more detailed elaboration. This is particularly the case for targeted gender analyses and the integration of gender into assessments. Generally, a gender analysis is a critical examination of how differences in gender roles, activities, needs, opportunities and rights/entitlements affect men and women in certain situations or contexts. Gender analysis helps us to better understand what women and men do, and what their priorities and needs are. It examines the relationships between women and men and their access to and control over resources and the constraints they face relative to each other (UN Women Training Center, n.d.a). A gender analysis should be integrated into all sector assessments or situational analyses to ensure that gender-based injustices and inequalities are not exacerbated by interventions, and that where possible, greater equality and justice in gender relations are promoted” (UN Women Training Center, n.d.a). In the specific context of E2E-FFEWS and IFM this translates for instance into an improved understanding of how women and men are differently affected by flood and their effects. Gender analysis also ensures that gender-based injustices and inequalities are not exacerbated by interventions, and that where possible, greater equality and justice in gender relations are promoted (UN Women Training Center, n.d.a). Gender analysis should preferably be undertaken at the onset of any planned intervention. Gender analysis should be implemented taking into account not only women and men but considering all gender identities. Moreover, *mutatis mutandis* similar analysis can be implemented with reference to other (disadvantaged) groups (the elderly, disabled people, etc.).

Typically, gender experts implement gender analyses. Commonly used and proven tools by these experts include the Moser Framework, the Gender Analysis Framework, and the Harvard Analytical Framework (HAF). The HAF for instance is designed to examine gender roles and responsibilities by specifically analyzing the following components:

- 1) Activity profile: who does what in society, particularly with regards to productive and reproductive tasks?
- 2) Access and control profile: who has access to the required resources for these tasks and who controls their use?
- 3) Influencing factors: which factors influence the different roles and responsibilities of women and men?

The HAF has some distinct advantages, including that data are comparatively easy and straightforward to collect, adaptable to various settings and situations, making a clear distinction between access to and control over resources, and explicitly examining and highlighting women and men’s work and contributions (Ludgate, 2016). As such, the HAF helps not only but also highlighting the economic rationale for investing in women and improving the efficacy of projects (NDC Partnership, n.d.).

Figure 14: One of the HAF tools: Matrix on resources' access and control

Resources	Access		Control	
	Women	Men	Women	Men
1. Economical				
Land				
Equipment				
Earned income				
Asset ownership				
Money				
2. Socio-political				
Education-training				
Organization – representation				
Leadership, political power				
Credibility-experience				
3. Time				

Source: https://www.researchgate.net/figure/Access-control-matrix_tbl1_221406505

4.4 Mainstreaming gender into assessments

In addition to specific gender analyses, gender considerations need to be integrated into all sector assessments or situational analyses typically undertaken as part of E2E-FFEWS and IFM steps and processes. The following sections provide advice as to how to integrate gender considerations into community risk assessments and flood risk assessments.

4.4.1 Gender-sensitive community risk assessments

To ensure that community risk assessments are gender-sensitive, they must:

- Involve women and men in the data collection process
- Collect sex-disaggregated data (ideal are SADD) wherever possible
- Interview women and men, including through separate focus group discussions with women and men
- Record and analyze the differing perceptions of risk, and hazards threatening women and men
- Record and analyze the differing impacts of disasters on men and women, including the changes in activities during and after disasters, and women and men's distinct needs in these situations
- Pay attention to the vulnerabilities of women and men, including related to masculinities and femininities
- Record and analyze women and men's coping strategies, resources, knowledge, skills, and strengths with specific reference to disaster risk.

4.4.2 Gender-sensitive flood risk assessments

To ensure that flood risk assessments are gender-sensitive they must:

- Collect sex-disaggregated data (ideal are SADD) whenever possible, including on hazard, vulnerability, risk and emergency response mapping
- Equally important is to disaggregate heads of household information by sex to ensure that households headed by women have equitable access as beneficiaries to disaster preparedness and response programs: such measures are particularly crucial in societies where ownership of land and property is primarily vested in men
- Also ensure the participation of women in the data collection process: a balanced number of women and men should be recruited as data collectors; preferably select data collectors with local language skills to enable a more comfortable environment for women and men to share information
- Regarding the applied methodology, incorporate culturally appropriate and participatory data collection methods as this has a major impact on the quality of responses; try to interview women separately from men, have female data collectors interview female participants, and gather the opinions of recognized women's representatives as well as women in grassroots organizations and NGOs whose views may not be the same as those of the predominantly male local leaders, and to the extent possible, provide a confidential setting for information gathering
- Provide training to all data collectors on gender-responsive data collection, including skills to observe perceived vulnerabilities and constraints
- Additional preparation: in the context of displacement resulting from disaster, gender-based violence (including sexual violence) is a serious problem, and needs assessment activities can further traumatize a survivor – ensure that data collectors have information on local first aid psychosocial service providers and medical facilities for referral of trauma or violence survivors
- Include around 30-50% women's representation in consultation meetings on hazard analysis, risk awareness and assessment and vulnerability/capacity analysis; developing the risk and hazard maps; and identification of indicators for assessing gender specific aspects of risk and vulnerability
- Include around 30-50% female trainees in all training on flood risk assessment and analysis.
- Hold focus groups for women and men: it is crucial that vulnerabilities, needs, and capacities are assessed for each societal group
- Specific issues to assess include the division of labor and workload among men and women; their sources of income; their access to and control over physical resources (e.g., land, cash, and loans) and other resources (e.g., education, mobile phones, radio, and awareness-raising activities); their mobility, coping strategies and skills (e.g., swimming and negotiation skills); and women and men's constraints and limitations due to social and cultural practices.
- Avoid the use of generic terms such as "people" and "population" and replace them with "women and men."

4.5 Some further gender mainstreaming guidance

To close this module, the below bullet points serve as further, overarching guidance to successfully mainstream gender into any activity:

- Analyze the effects of any issue (e.g., flood risk) and planned intervention for women and men
- Ensure that gender is being considered from the onset of any intervention / project cycle until the very end, including monitoring and evaluation
- Where possible, always collect data in sex-disaggregated format (ideal are SADD)
- Make sure women and men’s distinct vulnerabilities and needs are known and addressed
- Utilize the specific knowledge and strengths of women and men in any intervention
- Make sure that women are included in decision-making processes at all levels
- Utilize new techniques and technologies as entry points for overcoming traditional gender barriers
- Ensure that project staff and externally hired persons (e.g., trainers, consultants to undertake assessments) have some gender competence and experience in gender mainstreaming
- Undertake gender analyses and integrate gender into specialized assessments
- Also undertake a gender analysis of all budget lines and financial instruments
- Hire gender experts to support gender mainstreaming efforts.

4.6 Considering intersectionality and groups with special needs

As mentioned in Module 1, considering intersectionality and groups with special needs is important too. Below are some factors to be taken into account during and in the aftermath of disasters that will help stakeholders to roll out inclusive initiatives.

Table 3 – Factors to be considered in CBFM for some vulnerability profiles

Population group	Factors to be taken into account
Children	<ul style="list-style-type: none"> • Identify and respond to protection risks of children during flooding as they may be separated from their families and caregivers which will make them vulnerable. • Be aware that psychosocial distress, overcrowding and a lack of privacy at host families, as well as family separation create situations in which children are vulnerable to exploitation, abuse and violence. • See child protection risks not as separate, but rather as interconnected and compounding. Evidence shows that deprioritizing psychosocial support, for example, may reduce the effectiveness of other humanitarian program interventions, such as education, health and livelihoods. • Make a distinction between children as beneficiaries and children as active actors in project activities and decision-making (often children are among the best educated in a community even more aware than others about the risks, having benefited from educational programs in this regard).
Lesbian, gay, bisexual,	<ul style="list-style-type: none"> • The response and recovery needs and risks of LGBTQI persons should be identified by working with advocates and civil society/ community groups/networks for LGBTQI

Population group	Factors to be taken into account
transgender, queer and intersex (LGBTQI)	<p>communities (such as the Sexual and Gender Minorities Associations) to ensure that needful assistance is provided for these people before, during and after the flooding.</p> <ul style="list-style-type: none"> • Ensure LGBTQI persons are engaged in the design and have full access to warning information and services/ assistance leading to their legal and social protection. • Ensure LGBTQI persons’ leadership is promoted, and representation ensured in the decision-making and involvement in the flood risk management activities. • Be aware that transgender persons have particular hormonal medical care requirements that they may not be able to access. This can severely impact their physical health and mental wellbeing. • Avoid first aid and relief distribution only on a family basis, but also on individual basis, as LGBTQI persons may not belong to families.
Old age / older population/ older persons/ Elderly	<ul style="list-style-type: none"> • Be aware of and make sure interventions take the specific needs of older persons into account, such as vulnerabilities and capacities, specific hygiene items, medication, and nutritional requirements; if these needs are not met, severe impacts on physical health and mental well-being can be the consequence. • Ensure older persons have full access to warning information and services/assistance. • Consult the older population during data collection for their special needs and traditional knowledge and also design of the warning services • Ensure first responders are aware of these needs and timely supports are provided • For those without younger adult carers, consider whether they may need special assistance during response, to repair or reconstruct their homes.
Persons with disabilities	<ul style="list-style-type: none"> • Reach out to persons with disabilities to learn about their needs and risks. • Ensure programs are designed and delivered in a way that allows persons with disabilities to access them equitably, including in relation to their possible limited mobility and transportation needs. • Ensure persons with disabilities have full access to warning information and services/assistance. Ensure their leadership is promoted and representation ensured. • Liaise with national, local, and community level organizations working with persons with disabilities and/or disability support services to identify and prioritize vulnerable individuals for assistance.
Migrants	<ul style="list-style-type: none"> • Reach migrants (migrants are often not registered and could be “forgotten” or “ignored”) • So, ensure first responders are aware of their existence and timely supports are provided • Ensure migrants have full access to warning information and services/assistance • Avoid first aid and relief distribution only on a family basis, but also on individual basis, as migrants (and refugees) may not belong to families. • Liaise with national, local, and community level organizations working with migrants (and refugees) to identify and prioritize vulnerable individuals for assistance.
People living in marginal areas	<ul style="list-style-type: none"> • Reach marginalized areas and check the effects of flood • So, ensure first responders include these areas and timely supports are provided (often more difficult than elsewhere) • Be aware of and make sure interventions take the specific needs of isolated people • Ensure isolated people have full access to warning information and services/assistance

Module 5: Gender-responsive planning and budgeting

Goal

This module on gender-responsive planning (GRP) and budgeting (GRB) will explain what gender-responsive planning and budgeting are, why it is important, and how GRP and GRB can be achieved. The goal of this module is thus to highlight the relevance of GRP and GRB and provide stakeholders with a brief overview of the necessary steps to make sure gender is considered during planning and budgeting of social development projects in general and IFM projects in particular.

Learning Objectives

At the end of this module, participants will be able to:

1. Explain what GRP and GRB are and why it is important
2. How GRP and GRB can be achieved.

5.1 What are gender-responsive planning and gender-responsive budgeting and why is it important?

Planning is an exercise that makes it possible to identify the priorities and the major long-term orientations; to set and articulate the objectives; and to express the expected results based on a vision of the future by which some goals are identified. Moreover, planning makes it possible to define a sectoral policy for each sector, or even an orientation law and a five- (or ten-) year strategic plan balance objectives.

Budgets are the most comprehensive statement of the economic and social plans of governments. Through checking where the money comes from and how it is spent, budgets determine the raising of public funds, their usage and those who benefit from them (UN Women, n.d.a).

Contrary to frequent beliefs, budgets (and planning that is behind budgets) are not gender neutral. They can have very different effects on women and men. An example comes from the use of public transportation: overall, women rely more on public transportation than men and hence, reducing government expenditures on public transport would affect women more than men, and in an adverse way (Sgueo, 2015).

Given the great relevance of planning and related budgets and their power to affect women and men's lives, and in order to implement governments' commitments to gender equality and women's empowerment, it is important to include a gender perspective in all processes related to planning and the related development of budgets. In other words: planning and budgets need to be gender-responsive and this is the case when the collection and allocation of public funds is done effectively and governments' planning, programming and budgeting all contribute to greater gender equality and the fulfillment of women's rights (UN Women, 2012).

At the same time it is important to understand that GRB is not about establishing separate budgets for men and women (and even less in preparing differentiated planning, which could instead have discriminatory effects), neither does GRB mean to simply increase funds allocated to women's programs (UN Women, n.d.a). Further, splitting budgets 50:50 is oftentimes not equitable, as women and men have different needs. A typical example is women's need for reproductive health services (Budlender, 2005). Rather, GRP and GRB require a detailed assessment of women and men's needs and contributions in light of the existing revenues, expenditures and allocations and the adjustment of budget policies to ensure all groups benefit. As such, GRP and GRB are also tools that help addressing gender gaps and discrimination (UN Women, n.d.a).

GRP and GRB have multiple benefits for both, the government and the society as a whole. For instance, GRP and GRB help the government to be more effective and efficient through providing services to those who are most in need. It also improves monitoring through indicating who benefits from the services. At the same time, this enhances accountability and transparency and reduces corruption. Recognizing and systematically addressing the needs of different groups ultimately benefits the society as a whole and provides a tool to hold the government and public representatives accountable (Budlender, 2005). In a way, a glance at (gender) budgeting helps to reveal stakeholders' true level of commitment to addressing gender equality issues in practice.

Up to this date, however, women's needs are oftentimes not adequately reflected in budgets (nor in the plans that are behind) related to disaster risk management in general and IFM and E2E-FFEWS in particular. One main reason for this shortcoming is that women are underrepresented in public life, including policymaking and budget allocation, which makes it less likely for their needs and priorities to be taken into account.

Textbox 14: What is a gender-responsive budget?

"A gender-responsive budget is a budget that works for everyone – women men and, girls and boys – by ensuring gender-equitable distribution of resources and by contributing to equal opportunities for all" (Women's Budget Group & Oxfam, 2018).

5.2 How can gender-responsive planning be achieved?

Mainstreaming gender (even more if a "gender transformative" approach is adopted) into E2E-FFEWS and IFM requires GRP. It can be achieved through the following steps:

- Detect the existence of inequality between women and men (among social groups, or other) in the area of intervention (thanks to a gender analysis – see §4.3); e.g., Unequal access between men and women to flood forecasting EWS services)
- Analyze the inequalities detected to understand the cultural and social models, legal framework and institutional practices that reproduce (or can reproduce) them, as well as the related policies and legal framework (e.g., Modes of communication and dissemination not

- very inclusive; low representation of women in EWS coordination bodies)
- Define priorities for reducing the detected inequalities
- Define related orientations and objectives
- Define related actions
- Analyze possible risks
- Define how to implement actions.

5.3 How can gender-responsive budgets be achieved?

Mainstreaming gender into E2E-FFEWS and IFM also requires GRB (WWF, 2017). Thus, it is important for stakeholders to have at least a basic understanding of how GRB works and how gender-responsive budgets can be achieved. Generally, three key steps are required towards this end: first, undertaking a gender budget analysis; second, implementing the required changes in budgets and policies; and third, integrating GRB systematically in budget and planning processes at all levels, from central governments to local authorities.

With regards to the first and most central step, the gender budget analysis, the main guiding questions are: “What impact do budgetary measures and related policies have on gender equality? Do they reduce gender inequalities, exacerbate them or leave them unchanged?” (UN Women, Sida GRB Project, & Foundation, 2016).

To answer these questions there are several steps to be taken (including the ones mentioned just above in relation to GRP). These are 1) identifying gender issues in the sector (i.e., generating a situation analysis); 2) collecting information about programs of interest for analysis (i.e., establishing a baseline); 3) conducting gender analysis of activities; 4) conducting gender analysis of related budget allocations; and 5) developing objectives and recommendations to improve gender equality. Then, and based on the analysis results, changes of budgets and policies are made (UN Women et al., 2016).¹⁹

Usually, a variety of actors are involved in budget-related processes, including government officials and representatives from NGOs, civil society and academia. Generally, GRB works best in settings where the following points are fulfilled (Women’s Budget Group & Oxfam, 2018):

- There is a strategy for translating gender analysis into policy change
- Actions are adapted to political and economic context
- There is political commitment and leadership at the highest level of government to making budgets work for gender justice
- There are champions and allies within parliament and at every level among public servants
- Initiatives involve civil society, including women’s rights organizations

¹⁹ A detailed description of each of the five steps and further required components of GRB can be found in UN Women et al. (2016).

- Key players, including Ministers, officials, parliamentarians and civil society have sufficient awareness and capacity to deliver GRB
- Organizations working on GRB are seen as credible by decision makers
- Gender-disaggregated statistics and other data are available.

As mentioned in previous modules, mainstreaming gender in essence means ensuring that gender is being considered throughout any project, plan, and activity undertaken in relation to E2E-FFEWS and IFM. Thus, the creation of separate “gender budgets” is rarely needed; rather, financial resources for activities such as gender trainings, gender analyses, and the hiring of gender experts should be incorporated into the overall (project) budget (Cadondon, Heller, & Strohmeier, 2015).

Some of the financing mechanism which provide specific budgets for gender-related interventions in the area of E2E-FFEWS and IFM projects and programs (in general for climate change adaptation and DRR) and require the consideration of gender throughout any intervention are as below (this list, of course, is not exhaustive):

- 1) Adaptation Fund
 - <https://www.adaptation-fund.org/document/opg-annex4-gender-policy/>
 - <https://www.adaptation-fund.org/knowledge-learning/knowledge-themes/gender/>
 - <https://www.adaptation-fund.org/document/draft-of-the-updated-gender-policy/>
- 2) Green Climate Funds
 - <https://www.greenclimate.fund/projects/gender>
 - <https://www.greenclimate.fund/document/mainstreaming-gender-green-climate-fund-projects>
- 3) Global Environment Facility
 - <https://www.thegef.org/topics/gender>
 - <https://www.thegef.org/news/new-policy-gender-equality-gef>
 - <https://www.thegef.org/publications/gef-guidance-gender-equality>
- 4) International financial institutions such as
 - a) World Bank
 - <https://www.worldbank.org/en/research/dime/brief/dime-gender-program>
 - b) African Development Bank
 - <https://www.afdb.org/en/topics-and-sectors/sectors/gender>
 - c) Asian Development Bank
 - <https://www.adb.org/themes/gender/results>
- 5) Multi-donor Trust Funds
 - a) Adaptation Fund
 - <https://www.adaptation-fund.org/knowledge-learning/knowledge-themes/gender/>
 - b) CREWS initiative
 - https://crews-initiative.org/sites/default/files/ckeditor/files/workdoc4_3rd_Steering_Committee_CREWS

[Gender_Operational_Note_0.pdf?ijpErU1w3eaSY1qJdsekJSBONF_GNLRI](#)

c) GFDRR

<https://www.gfdrr.org/en/genderequality#:~:text=GFDRR's%20leadership%20in%20promoting%20gender,the%20intersectionality%20with%20other%20identities.>

This funding mechanism or institutions ensure the requesting entities screen their gender related policies or action plan in the proposed project or programs activities.

Module 6: Gender-responsive monitoring & evaluation

Goal

This module on gender-responsive monitoring and evaluation (M&E) will explain what gender-responsive M&E is, why it is important, and how it can be achieved. The goal of this module is thus to highlight the relevance of gender-responsive M&E and provide stakeholders with a brief overview of the necessary steps to make sure gender is considered during M&E of social development projects in general and IFM projects in particular.

Learning Objectives

At the end of this module, participants will be able to:

1. Explain the main M&E related concepts
2. Explain what is and why gender-responsive M&E is important; and
3. How it can be achieved.

6.1 Basic concepts and approaches on M&E

Monitoring is an exercise that entails the systematic collection and analyzing of quantitative data and qualitative information to assess how “something” (e.g., a project or program, a policy, the set of activities carried out by an institution) is implemented within a specific space and time context; and track progress against established plans/objectives; and eventually confronting it with established standards.

Monitoring aims are:

- Identify emerging trends, patterns, barriers, opportunities, concerns
- Assess the status of advancement
- Adjust strategies and guide project/program/institution management decision (based on credible and useful information).

Evaluation is a systematic assessment of an ongoing or complete project, program or policy, its design, implementation and results (however, it could be also done “ex-ante”, based on project planning/design). An evaluation should provide credible and useful information for incorporating

lessons learned into the decision-making process of project/program/institution managers, grantees and donors.

Monitoring and evaluation (M&E) are implemented according to many approaches (not always consistent with each other). In this manual, for the sake of brevity, we limit ourselves to mentioning two of them, particularly useful and practiced for the M&E of projects with a high social component.

- The developmental (or formative) approach (Patton, 2006) that is aimed at assisting those who work in complex social and environmental context (E2E-FFEWS/IFM) to anticipate, recognize and deal with the problems that arise during a project/the implementation of a policy. It is:
 - ✓ oriented towards supporting complexity and change,
 - ✓ with a view to utilization-focused evaluation of the results
 - ✓ involving long-term relationships between evaluators and project or program staff
 - ✓ ongoing and reflexive, which means that feedback can be provided continuously
 - ✓ primarily designed to support learning and management decision-making.
- The summative approach (Luke et al., 2013) that is centered on the evaluation of the outcomes of a project, in terms of actions carried out, products (outputs), results with respect to the objectives and impacts, desired and unwanted.

6.2 How can gender-responsive M&E be achieved?

Gender responsive monitoring and evaluation of E2E-FFEWS and IFM processes entails the collection and analysis of information and data to evaluate effective gender mainstreaming in order to:

- Assess progress in the E2E-FFEWS and IFM process, with a specific focus on reducing gender-based inequalities and on the inclusion of marginalized groups (according to a summative approach)
- Improve E2E-FFEWS and IFM processes, including how gender mainstreaming works (according to a developmental approach).

A gender-responsive M&E entails:

- Provision of a gender-sensitive team in the E2E-FFEWS and IFM
- Presence of at least 40% of women in monitoring sessions
- Tools to collect both quantitative and qualitative gendered-based data/information: Moreover, for each issue addressed, ask yourself about the implications for various social groups, in particular from a gender perspective
- Processing and analysis of data to clearly illustrate disparities in the direction of worsening or mitigating gender inequality in E2E-FFEWS and IFM, in a well-illustrated manner
 - ✓ Use of gender-sensitive indicator (or equivalent) in data processing, analysis and interpretation
 - ✓ Analyze each implemented activities with respect to different involved social groups,

in particular gender (e.g., modeling and forecasting, early warning dissemination, decision-making)

- (Should) include information on equality, gender participation, changing socio-cultural constraints, and the capacity of various gender groups
- Mechanisms to facilitate the dissemination of “lessons learned” (scaling up, replication at various levels, etc.) from the adoption of a gender perspective in E2E-FFEWS and IFM.

Textbox 15: What is a gender-sensitive indicator?

Gender-sensitive indicators are signs that allow us to take the pulse of the situation in terms of equality between women and men, as well as disadvantaged groups (the elderly, marginalized communities, youth, the disabled, etc.) in a given context, at the global, regional, provincial or community level. These indicators are necessary to measure progress or setbacks in gender mainstreaming (OECD, 2022).

Examples of gender-sensitive indicators in IFM

- ✓ Number of male/female beneficiaries of emergency response programs
- ✓ Local women in the disaster management committee (or equivalent)
- ✓ Number of women versus men trained in flood-related emergency response
- ✓ The existence of a supportive and gender-sensitive legislative and policy framework
- ✓ The existence of a gender-sensitive risk management plan
- ✓ The existence of a mapping considering vulnerable households
- ✓ The level of coverage of post-flood care measures for men and women, as well as for young people and the disadvantaged

Examples of gender-sensitive indicators in E2E-FFEWS

- ✓ Number of women participating in alert awareness meetings
- ✓ Percentage of men/women among EWS focal point
- ✓ Adequacy and accessibility of dissemination channels to the differentiated needs of men and women and other marginalized groups
- ✓ The level of functionality of the gender sensitive EWS services put in place
- ✓ Number of women having a cellular phone
- ✓ Number of women having internet access

(please consider also indicators reported in Table 5 in §7.4.3)

Module 7: Useful resources and tools to mainstream gender

Goal

The goal of this module is to introduce a selection of important existing resources and tools that help participants to deepen and broaden their knowledge on gender mainstreaming/gender transformative approach after completion of this training, and to support them in effectively mainstreaming gender in their respective work responsibilities. For stakeholders, having proven and widely used resources at hand saves time and enhances the quality of gender mainstreaming.

Learning Objectives

At the end of this module, participants will be able to:

1. Know where to look for additional learning material and resources on gender mainstreaming
2. Utilize and apply common gender mainstreaming tools.

7.1 Useful learning resources from the UN Women Training Centre

The UN Women Training Centre offers a wide range of relevant and easily accessible learning resources and tools. These include self-paced and free of charge online courses on gender concepts to get started; international frameworks for gender equality; promoting gender equality throughout the UN System; gender equality in emergencies; and gender responsive budgeting. Another useful resource the Centre provides online is the gender glossary. Furthermore, online guidebooks and manuals can be downloaded for free, including on gender and DRR in Europe and Central Asia²⁰. The UN Women Training Centre can be reached through this [link](#).

Textbox 16: UN Women Training Centre

“The UN Women Training Centre eLearning Campus is a global and innovative online platform for training for gender equality. It is open to everybody interested in using training or learning as a means to advance gender equality, women’s empowerment and women’s rights. Via this platform, we seek to create a productive and accessible learning environment on gender equality and women’s empowerment for all users. The overall learning, teaching and knowledge sharing is enriched among learners, facilitators, and wider institutional stakeholders through the use of technology, diverse e-learning modalities, and innovative pedagogical techniques. The Campus offers a flexible learning experience that meets the demand of a diverse and global audience and allows for continuous acquirement of skills and knowledge” (UN Women Training Centre, n.d.-d).

7.2 WMO webinar on Mainstreaming Gender in E2E-FEWS and Integrated Flood Management

A webinar on [Mainstreaming Gender into End-2-End-Early Warning System \(EWS\) for Flood Forecasting and Integrated Flood Management](#) (IFM) was jointly organized by WMO, the Global Water Partnership (GWP) and Water Youth Network (WYN) on 8 March 2022 to mark International Women’s Day 2022. A panel of experts on gender mainstreaming and advocacy discussed the related issues, needs and vulnerabilities as well as sharing of experiences and good practices from different regions.

²⁰ UN Women-UNDP Gender and disaster risk reduction in Europe and Central Asia. Workshop Guide for facilitators. (2018). Url: [gender ECA training.pdf](#) (unwomen.org). This Guide is designed for facilitators and trainers working to incorporate gender perspectives in disaster risk reduction (DRR) programmes and initiatives. It is meant to assist workshop participants – including practitioners and officials from the United Nations, national governments, civil society organizations (CSOs), and other institutions – in gaining an understanding of the gendered impact of disasters. It also helps them learn how to plan, implement, monitor and evaluate gender responsive DRR programmes and initiatives.

7.3. Existing training manuals and guidebooks

In addition to the resources and tools provided by the UN Women Training Centre there are manuals and guidebooks on related technical areas, largely climate change and DRR, that may be of help in mainstreaming gender into E2E-FFEWS and IFM processes. Here below a selection of most recent resource.

- Cap-Net, UNDP, GWA (2014). [Why Gender Matters in IWRM](#). A Tutorial for Water Managers.
- Caribbean Development Bank (2020). [Gender Mainstreaming for Natural Disaster Risks and Climate Change](#).
- GFDRR, World Bank Group (2021). [Gender Dimensions of Disaster Risk and Resilience: Existing Evidence](#).
- GGCA, UNDP (2016). Training Module 2: [Gender, Climate Change Adaptation, and Disaster Risk Reduction](#).
- IGDS (2018). [Mainstreaming Gender into Disaster Risk Management](#). Training Manual.
- ISDR, UNDP, IUCN (2009). [Making Disaster Risk Reduction Gender Sensitive](#). Policy and Practical Guidelines.
- IUCN, UNDP, GGCA (2009). [Training Manual on Gender and Climate Change](#).
- Oxfam (2011). [Gender and Disaster Risk Reduction: A Training Pack](#).
- The World Bank (2012). [Making Women’s Voices Count: Integrating Gender Issues in Disaster Risk Management](#). Overview and Resources for Guidance Notes.
- UNDP (n.d.) with the Asian Disaster Preparedness Centre. [Integrating gender into Community-Based Disaster risk Management](#). Training Manual.
- UNDP (2016). [10 Lessons Learned in Gender Mainstreaming in Disaster Risk Reduction and Climate Change Adaptation in Viet Nam](#).
- UNIDO (2015). [Guide on Gender Mainstreaming: Environmental Management Projects](#).
- UNIFEM (2010). [Pakistan Floods 2010: Rapid Gender Needs Assessment of Flood-Affected Communities](#).
- UN Women (2020). [COVID-19: How to Integrate Marginalized and Vulnerable People in Risk Communication and Community Engagement](#).
- World Bank (2011). [Gender-Sensitive Post-disaster Assessment](#). East Asia and the Pacific Region Sustainable Development Guidance Note; No 8. World Bank, Washington, DC. World Bank Document.

Textbox 17: Additional resources on intersectionality and groups with special needs

1. AIDMI. (2022). Learning and understanding intersectionality of women led disaster preparedness and resilience. (Special issue). Url: [Learning-and-Understanding-Intersectionality-of-WLDPRR.pdf](#) (aidmi.org)
2. AIDMI Author(s) Mihir R. Bhatt Sameer Khatiwada Souleima El Achkar-Hilalet et al., Understanding intersectionality in women led disaster preparedness and resilience. Url: <https://www.preventionweb.net/quick/70185>
3. Amorim-Maia, A. T., Anguelovski, I., Chu, E., & Connolly, J. (2022). Intersectional climate justice: A

conceptual pathway for bridging adaptation planning, transformative action, and social equity. *Urban Climate*, 41, 101053. <https://www.sciencedirect.com/science/article/pii/S2212095521002832>

4. Chaplin, D., & Twigg, J., & Emma Lovell, E. (2019). Intersectional approaches to vulnerability reduction and resilience-building. <https://www.odi.org/sites/odi.org.uk/files/resource-documents/12651.pdf>
5. Kaijser, A., & Kronsell, A. (2014). Climate change through the lens of intersectionality. *Environmental politics*, 23(3), 417-433. <https://www.tandfonline.com/doi/full/10.1080/09644016.2013.835203>
6. Kuran et al. (2020). Vulnerability and vulnerable groups from an intersectionality perspective. <https://www.sciencedirect.com/science/article/pii/S2212420920313285>.
7. Lovell, Lung'ahi (2019). Building resilience for all: Intersectional approaches for reducing vulnerability to natural hazards and climate change: Findings from Kenya. <https://reliefweb.int/report/kenya/building-resilience-all-intersectional-approaches-reducing-vulnerability-natural>

Further important texts are reported in the list of References at the end of this Training Manual.

7.4 Practical tools for gender mainstreaming on the job

Utilizing proven, practical tools typically simplifies the gender mainstreaming process significantly. This is because going back to existing materials saves time and prevents stakeholders from making common errors. Among the most frequently used tools in this context are templates for the recruitment of gender experts and pre-defined checklists for gender mainstreaming into projects. The formulation of common gender results and indicators to measure these may also be useful for stakeholders. Of course, all these tools must be further adjusted to the technical area of E2E-FFEWS and IFM as well as the specific context at hand.

7.4.1 Terms of reference for gender experts

Gender experts are women or men who are usually hired to support gender mainstreaming on an ad hoc basis, for instance through gender analyses and (post disaster) needs assessments after emergencies, or to provide expert guidance for extended periods of times. The latter usually involves close collaboration with stakeholders on site and capacity building components. Given this, gender experts are important players in the area of E2E-FFEWS and IFM and should be considered full members of the respective teams. The following sections are typically included in job descriptions for gender experts and one or more of the bullet points can be used to draft advertisements for gender expert positions.²¹

Typical duties of gender experts

- Review relevant documents on the requirements for gender mainstreaming in the E2E-FFEWS and IFM sectors.
- Conduct a detailed gender analysis, particularly emphasizing gender division of labor, control of resources and technologies, women's and men's needs and preferences, and opportunities for and constraints on women's participation.

²¹ The sections are copied and slightly adjusted from UNIDO's Gender Mainstreaming Guide on Environmental Management Problems prepared by Cadondon et al. (2015).

- Assess and identify potential gender-differentiated impacts of the project.
- Collect sex-disaggregated baseline data that could be used to monitor potential gender impacts and measure progress.
- Identify government agencies, NGOs, community-based organizations and women's associations or groups whose work focuses on gender and E2E-FFEWS and IFM that can be utilized during project preparation and implementation and assess their capacity.
- Based on gender analysis, develop a plan of action that identifies opportunities and entry points for mainstreaming gender into the project: the plan of action for gender mainstreaming should mirror the project's log frame and include the development of gender-specific project components, gender-sensitive targets and indicators, timelines, assigned responsibilities and implementation arrangements.
- Provide cost estimates for the implementation of the plan of action for gender mainstreaming.
- Integrate relevant gender components from the plan of action for gender mainstreaming in the project document, including cost estimates for its implementation.
- Prepare terms of reference for a locally based gender specialist to implement the gender-responsive components of the project.
- Assess the gender "awareness" and "sensitivity" of project beneficiaries and especially project stakeholders.
- Conduct gender-sensitization training for project staff at all levels and maintain the desired level of gender awareness.
- Assist in the recruitment of project staff to ensure gender equality in recruitment and a gender focus in staff competencies to support implementation of gender activities.
- Conduct regular site visits to monitor implementation of gender activities, collect sex-disaggregated data on gender-responsive targets and indicators and prepare corresponding progress reports.
- Identify any unanticipated risks and/or negative gender impacts and adjust and/or develop project activities to mitigate these issues as needed.
- Engage and provide necessary support to the relevant government agencies, NGOs, community-based organizations and women's associations or groups whose work focuses on gender and environmental management to facilitate collaboration and enhance gender results of project implementation.

Typical educational requirements

The Gender Expert should have a postgraduate university degree in Social Sciences or other relevant discipline, preferably with a specialization in gender, project cycle management and/or environment. Technical and functional experience the gender expert should have been:

- A minimum of five years practical experience in the field of gender equality and gender mainstreaming (possibly also on issues such as vulnerability/vulnerable social groups)
- Formal training in gender analysis and gender planning and demonstrated expertise in mainstreaming gender in projects and programs, especially in the environment sector
- Thorough understanding of the gender context in [country], and experience working with

government institutions and international or non-governmental organizations supporting gender and development work in the E2E-FFEWS and IFM sectors

- Familiarity with gender analysis/vulnerability tools and methodologies in the E2E-FFEWS and IFM sectors
- Strong communication skills and ability to liaise with various stakeholders, including government officials.

7.4.2 Checklist for gender mainstreaming into projects

The following checklist lends itself well to check how well gender has been integrated in any project. This is particularly important during the project formulation phase, as only then can resources be allocated in the most efficient and effective way and maximum results for beneficiaries be achieved.²²

Table 4: Checklist for gender mainstreaming into projects or area of work related to E2E-FFEWS or IFM

	Question	Yes	No	Partially
Analysis/Justification	Does the project explicitly address a gender issue or issues? If so, please describe how and if not, please provide an explanation.			
	Does the background/context analysis of the project examine: (a) the different situations of women and men (b) the impacts the project will have on different groups.			
Data & Statistics	Will the project collect and use sex disaggregated data (ideally SADD) and qualitative information to analyze and track gender issues?			
Results Framework	Are outcomes, outputs and activities designed to meet the different needs and priorities of women and men?			
	Does the results framework include gender-sensitive indicators, targets and a baseline to monitor gender equality results?			
Budget	Have adequate financial resources been allocated for the proposed gender activities (vis-à-vis per cent of total budget)?			
Stakeholders & Participation	Are women/gender-focused groups, associations or gender units in partner organizations consulted/included in the project?			
	Does the project ensure that both women and men can provide inputs, access and participate in project activities (target at least 40 per cent of whichever sex is underrepresented)?			
Gender capacities	Has a gender expert been recruited or do the project staff have gender knowledge and have gender related tasks incorporated in their job descriptions?			
	Will all project staff be sensitized to gender (e.g., staff will complete online course 'I Know Gender' on UN Women's eLearning Campus https://trainingcentre.unwomen.org)?			
Implementation arrangements	Is there gender-balanced recruitment of project personnel and gender balanced representation in project committees?			
Monitoring & evaluation	Will the monitoring and evaluation of the project cover gender issues and monitor behavioral changes towards greater gender equality (and mainstreaming efforts)?			

²² The table is copied from UNIDO's Gender Mainstreaming Guide on Environmental Management Problems prepared by Cadondon et al. (2015).

7.4.3 Checklist on further gender results and indicators

Below is a checklist that formulates typical gender results and indicators that support measuring progress on achieving these. The checklist addresses commonly observed gender gaps in the environment sector. Once adjusted to the specific context, these results and indicators can also be used to support the formulation of project documents and gender action plans.²³

Table 5: Checklist on further gender results and indicators

Result	Indicator
Gender-responsive human resource management (recruitment focused)	<ul style="list-style-type: none"> ❖ No and % of male and female consultants/experts/technical assistants, etc. recruited through the project ❖ No and % of applications received from women and men ❖ No of efforts undertaken to encourage women to apply ❖ ToRs include gender competence as requirement (yes/no) ❖ ToRs include provision that encourages women to apply (yes/no) ❖ Gender competence was tested as part of interview/test (yes/no) ❖ No and % of women and men in recruitment panel ❖ No and % of women and men in management/leadership positions ❖ Database with women experts established (yes/no) ❖ Work environments are gender-friendly (yes/no) ❖ Efforts undertaken to encourage stakeholders/partners to recruit women (yes/no) ❖ ...
Documents prepared under the project are gender-sensitive (e.g., policies, strategies, training materials, knowledge products)	<ul style="list-style-type: none"> ❖ No of gender-sensitive assessments ❖ No of specific gender assessments ❖ % of data collected in assessments disaggregated by sex (and age) ❖ No and % of women and men interviewed in assessments ❖ Assessment team included gender specialist (yes/no) ❖ No and % of gender-specific questions included in assessments ❖ No of gender references in text (e.g., policies, strategies) ❖ No and % of women and men involved in development of document ❖ No of associations/networks/stakeholders focusing specifically on GEWE were consulted throughout the process ❖ No and % of graphic material in document that portrays women and men ❖ Presented data is disaggregated by sex (yes/no) ❖ Good practices and lessons learned on gender are documented (yes/no) ❖ ...
Gender-responsive knowledge management/dissemination	<ul style="list-style-type: none"> ❖ No of gender-specific content disseminated (e.g., through online platforms, TV, radio) ❖ No of specific gender events held (e.g., trainings, workshops, discussions, round tables) ❖ Information on women and men's media use available (yes/no) ❖ No of women and men that received/accessed information ❖ ...
Gender-responsive capacity building (for gender-	<ul style="list-style-type: none"> ❖ No and % of male and female participants ❖ No and % of specific trainings on gender

²³ The table is copied from a Gender Analysis Report for Montreal Protocol Projects prepared for UNDP (Strohmeier, 2018).

Result	Indicator
responsive training material (see above)	<ul style="list-style-type: none"> ❖ No and % of trainings that include targeted session on gender ❖ No and % of trainings undertaken in collaboration with gender focal points/gender experts/gender departments ❖ % of time dedicated to gender in trainings ❖ No and % of women presenting in trainings ❖ Data presented in trainings are disaggregated by sex (and age) (yes/no) ❖ Trainers have gender competence (yes/no) ❖ ...
Work environments are gender-friendly	<ul style="list-style-type: none"> ❖ No of private sector partners sensitized on the need for gender-friendly work environments ❖ Flexible working hours possible (yes/no) ❖ Maternity/paternity leave is granted (yes/no) ❖ Lactating room/space and necessary equipment (e.g., refrigerator) is available (yes/no) ❖ Childcare facilities available at the work place (yes/no) ❖ Separate washrooms / changing rooms for women and men available (yes/no) ❖ Transport for women and men available to workplace (yes/no) ❖ ...
Enhanced economic empowerment of women	<ul style="list-style-type: none"> ❖ No and % of women and men in formal employment (by sector and type) ❖ No and % of women and men in leadership positions ❖ No and % of women and men trained ❖ No and % of enterprises owned by women and men ❖ No and % of enterprises managed by women and men ❖ No and % of women and men trained on gender, and the importance and benefits of women's economic empowerment ❖ Evidence that perception of women's empowerment has changed (e.g., testimonies, interviews) ❖ Number of women having a cellular phone ❖ Number of women having internet access ...
Enhanced understanding of GEWE among beneficiaries	<ul style="list-style-type: none"> ❖ No and % of women and men who received training on gender/human rights ❖ Evidence that women are more aware of their rights (e.g., through interviews/testimonies) ❖ Evidence that men are supportive of GEWE (e.g., through interviews/testimonies) ❖ No and % of reported cases of discrimination / gender-based violence ❖ No and % of women and men in formal employment ❖ No and % of women and men attending University / studying STEM fields ❖ Evidence that women have increased control over resources (yes/no) ❖ ...

Module 8: Development of a post-training roadmap

Goal

The goal of this module is to capitalize the training key messages in a follows-up perspective of the training course and its extension to other beneficiaries.

Learning Objectives

At the end of this module, participants will be able to:

1. Have a clear vision on how to continue the training process started with the workshop
2. Have awareness of the feasibility of the actions to be undertaken.

The training workshops on “Mainstreaming Gender into End-to-End Flood Fore-casting and Early Warning Systems and Integrated Flood Management”, so far, have been organized at the level of one country (e.g., Ghana, Cote d’Ivoire, Burkina Faso) or, more often, of a group of countries of the same territorial area (e.g., the SADC countries or the Eastern Caribbean). Beyond increasing the knowledge on gender and gender mainstreaming (in relation to flood) of regional, national and local stakeholders, and at building their capacity to mainstream gender and further societal issues entailing inequality and vulnerability into their area of work, these workshops also try to mark a “turning point” in the consideration of gender issues (also with reference to other vulnerable subjects) in flood management and for all those who deal with it (National Meteorological, Hydrological Services, Disaster Management Authorities/Civil Protection, Water and Sanitation Authorities, River-basin Organizations, gender focal points, policy-makers, CBOs and NGOs, and community flood management committees and similar bodies). For this reason (and also considering the basic principles of adult education which provide that the training of adults has a continuous nature) this workshop cannot remain “stand-alone” but must be continued through post-training.

A matrix, like the one presented below, should be filled. Post-training activities should be identified to be implemented:

- In the institutions (each institution, as far as possible) participating in the workshop
- In the communities whose people is present in the workshop (and in further communities, if possible)
- At the national level in the represented countries
- (if relevant) at the regional level.

In order to be concrete, an activity will be included in the matrix only if it will be able to foresee some characteristics, such as the responsible (by whom), the participants (with whom), the expected timeframe, the potential resources (internal and/or external) to be used and the related expected results. It should be helpful to set-up, among the institutions represented in the workshop, a monitoring frame with bimonthly or quarterly meetings to verify and support the implementation of the identified activities.

Figure 15: Template for post-training roadmap matrix

Levels	Activities to be implement	Expected results/ changes	By Whom	With whom	Implementation time frame	Expected resources (physical, material and financial – budget)	
						Internal	External
Home based Institution/in your Office							
Local (districts and communities)							
National							
Regional							

Module 9: Summary and closing

Goal

The goal of this module is to end the training with a recapitulation of key messages to help participants remember some of the most important aspects of the training. The quiz at the end presents a fun and participatory tool towards this end, which lends itself well to close the training.

Learning Objectives

At the end of this module, participants will be able to:

1. Recall key take-home messages of the training
2. Successfully answer main questions concerning GEWE, E2E-FFEWS and IFM, and how they are interrelated.

9.1 Highlights and key messages to achieve gender-sensitive E2E-FFEWS and IFM

This Training Manual has sought to clarify and provide guidance on gender mainstreaming in the context of E2E-FFEWS and IFM. It highlighted complex challenges, required capacities, and explicit ways how to achieve gender-responsive approaches for effective and efficient flood resilience. As the previous modules also showed, gender mainstreaming requires a change in people’s mind-set. Thus, advocacy work and training of stakeholders at all levels should be conducted continuously so that people fully understand its benefits and are being consistently reminded that, to reach their maximum benefits, interventions must be inclusive. The below list presents a summary of key messages from this training which participants should remember.

- a. Gender – contrary to biological sex – is socially constructed. It is context and time-specific and thus changeable. Gender equality refers to the equal rights, responsibilities, and opportunities between women and men. Gender equity entails treatment that could be different among people, but should be considered equivalent in terms of rights, benefits, obligations and opportunities. Gender mainstreaming is a process with the ultimate goal to achieve gender equality. Gender transformative is an approach that goes beyond the symptoms of inequality to tackle the norms, attitudes, behaviors and social systems that underpin inequalities. It also makes it possible to analyze the degree of integration of gender in planning and decision-making processes.
- b. Intersectionality promotes an understanding of human beings as shaped by the interaction of different social profiles (e.g., ‘race’/ethnicity, indigeneity, gender, class, sexuality, geography, age, disability/ability, migration status, religion). So, the effects of multiple forms of discrimination (related to these profiles) combine, overlap, or intersect especially in the experiences of marginalized individuals or groups.
- c. Flood events affect women and men (as well as individuals, considering their profile) differently due to biological and physiological factors, but mainly due to social norms and role behaviors that are deeply enshrined in societies.
- d. Gender mainstreaming generates benefits at all levels and positively affects the lives of individuals, families, communities, and countries as a whole. Gender mainstreaming is also important from a rights-based perspective.
- e. Major entry points for gender mainstreaming in E2E-FFEWS and IFM steps and processes include data collection, modeling and forecasting, early warning dissemination, decision support, response to warning, and contextual analyses. Gender analyses and the integration of gender considerations into assessments and situational analyses are important and proven tools to support gender mainstreaming processes.
- f. Key gender mainstreaming actions include the collection of sex disaggregated data (ideal are SADD) whenever possible.
- g. Gender-responsive planning and budgets entail a way of planning with corresponding budgets that work for everyone by ensuring gender-equitable distribution of resources and by contributing to equal opportunities for all. Ensuring that planning and related budgets are gender-responsive is also of great importance in the context of E2E-FFEWS and IFM.
- h. Gender-sensitive indicators are signs that allow us to take the pulse of the situation in terms of equality between women and men as well as disadvantaged groups (the elderly, marginalized communities, youth, the disabled, etc.) in a given context. Such indicators are at the basis of a Gender-responsive Monitoring and Evaluation.
- i. The UN Women Training Center offers useful resources on gender mainstreaming. Hiring a gender expert to support gender mainstreaming long-term or on an ad hoc basis is helpful, and so is the use of proven checklists for gender mainstreaming, common gender results, and gender indicators to measure progress in achieving these.

In addition, participants should remember to:

- Make sure that women and men (as well as other vulnerable groups) participate in and benefit from any E2E-FFEWS and IFM intervention
- Continuously document good practices and lessons learned related to gender mainstreaming
- Support awareness raising and advocacy efforts, including through the media, on the gender dimensions of flood events and the distinct vulnerabilities and needs, capacities and skills of flood events
- Support research related to gender (and vulnerability) and flood events.

9.2 Gender quiz

The following brief gender quiz can be played with participants at the end of the training. The questions cover aspects discussed across all modules – and the answers can be found in these:

- A. What is the difference between sex and gender? (→ see Module 1)
- B. What are examples for gender inequalities? (→ see Module 1)
- C. What is the difference between equality and equity? (→ see Module 1)
- D. What does intersectionality mean? (→ see Module 1)
- E. Why do flood events affect women and men differently? (→ see Module 2)
- F. What are examples of gender-differentiated impacts of flood events on women and men? (→ see Module 2)
- G. What does gender mainstreaming mean? (→ see Module 3)
- H. What a gender transformative approach entail? (→ see Module 3)
- I. Why is it important to include women in IFM and E2E-FFEWS steps and processes? (→ see Module 4)
- J. Why is it important to include women in decision-making related to IFM and E2E-FFEWS? (→ see Module 4)
- K. What are key international instruments and commitments that support gender mainstreaming? (→ see module 3)
- L. What are key E2E-FFEWS steps and processes? (→ see Module 4)
- M. What are key IFM steps and processes? (→ see Module 4)
- N. How can gender be mainstreamed in E2E-FFEWS/IFM steps and processes? (→ see Module 4)
- O. What is a 'gender-responsive' planning? (→ see Module 5)
- P. What is a 'gender-responsive' budget? (→ see Module 5)
- Q. Why is it important to include women in budget decisions? (→ see Module 5)
- R. What is a gender-sensitive indicator (→ see Module 6)
- S. Where can additional resources on gender mainstreaming be found? (→ see Module 7)

Part II: Facilitators' Guide

Part II of this document is the Facilitators' Guide. This Guide is intended to be used as the basis for organizing trainings focused on increasing knowledge and awareness on mainstreaming gender in E2E-FFEWS and IFM. Each training is proposed to be held over the course of four days, targeting participants from NMHSs, Civil Protection, Disaster Management, Water and Sanitation, Irrigation Authorities and similar bodies, gender focal points, as well as representatives of NGOs/CBOs and citizens volunteers from communities affected by floods representatives (approximately 20 to 30 participants, including men and women). On the fourth day of the training, further participants should join this group. These further participants should be local and national policy makers and, eventually, regional policymakers too (male and female). Both groups will work together in these last hours of the training workshop. In particular, those who participated in the entire workshop will present and discuss its results to the policymakers and, together, the final Recommendations of the workshop will be identified. A specific focus should be on the post-training roadmap, since once trained, participants are expected to carry out similar training sessions at the local, national, and regional levels, developing other people's skills²⁴.

The one just mentioned is (based on the experience gained so far) the ideal scheme. It must obviously be adapted to the circumstances of each specific context, even by reducing the times, which, however, cannot go below two and a half days. It is also possible to envisage a different articulation of attendance (for example, a final half-day with the sole participation of policymakers). Below are a set of selection criteria for participants, and a suggested agenda for the workshop (4 days scheme).

1 Eligibility and selection criteria of participants

There are four main criteria for the selection of the participants of both groups attending a training workshop. These are:

1. Current involvement in activities related to E2E-FFEWS or IFM measures and /or current competences or working experience on gender related aspects
2. Capability to contribute based on previous experiences in E2E-FFEWS and IFM practices during the training sessions and/or on gender/vulnerability issues
3. Interest in and commitment to organize and conduct similar training workshops with the WMO and its partners' networks in his/her country/region
4. Full availability during the whole duration of the workshop.

²⁴ This formula integrating "the decision-makers' day" allowing in-depth exchanges between the decision-makers and the participants was very well appreciated in all the countries; it made it possible to ensure the support of the authorities and the restitution of the conclusions and recommendations of the training workshop to policy-makers at the regional, national and local levels (depending on the dimension of the workshop). See : GWP-WA/M. Dam Nanfan Mogbante (2022) « élaboration du plan d'action pour une participation accrue des femmes et des groupes vulnérables dans la gestion intégrée et l'alerte aux inondations aux niveaux local, national et régional dans le bassin de la Volta ». Same conclusion from the workshops held in other geographical contexts.

Possible list of participants – 30/40

Regional/National Meteorological Services	5/6
Regional/National Hydrological Services	3/4
Regional/National Disaster Management Services	3/4
Regional/National Environmental Agency	0/2
Gender focal points	5/6
District disaster management staffs or volunteers	4/5
NGOs/CBOs	2/4
Community representatives from communities	6/7
International organizations (WMO included)	2/3
Consultants/Others	0/2

Further, please ensure that women make up 40 to 60% of the total number of selected training participants, including diversity regarding the level of their position/work. Last but not least, ideally, all the categories of participants mentioned above (from hydrologists to gender experts; from civil protection technicians to citizens' volunteers/CBOs, etc.) should attend each workshop.

2 Some general remarks on the training

To assess the quality of the training and the progress participants made it is important to undertake a brief pre- and post-capacity assessment.

More specifically, before carrying out the training it is essential (also for tailoring it as better as possible) to carry out an analysis (even summary) of the training needs (these needs could be very different from one context to another). Training needs should consider first the competences and the technical capacities of the expected participants. Moreover, technical capacities for the exchange of information with the population; ability to identify and mobilize the capital of social relations; ability to work in groups or in partnership with other actors; etc. should be also considered. The analysis of these last capacities should influence the methods that will be used during the training. The results of this exercise can also be used to adjust the training further over time and as such complement the formal evaluation.

A post-capacity assessment (with similar features) should be included in the follow-up activities.

Further, each day should begin with a brief recap session on what participants remember from the previous day and key lessons they have learned. There is no need to allocate much time for that (hence it is not reflected in the overview of sessions nor the detailed scenario); this exercise can be nicely integrated in the process of greeting participants and welcoming them back to the training.

3 Overview of sessions

Session title	Session objectives	Time	Material needed
Day 1			
Opening	<ul style="list-style-type: none"> • Participants introduced themselves • Participants know training objectives and agenda • Participants communicated their expectations on the training • Ground rules for training are established • Logistical & housekeeping information for the workshop • Brief capacity assessment on gender, early warning and IFM undertaken to identify the baseline 	90 minutes	Flip chart, flip chart markers, paper, pen
Session 1: Region profile on flood related events and impacts	<ul style="list-style-type: none"> • Participants share /understand the territorial issues of the region/the country • Disaster management or responsible authority sharing information on past flood events and impacts at different levels including gender specific. 	60 minutes	Flip chart, flip chart markers, paper, pen, Laptop, beamer
Session 2: Understanding important concepts and definitions: Key concepts and process related to E2E-FFEWS and IFM (module 1, first part)	<ul style="list-style-type: none"> • Participants understand the official/formal definitions of key concepts and share their knowledge and understanding of important concepts related to early warning, flood management • Participants understand the different steps of E2E-FFEWS and IFM 	60 minutes	Flip chart, flip chart markers, paper, pen, Laptop, beamer
Session 3: Understanding important concepts and definitions: gender issues and intersectionality (module 1, second part)	<ul style="list-style-type: none"> • Gender experts or focal points sharing gender specific issues, needs, and capacities at the country or regional levels • Participants understand the official/formal definitions of key concepts and share their knowledge and understanding of important concepts related to gender issues and intersectionality • Participants are able to identify the roles and responsibilities of stakeholders in mainstreaming gender in the application and services of E2E-FFEWS and IFM 	120 minutes	Flip chart, flip chart markers, paper, pen, Laptop, beamer
Session 4: Gender dimensions of flood events (module 2)	<ul style="list-style-type: none"> • Participants can identify common gender dimensions of flood events • Participants are aware of specific gender issues related to E2E-FFEWS and IFM • Participants understand the importance of gender mainstreaming 	90 minutes	Flip chart, flip chart markers, paper, pen, Laptop, beamer
Day 2			
Session 5: The importance of gender mainstreaming (module 3)	<ul style="list-style-type: none"> • Participants understand the importance of gender mainstreaming and of the gender transformative approach from a rights/historical-based perspective • Participants know specific international instruments and commitments that support gender mainstreaming 	90 minutes	Flip chart, flip chart markers, laptop, beamer

Session title	Session objectives	Time	Material needed
Session 6: Ensuring that E2E-FFEWS and IFM processes are gender-sensitive (module 4)	<ul style="list-style-type: none"> Participants know key steps required for successful gender mainstreaming in various phases of flood management including E2E-FFEWS and IFM Participants understand better individual roles and responsibilities with regards to mainstream gender Participants feel more confident in mainstreaming gender in their area of work 	150 minutes	Flip chart, flip chart markers, laptop, beamer
Session 7: Gender-responsive planning and budgeting (module 5)	<ul style="list-style-type: none"> Participants understand what GRP and GRB are and why it is important Participants know how GRP and GRB can be achieved 	60 minutes	Flip chart, flip chart markers Laptop, beamer
Session 8: Gender Mainstreaming – Monitoring & Evaluation (module 6)	<ul style="list-style-type: none"> Participants understand M&E main concepts and approaches Participants understand what Gender responsive M&E is and why it is important Participants know how Gender responsive M&E can be; 	60 minutes	Flip chart, flip chart markers, Laptop, beamer
Day 3			
Session 9: Practical exercise on project development (all modules)	<ul style="list-style-type: none"> Participants learn how to elaborate projects related to gender mainstreaming in E2E-FFEWS and IFM considering the knowledge gained on the integration of gender into E2E-FFEWS and IFM at different levels 	300 minutes	Flip chart, flip chart markers Laptop, beamer
Session 10: Development of a post-training roadmap (modules 7 and 8)	<ul style="list-style-type: none"> Participants reflect on the follow-up of the workshop and identify activities to be carried out in their institutions and at local, national and regional levels to apply gender mainstreaming skills to their area of work Participants know where to look for additional learning material and resources on gender mainstreaming 	120 minutes	Flip chart, flip chart markers, laptop, beamer
Day 4			
Session 11: Summary and recommendations (module 9)	<ul style="list-style-type: none"> Participants are able to identify the key take-home messages of the training Remaining open questions are addressed and Participants identify key-messages of the training workshop and recommendation to present to the policymakers 	90 minutes	Flip chart, flip chart markers laptop, beamer
Transmission of key messages to decision makers for action on gender mainstreaming in the E2E-FFEWS and IFM processes Closing	<ul style="list-style-type: none"> Participants (including policymakers) have an improved understanding of typical gender mainstreaming challenges in their communities and solutions how to address these Participants developed a stronger connection to each other and improved stakeholder collaborations through joint discussions and personal exchanges Participants developed an action plan for gender mainstreaming, including gender goals, envisaged collaborations, and steps to achieve these Participants provided feedback on the training 	180 minutes	Flip chart, flip chart markers Laptop, beamer Evaluation form

4 Detailed scenario

In the following, each session is being discussed in greater detail, including the approximate time frame to be allocated, the materials needed, the envisioned learning objectives, and the suggested proceeding. Please make sure that you take breaks for coffee/tea and lunch as you see need and fit. Usually, it is a good idea to take short breaks (approximately 15 minutes) at least every 90/120 minutes. With regards to participants' engagement in the training please make sure that women and men are contributing – if you notice that significantly more men than women speak up, ask questions or share experience please encourage women to do the same. In terms of group work it is advisable to make sure that groups include women and men: it is a good opportunity to collaborate and practice joint decision-making.

4.1 Day 1

Training opening

Time: 90 minutes

Material needed: Flip chart, flip chart markers, paper, pen

Objectives:

- Participants introduced themselves along with the expectations from the workshop
- Participants know training objectives and agenda
- Ground rules for training are established
- Logistical & housekeeping information for the workshop
- Brief capacity assessment on knowledge related to gender, early warning and IFM is undertaken to establish the baseline

Description and suggested proceeding:

A good way to start the training is to welcome the participants and thank them for their attendance. Introduce yourself and provide participants with the opportunity to briefly introduce themselves, too. This will help creating a good learning environment through establishing familiarity and trust among participants, and thus supports the group exercises in the following sessions. Set some ground rules for the training that you consider important, such as listening to each other and paying respect to different opinions. Share with participants the objectives of the training and the envisioned agenda for the day (and for the whole workshop), as well as the logistical & housekeeping information. Before you start with the actual training, ask participants if they have any additional expectations or wishes for the training and write them down. If you spot opportunities how to link the session contents with participants' requests make use of these. Finally, have participants take a brief capacity assessment on gender, early warning and IFM to establish the baseline. Depending on the number of participants, the training opening may take around 90 minutes. At the end of the opening session, it is suggested to take a picture of all the workshop participants.

Session 1: Region profile on flood related events and impacts

Time: 60 minutes

Materials needed: Flip chart, flip chart markers, paper, pen, laptop, beamer

Learning objectives:

- Participants share / understand the territorial issues of the region/the country

Description and suggested proceeding:

The training workshops on “Mainstreaming Gender into End-to-End Flood Forecasting and Early Warning Systems and Integrated Flood Management” each take place in a specific territorial context (such as a country or a set of countries of a sub-region) with participants from this same geographical area. Before delving into the topics of the workshop, it is therefore appropriate to present the characteristics of the territory in question, in relation to aspects such as (i) country/region profile; (ii) natural hazards, with particular regard to past floods and their effects/impacts; (also with reference to the main calamitous events); (iii) civil protection system, meteorological and hydrological services (+ other services dealing with the environment, basin and local authorities, etc.) and related risk/disaster response capabilities.

The session should start with one or two presentations by the local partner(s) (disaster managers and/or local authorities) with whom the workshop has been organized followed by a discussion where all participants share their knowledge about the area in which they live and work.

Session 2: Understanding important concepts and definitions: Key concepts and process related to E2E-FFEWS and IFM

Time: 60 minutes

Materials needed: Flip chart, flip chart markers, paper, pen, laptop, beamer

Learning objectives:

- Participants understand the official/formal definitions of key concepts and share their knowledge and understanding of important concepts related to early warning, flood management
- Participants understand the different steps of E2E-FFEWS and IFM

Description and suggested proceeding:

To ensure that the training will be successful it is crucial to confirm at the very beginning that all participants understand the fundamental terminology related to EWS-FF, IFM (and gender; see at this regard, the following session). These include “flood” and “flooding”, “E2E-FFEWS”, “IFM”, and “integrated flood management plan”. First, write down these concepts on the flipchart and ask participants to note down for themselves how they understand these concepts and what they know about them on paper. Then, after 10-15 minutes, invite them to introduce their findings and discuss the results in the plenary. Following this and depending on participants’ knowledge, introduce the official definitions as presented in Module 1 of the training manual to participants in brief or detail. Either way: please make sure these concepts and definitions are well understood – they are the basis for all other sessions. Throughout this process, ask participants if they can provide examples. You can use the examples provided in Module 1 to complement participants’ suggestions and to support your explanations if need be. Alternatively, all the concepts and processes related to E2E-FFEWS and IFM

can be introduced (by MMHS experts) through an interactive presentation interspersed with discussion and exercises.

Exercises:

Participants individually think about and write down their understanding of important concepts, including “flood” and “flooding”, “E2E-FFEWS”, “IFM”, and “integrated flood management plan.” Take approximately 10-15 minutes for this exercise. Then, results will be shared and discussed in the plenary. Instead of just one exercise, you can also do 3 separate exercises of 5/6 minutes each during the presentation.

**Session 3: Understanding important concepts and definitions:
gender issues and intersectionality**

Time: 120 minutes

Materials needed: Flip chart, flip chart markers, paper, pen, laptop, beamer

Learning objectives:

- Participants understand the official/formal definitions of key concepts and share their knowledge and understanding of important concepts related to gender issues and intersectionality
- Participants are able to identify the roles and responsibilities of stakeholders in mainstreaming gender in the application and services of E2E-FFEWS and IFM

Description and suggested proceeding:

The main “raison d’être” of the training workshop is represented by the poor gender skills of the people who deal (according to various roles) with floods and related issues. It is therefore indispensable for them to acquire, as far as possible, the issues related to gender (and, broadening the scope, to intersectionality). The session should therefore involve a presentation of these issues from a gender expert, supplemented by 2/3 further presentations from gender focal points in which these issues are “applied” to 2/3 territorial contexts from which the workshop participants come. Alternatively, all the concepts can be introduced through an interactive presentation interspersed with discussion and exercises. Given the premises, it is advisable to carry out a highly interactive session, both between the presenters and between the presenters and the participants. Anyway, the presentations must be interspersed with moments of discussion and brainstorming led by gender experts/gender local focal points and by carrying out short exercises (even quizzes).

Exercises:

List on a sticky dot 5 differences between women and men and consider: “on what these perceived differences based”?

Gender	Sex
1. Social construction 2. Changeable in nature 3. Connotes different social roles of 4. men and women in society, e.g., men as breadwinners, women performing household chores 5. (...)	1. Biological construction 2. Universal in nature 3. Connotes only physical difference 4. e.g., the way we are biologically born 5.(...)

1. Key concepts related to Gender – Put the cross in the right box

Concepts Definitions	Inclusion	Empowerment	Equity	Equality	Gender	Intersectionality	Discrimination	Sex
1. Right, power to control one's life, to function independently.								
2. Refers to the relationships and social roles of men and women, determined by the economic, social, political and cultural context.								
3. Compensate historical and social disadvantages that constraint women from enjoying equal opportunities.								
4. Leads to equality								
5. Doesn't mean women and men become the same								
6. Means the interaction of many factors such as age, disability and ethnicity								
7. Does not only mean "sex" or belonging to one of the two sexes.								
8. « Leave no one behind»								
9. Principle according to which women and men enjoy equal representation in institutions, public or private, at the level of decision-making bodies.								
10. Consists of giving different, usually unfavorable, treatment to a person or group of people								
11. Indicates a state in which women and men enjoy the same rights and opportunities								
12. Refers to the innate, biologically defined								

Session 4: Gender dimensions of flood events

Time: 90 minutes

Materials needed: Flip chart, flip chart markers, laptop, beamer

Session objectives:

- Participants can identify common gender dimensions of flood events
- Participants are aware of specific gender issues related to E2E-FFEWS and IFM
- Participants understand the importance of gender mainstreaming

Description and suggested proceeding:

Now that participants are familiar with the most important concepts and definitions it is important to provide them with an overview of how gender and flood events are interlinked and what the gender dimensions of flood events are. This will help participants to understand the 'bigger picture' of this topic. Begin this session with a brief group exercise; each group should include about four to five people. Request groups to name approximately five flood impacts and think about how these may affect population groups, specifically women and men, differently (but also further social groups, such as the elderly or the disabled people). Allocate some time for groups to introduce their results to the plenary (flip chart). Depending on the number of groups, allocate about 45 minutes for the entire exercise, including the introduction of the results. Then, after the group work is completed, introduce the gender dimensions of flood events as presented in Module 2 of the training manual. Refer also to factors that determine people's different vulnerability to flood events, such as power relations and biological factors. After this more general presentation elaborate on the specific gender issues related to E2E-FFEWS and IFM as presented in Module 2. If possible, connect your explanations to the examples provided by participants as part of the earlier group work. You can also introduce the example from Bhutan in Textbox 2 or local case studies identified prior to the workshop to demonstrate your points. Make it clear that applying a gender approach to flood management is of utmost importance.

Exercise:

From four to five groups with approximately five participants per group. Each group should name approximately five flood impacts and think about how these may affect population groups, specifically women and men, differently. This is best achieved by preparing a table like this:

Flood impact	Specific effects on men	Specific effects on women	Specific effects on the elderly	Specific effects on disabled people
...

4.2 Day 2

Session 5: The importance of gender mainstreaming

Time: 90 minutes

Materials needed: Flip chart, flip chart markers, laptop, beamer

Learning objectives:

- Participants understand the importance of gender mainstreaming from a rights-based perspective
- Participants know specific international instruments and commitments that support gender mainstreaming

Description and suggested proceeding:

This session is about the importance of gender mainstreaming, with a focus on the rights-based approach. As a first step, explain how the concept of gender mainstreaming and the gender transformative approach have established themselves over the last few decades and what are their characteristics. Then, ask participants to name international commitments they know of (resolutions, goals, etc.) that require countries to work towards greater GEWE. Discuss in the plenary and note participants' statements down on the flip chart. Based on this, introduce the most important global frameworks regarding GEWE: the Universal Declaration of Human Rights, CEDAW, the Beijing Declaration and Platform for Action, and the SDGs. Depending on where the training is being held, you can also refer to regional agreements, such as the Maputo Protocol for Africa. Make it clear that incorporating gender considerations into flood management policies and plans, and mainstreaming gender into projects and any other interventions is, according to these global frameworks, not voluntary but mandatory. Following this, have another plenary discussion and ask participants about relevant national policies and plans they know of such as national gender strategies and flood management plans that include gender considerations. Based on the results recommend for them to do a careful review of documents to get a better overview of the situation.

Session 6: Ensuring that E2E-FFEWS and IFM processes are gender-sensitive

Time: 150 minutes

Materials needed: Flip chart, flip chart markers, laptop, beamer, paper, pen

Learning objectives:

- Participants know key steps required for successful gender mainstreaming in various phases of flood management including E2E-FFEWS and IFM
- Participants understand better individual roles and responsibilities with regards to mainstream gender
- Participants feel more confident in mainstreaming gender in their area of work

Description and suggested proceeding:

This session is very important as it provides practical advice how to mainstream gender in participants' areas of work. Begin the session by asking participants to write down for themselves what their experiences are with regards to gender mainstreaming in their area of work, including the challenges they faced, the achievements they made, and the lessons they learned. Then ask a few participants to present their experiences to the plenary. Document important components on the flip chart – especially the lessons learned, and tips participants may share. Subsequently, introduce the key points made in Module 4 of the training manual: start by explaining the key gender entry points in E2E-FFEWS and IFM steps and processes (including gender analysis). To illustrate your explanations, and if possible, refer back to the examples provided by participants at the beginning of the session. In addition, you may share with participants some of the case studies presented in the Textboxes of the module or collected locally prior to the workshop by the instructors or the

organizing committee. Another important part of this session is to highlight how gender considerations should be integrated into assessments. Introduce the bullet points you find in Module 4, and then do a practical exercise with participants in the plenary: provide them with typical assessment instructions and questionnaire, for instance of a flood risk assessment, and ask how participants would mainstream gender. Close the session by providing some further gender mainstreaming guidance as presented in the training manual.

Exercises:

This session includes an individual or group exercises for participants:

1. Ask to write down their experiences with gender mainstreaming in their particular area of work, including challenges faced, achievements made, and lessons learned. This is best done in table format

Gender mainstreaming experience	Challenges faced	Achievements made	Lessons learned
...

2. Ask to write down how gender can be mainstreamed into the steps or processes of E2E-EWS-FF? (with examples)

Data Collection	Modelling and Forecasting	Early warning dissemination	Decision making	Response to Warning

3. Ask to write down how gender can be mainstreamed into the steps or processes of IFRM? (with examples)

Preparedness	Emergency/Response	Recovery

Session 7: Gender-responsive planning and budgeting

Time: 60 minutes

Materials needed: Flip chart, flip chart markers, laptop, beamer

Learning objectives:

- Participants can understand what GRP and GRB is and why it is important
- Participants know how GRP and GRB can be achieved

Description and suggested proceeding:

This session on GRP and GRB will likely be a bit more challenging as most participants may not be

aware of what GRP and GRB are and how to achieve it. Start the session by asking participants what they think GRP and GRB are and collect some views in the plenary. After this short discussion, follow Module 5 of the training manual and explain what GRP and GRB are and why it is important. In this context you can also make use of the definition provided in Textbox 7 and highlight that it is important to include women in budget-related decisions. Then, after having explained GRB in more general terms, introduce to participants major financing mechanisms relevant to flood management that require the consideration of gender in order to approve programs and projects, such as the Adaptation Fund, the Green Climate Fund, and the Global Environment Facility. If appropriate, you can also provide an example of the gender requirements of these financing mechanisms; they are available online.

Session 8: Gender Main-streaming – Monitoring & Evaluation

Time: 60 minutes

Materials needed: Flip chart, flip chart markers, laptop, beamer

Learning objectives:

- Participants understand M&E main concepts and approaches
- Participants understand what Gender responsive M&E is and why it is important
- Participants know how Gender responsive M&E can be achieved

Description and suggested proceeding:

This session will allow to the participants to become more familiar with the basic concepts of monitoring and evaluation and with the main important approaches at this regard. Start the session by asking participants what they know about monitoring or about indicators and collect some views in the plenary. After this short discussion, follow Module 6 of the training manual and discuss with the participants the main concepts and approaches related to monitoring and evaluation. Illustrate what gender sensitive indicators are. Then carry out a brainstorming with the participants to identify gender-sensitive indicators, with particular regard to those relating to IFM and E2E-FFEWS.

4.3 Day 3

Session 9: Practical exercise on project development

Time: 300 minutes

Materials needed: flip chart, flip chart markers, laptop, beamer

Learning objectives:

- Participants learn how to elaborate projects related to gender mainstreaming in E2E-FFEWS and IFM considering the knowledge gained on the integration of gender into E2E-FFEWS and IFM at different levels

Description and suggested proceeding:

Based on all the issues presented, this session entails the design of gender-mainstreaming projects (relevant for the countries/region involved in the training workshop) in the field of EWS or IFRM. The

following four topics can be suggested:

- ✓ Project 1: Mainstreaming gender into Early Warning System for floods at the national level
- ✓ Project 2: Capacity development on gender mainstreaming at local, national and regional levels
- ✓ Project 3: Community based flood management with gender inclusive approach
- ✓ Project 4: Gender inclusive national or regional flood management strategy.

For each project the following issues will have to be treated/described: (i) Issues/needs/priorities; (ii) Activities proposed and expected outputs; (iii) M&E Framework (key performance indicators, baseline, target; means of verification; risks/assumptions); (iv) budget; (v) challenges or limitations; (vi) sustainability strategies; (vii) potential donors.

The session should start with a short presentation (30 minutes) of the above; then participants will be divided in four groups. Each group will elaborate a project (such as the four suggested above) (150 minutes), according to the scheme below (or equivalent) At the end of the session each project should be presented in 15 minutes (+ 15 minutes of Questions & Answers), highlighting its main features (as if it were to present the project to the President, Prime Minister and Finance Minister, mainly convince them to fund it).

Development of projects related to the incorporation of the gender perspective

Template for project preparation

1. Challenges/Needs/Priorities

Challenges	Needs/Priorities

2. Proposed activities and expected results

Description	Activities to be implemented	Actors to be involved	Expected results	Timeline

3. Monitoring and evaluation framework

Activity N.	Baseline	Key implementation indicator	Objective / target	Means of control	Risks or Assumptions

4. Budget

Activities	Unit	Cost per unit	Total Costs (USD)

Project management and implementation (13%)	
Total Costs (USD)	

Challenges and limitations:

Sustainability strategies:

Potential donors: (potential donors to whom the project should be presented)

Session 10: Development of a post-training roadmap

Time: 120 minutes

Materials needed: flip chart, flip chart markers, laptop, beamer

Learning objectives:

- Participants reflect on the follow-up of the workshop and identify activities to be carried out in their institutions and at local, national and regional levels to apply gender mainstreaming skills to their area of work
- Participants know where to look for additional learning material and resources on gender mainstreaming

Description and suggested proceeding:

This session intends first to provide participants with further tools and resources for gender mainstreaming. Ask participants at the beginning of the session if they have heard of the UN Women Training Center and have them share the information they have – if any. Then, open the website of the Center and introduce some of the main resources that you consider suitable for your audience. These will likely include the gender glossary and the self-paced training courses that are freely available online. You can also refer to some training manuals and guidebooks and tools as listed in section 7.2 and 7.3 of this Manual.

Secondly, this session will be devoted to the development of a post-training roadmap. Participants will split into groups bringing together people who have similar interests and skills. For example, in a seminar that brings together people from several countries, people will be divided according to their country of origin; in a national seminar, the participants will be divided according to areas of interest (e.g., people of technical services; people of CSOs, NGOs and communities; authorities). Post-training activities should be identified to be implemented at different levels as explained in the Module 8, using the matrix presented in this Module.

4.4 Day 4

Session 11: Summary and recommendations

Time: 90 minutes

Materials needed: Flip chart, flip chart markers, laptop, beamer, evaluation form

Learning objectives:

- Participants are able to identify the key take-home messages of the training
- Remaining open questions are addressed

Description and suggested proceeding:

This session serves as an opportunity to recap the key messages to be presented to the policymakers that will join on day 4 and bring them “up to speed” with regards to gender mainstreaming. Participants will work divided in the same groups of the Session 10. Based on these key messages, participants will identify also some recommendations of the training seminar addressed to policymakers. The groups will summarize the key messages. They can for instance prepare power point presentations or use flip charts. The presentations should be approximately 10 minutes long. This session can include also a fun quiz! Module 9 of the training manual provides some sample questions you can use. Feel free to add more questions, including some of those participants may have raised during the workshop. After the quiz, ask participants if they have any remaining questions to be answered or comments to share.

Transmission of key messages to decision makers for action on gender mainstreaming in the E2E-FFEWS and IFM processes – Closing

Time: 180 minutes

Materials needed: Flip chart, flip chart markers, laptop, beamer; evaluation form

Learning objectives:

- Participants (including policymakers) have an improved understanding of typical gender mainstreaming challenges in their communities and solutions how to address these
- Participants developed a stronger connection to each other and improved stakeholder collaborations through joint discussions and personal exchanges
- Participants developed an action plan for gender mainstreaming, including gender goals, envisaged collaborations, and steps to achieve these
- Participants provided feedback on the training

Description and suggested proceeding:

This session provides an opportunity to discuss in depth challenges and solutions related to gender mainstreaming at the community level and facilitates the strengthening of stakeholder collaborations through joint discussions and personal exchanges in a smaller group, the format of this session is also intended to be rather informal: there will be no official presentations or pre-defined learning content transferred through an instructor. Rather, participants have the opportunity to speak openly and mingle, including to have informal discussions about the topic. To achieve this, start the session by explaining the rationale of this fourth day. Then, let people get together in groups as they wish – let them choose the constellation and size of the groups and engage in discussions for approximately 90 minutes. The key results of these discussions should be summarized on a flip chart and include specific challenges and solutions related to gender mainstreaming at the community level, as well as a small action plan for future gender work.

In this context it is also useful to ask participants to provide feedback on the training, including through a written evaluation form. This will help you to improve components of your training if need be. At this point it is also important to have them take another capacity assessment to measure progress. Close the training by thanking participants for their attendance and valuable contributions. The seminar will be closed with a brief ceremony with the issued certificates to participants and some closing remarks.

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