

# A WEBINAR ON MAINSTREAMING GENDER INTO END 2 END - EARLY WARNING SYSTEMS – FLOOD FORECASTING & INTEGRATED FLOOD MANAGEMENT

International Women's day 2022



**WMO OMM**

World Meteorological Organization  
Organisation météorologique mondiale

Dr Hwirin Kim  
Head, HWR  
WMO  
8 March 2022

# WEBINAR – Session Outline

Time (CET)	Description
14:00–14:10 (0:10 h)	Welcome words
14:10–14:20 (0:10 h)	<p><b>Panel Questions : National workshops experience of mainstreaming gender into E2E-EWS-FF and Integrated flood management in Ghana</b></p> <p>Speaker: Constance Akurugu, Gender Specialist, Ghana</p>
14:20–14:30 (0:10 h)	<p><b>Presentation: Community based - Gender sensitive flood management</b></p> <p>Speaker: Kusum Athukorala, Chair NetWwater</p>
14:30–14:40 (0:10 h)	<p><b>Presentation: Gender transformative or sensitive approach in Early Warning Systems for floods</b></p> <p>Speaker: Jihyeon Park, Korean Water Disaster Management Specialist</p>
14:40–14:50 (0:10 h)	<p><b>Panel Questions: NMHSs with WMO can support in mainstreaming gender into E2E-EWS-FF</b></p> <p>Speaker: Silvana Alcoz, Regional Hydrological Advisor -Regional Association III – WMO</p>
14:50–15:05 (0:15 h)	Discussion: Q and A with the audience
15:05-15:10 (0:05 h)	Closing Remarks

# End-to-End Early Warning System for Flood Forecasting (E2E-EWS-FF)



## The Hydrological value chain in flood forecasting and early warning

Consider the seamless nature of the hydrological value chain: the importance of citizens or people involvement in each steps especially **focusing on forecasting and early warning services** will lead to an **affordable, tailored and sustainable services at the local, country and basin level**

# What is Integrated Flood Management(IFM) ?



IFM integrates **land use** and **water resources** in a river basin, in accordance with Integrated Water Resources Management, with the objective of **maximizing net benefits** derived from the use of floodplains and **minimizing loss of life** due to flooding.

IFM keeps in consideration environmental preservation, balancing development needs with **flood risk** towards **sustainable development**.

<https://www.floodmanagement.info>



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# Success stories in E2E-EWS-FF



a female pork seller in the community,  
providing door-to-door early warnings



Female flood forecasters in the world



Community  
approach

# Menti questions to all Participants

**what are the main factors which can improve or ensure success on mainstreaming gender into E2E-EWS-FF and IFM processes in your country or region?**

**Click here**

<https://www.menti.com/8h4j1dsbvi>

**CLICK ON THE LINK available in the chat section**

<https://www.menti.com/8h4j1dsbvi>

# Thank you

## Happy Women's day!



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# **National training Workshop on mainstreaming Gender into End-to-End Early Warning System for Flood Forecasting (E2E-EWS-FF) and Integrated Flood Risk Management (IFRM) in the Volta Basin in Ghana**

**Dr. Constance Awinpoka Akurugu  
SDD University of Business and Integrated  
Deevelopment Studies- Wa, Ghana**

# The National Training Workshops

- **Theme:** “Gender mainstreaming in the End-to-End Early Warning Systems for Flood Forecasting (E2E-EWS-FF) and integrated flood risk management (IFRM) in the Volta Basin in Ghana ”
- **Framework:** «[Integrating flood and drought management and early warning for climate change adaptation in the Volta Basin](#) » [\(VFDM\) Project](#)
  - Component 2: Concrete adaptation measures and stakeholder engagement
  - Activity 2.3 : Capacity development focused on the training manual for gender mainstreaming in E2E-EWS-FF and IFRM

# Brief overview of the Volta Basin

## ▶ The Volta River Basin information:

- Countries sharing the Basin: **Benin, Burkina Faso, Côte d'Ivoire, Mali, Ghana and Togo.**
- length = 1850 km / Area = 398,390 km<sup>2</sup>

## ▶ the 9<sup>th</sup> largest basin in sub-Saharan Africa

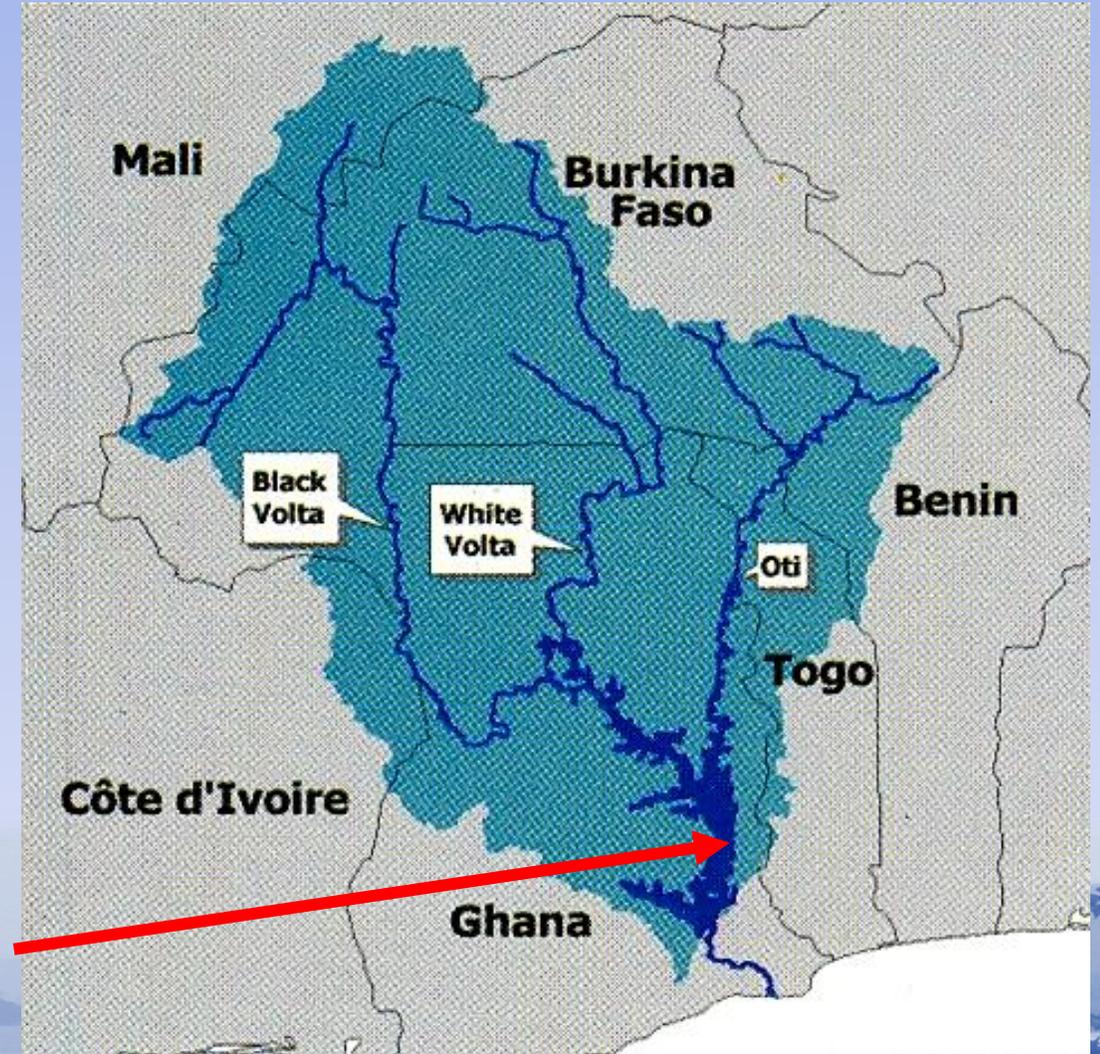
## ▶ Population: \_ rapid demographic growth

- 25 M inhabitants (2010) and
- 35 M inhabitants by (2025)

## ▶ Great potential of development to meet the needs of the populations: Water supply, energy, irrigation, fishing, navigation, etc.

## Volta Basin in Ghana

- ❖ Area: 165,830 km<sup>2</sup>
- ❖ 41.6 % area of the basin
- ❖ The Volta Basin covers **nine regions in Ghana**
- ❖ Rivers: **White, Red, Black Volta and Oti**



# High population exposure to flood risks in the basin

## Some statistical data on Floods and devastation in Ghana

### Upper West Floods in August 2021 Figures From NADMO, UWR

- Some 1,605 people in the Upper West Region were affected by recent floods in the region.
- A total of 722 farmlands were lost while 336 persons were also displaced.
- Some 155 houses were destroyed
- The flood washed off major road roads and bridges in the area.



# Some pictures

- Yape township after spillage of Bagri dam (2017)



# The Training Workshops

## Main objective:

- To strengthen the capacities of stakeholders of the national portion of the Volta Basin on mainstreaming gender in the E2E-EWS-FF and IFRM

## Specific objectives:

- To build a understanding among participants of key concepts on stages of the E2E-EWS-FF and IFRM processes in relation to gender;
- To provide participants with a platform to exchange knowledge on gender dimensions of E2E-EWS-FF and IFRM processes;
- To share the history and the milestones of gender mainstreaming;
- To equip participants with tools and methods of gender mainstreaming in planning, programming, budgeting and monitoring-evaluation processes of E2E-EWS-FF and IFRM.



# Important Recommendations discussed and Agreed With Decision Makers

- **Participants' commitments**
- To share with colleagues the results of the workshop and the knowledge acquired along with the training materials
- To ensure that gender is seriously and effectively taken into account in the flood risk prevention, preparedness and management activities of the participants' home structures
- To ambassadors of gender integration in the E2E-EWS-FF and IFRM;
- To effectively implement the post-training roadmap;
- **Decision-makers at the regional and local levels**
- Provide each river basin in Ghana with an IFRM Plan and a E2E-EWS-FF that takes into account gender concerns
- Combating vandalism of hydrometeorological facilities
- Consider flood risk prevention and management concerns in the development and implementation of urbanization and resettlement plans
- Ensure compliance with the laws and policies on gender integration in all development activities
- Define and secure stream buffer zones
- **The development and implementation partners of the VFDM project**
- Support the implementation of post-workshop roadmaps
- Ensure follow-up on the implementation of the post-workshop roadmaps
- Increase resources for funding gender, E2E-EWS-FF and IFRM initiatives

International Women's Day Webinar

# Gender sensitive approach in Early Warning Systems for Floods

Jihyeon Park

International Development Specialist  
on Water and Disaster

March 08, 2022

# Community-Based Disaster Risk Management and Early Warning Systems (EWS)

❖ The very basic principle of involving citizens in meteorological data collection and processing would be one important step toward not only expanding the data network but improving public awareness and risk knowledge (Mustafa et al., 2015)

❖ Is citizen-centered EWS well functioning?

<p><b>RISK KNOWLEDGE</b></p> <p>Knowledge of the relevant hazard and of the vulnerabilities of people and society to these hazards</p>	<p><b>MONITORING AND WARNING SERVICE</b></p> <p>A technical capacity to monitor hazard precursors, to forecast the hazard evolution, and issue warnings</p>
<p><b>DISSEMINATION AND COMMUNICATIONS</b></p> <p>The dissemination of understandable warnings, and prior preparedness information, to those risks</p>	<p><b>RESPONSE CAPABILITY</b></p> <p>Knowledge, plans and capacities for timely and appropriate action by authorities and those at risk</p>

Component of a citizen-centered EWS (source: Basher, 2006)

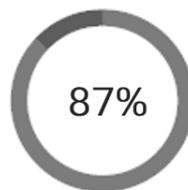
# Why EWS through a gender lens?



In 1991, during the cyclone disasters in Bangladesh, of the 140,000 people who died, 90% were women



During the 2004 Asian tsunami, women accounted for 70% of fatalities

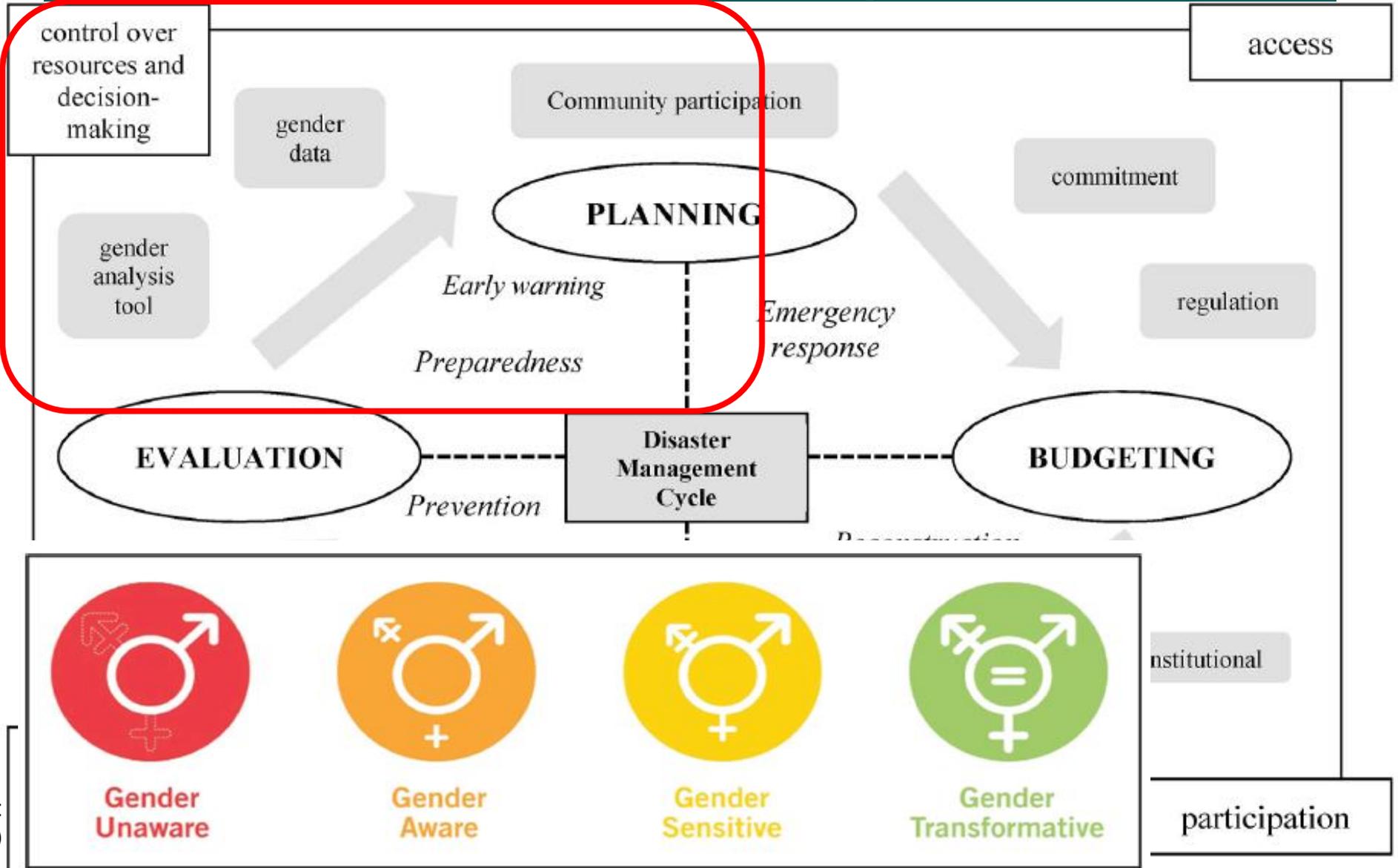


Due to the Cyclone Nargis in Myanmar in 2008, 87% of single women and 100% of married women lost their main source of income

- More women are illiterate than men and generally women's illiteracy is high in communities.
- Women's domestic burden makes more loss of women.
- EWS are essential for floods that have detrimental impact especially in the low-income countries. (CRED & UNISDR 2015).

Sources: Seager, 2014; UNISDR 2009; UNDP 2014

# Framework for Gender mainstreaming in EWS for disaster management



Resource: Practical Action. (2019)

Resource: Otkari et al. (2021)

# Example of Gender lens in Designing EWS

❖ **“PEOPLE-CENTERED”** warning approach notes the **IMPORTANCE of GENDER.**

Q. When posting notices in public spaces or conveying warnings verbally,  
**are usually women included in the place, particularly, in low-income countries?**

Sources: Seager, 2014; UNISDR, 2006

Institution	Nature of work in EWS & community involvement	Gender Integration	Women professionals working in EWS
NDMA (National)	<ul style="list-style-type: none"> <li>Policy-making, coordination Dissemination</li> <li>No involvement</li> </ul>	Y: National doc Reflects gender and vulnerable N: EWS has no reference to gender	No
PDMA (Provincial)	<ul style="list-style-type: none"> <li>Coordination Dissemination</li> <li>No involvement</li> </ul>	Same as above	No
DDMA (District)	<ul style="list-style-type: none"> <li>Implementation</li> <li>Directly involved</li> </ul>	No	No
PMD (Flood forecasting cell)	<ul style="list-style-type: none"> <li>Technical; FFW</li> <li>No involvement</li> </ul>	Practically to some extent but no reference in policy docs	Yes
District	<ul style="list-style-type: none"> <li>Coordination office</li> <li>Coordination</li> </ul>	Works with the communities, through Civil Defense, Policy line dept.	No

**Institutional analysis of flood EWS from a gender lens in Pakistan**  
(source: D. Mustafa et. al., 2015)

# Key Findings of Gender lens in EWS

## Vulnerability

- Gender inequality, gender norms, and social marginalization increases vulnerability to disasters
- The less economic, political and cultural power women and gender minorities have before an event, the greater their suffering during and in the aftermath
- Efforts to consider gender need to be intersectional – lack of political rights, low social capital, ethnicity, age, health, disability, gender, gender identity and sexuality influence individual and group experiences of vulnerability and capacity to respond to early warning

## Participation

- Marginalized gender groups participate less in EWS initiatives due to the demands of domestic roles, lack of autonomy, social isolation and persecution, gendered assumptions, and perceptions that their contributions are not relevant or welcome
- Proactive efforts are needed to include the needs, priorities and capabilities of marginalized gender groups, and magnify their voices at every stage of the EWS
- Inclusion may require transforming the systems, processes and ways of working that have led to exclusion

## Dissemination

- Gender inequality in education, literacy, economic and social capital, and access to technology impacts on capacity to receive and act upon early warning
- People of different genders may have different levels of access to formal and informal dissemination channels, have different communication preferences (shaped by gender norms), and face different challenges in accessing and being able to act upon early warning

## Response

- Groups with higher vulnerability have different preferences in preparedness and response, including a preference for earlier evacuation
- Women and men traditionally have distinct roles in response, though changing mobility and migration patterns mean women increasingly need to cover a wider range of roles
- Gendered cultural norms, marginalization, and gender based violence reduce the security of vulnerable groups, exacerbate existing discrimination, and increase the risk of sexual harassment and assault during and after a disaster

## Power and Decision-Making

- Marginalized groups (often including women and gender minorities) lack control over decision-making in disaster situations, with social norms prioritising male leadership
- Participation in EWS initiatives does not equate to influence or power over decision-making, so the gendered needs, priorities and capabilities of marginalised gender groups are rarely identified or prioritized
- When marginalized gender groups are included, they can and do play an important role in fostering a culture of resilience and championing DRR and EWS.
- Representation matters: there is a need for transformational change and empowerment of marginalized gender groups in all elements of EWS

# WAY FORWARD

Enhance international efforts for standardized data collection of disaster impacts, particularly, **gathering gender-disaggregated data.**

**Gender-transformative capacity building should be always included in flood risk reduction and EWS when the development program is planned by the bilateral or multilateral cooperation.**

Promote women's leadership and a gender-sensitive approach to planning for disaster management such as EWS through **quota system for RESILIENT VILLAGE READINESS.**



# Share good impacts, towards empowerment of women for SUSTAINable lives!!



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MAINSTREAMING  
GENDER INTO  
END 2 END -  
EARLY WARNING  
SYSTEMS –  
FLOOD  
FORECASTING &  
INTEGRATED  
FLOOD  
MANAGEMENT



**Gender  
sensitive Flood  
Management –  
is there a gap?**

**Kusum Athukorala**

• 8<sup>th</sup> March 2022



# Time for gender sensitive flood talk?

“It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of light, it was the season of darkness, it was the spring of hope, it was the winter of despair.”

Charles Dickens, *A Tale of Two Cities*



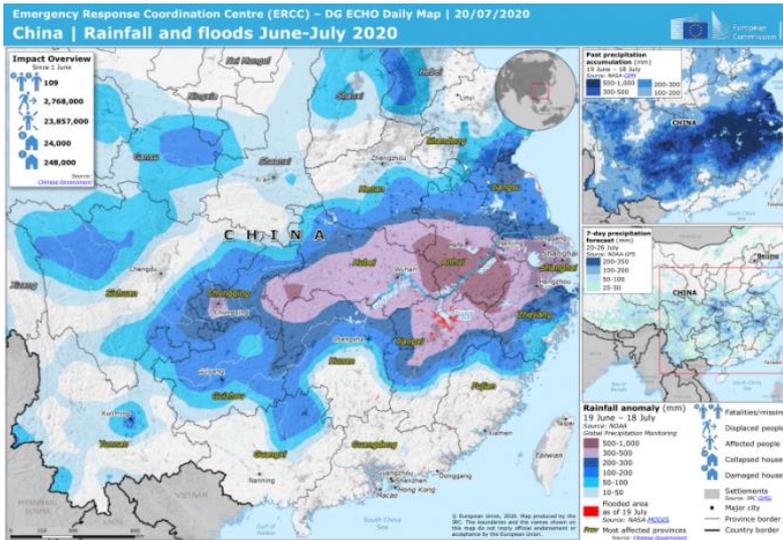
# Age of Foolishness

A Western science /engineering dominant ethos, overdependence on controlling nature

Limited stake holder engagement

Women as victims and not influential actors

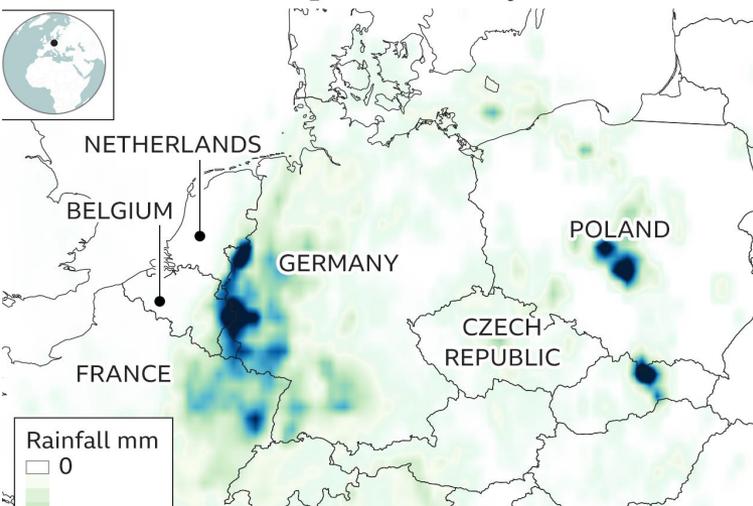
# Season of darkness



At least 25 people are dead as record rainfall continued to drench China's Henan province, according to officials yesterday. At least 12 victims perished after floodwaters breached a retaining wall near an underground railway tunnel, leaving passengers trapped. More than 500 other passengers were rescued. See footage here.

Meteorologists say nearly a year's worth of rain fell in the province's capital of Zhengzhou in three days, forcing the evacuation of nearly 200,000 residents across the broader region. The city of 12 million people sits in the country's Yellow River basin; scientists say rapid urbanization has displaced much of the fertile ground which historically absorbed water from swelling rivers

Rainfall over Europe on 14 July (24hrs)



*"The bulk of the deaths occurred in Germany, where days of exceptionally heavy rains caused rivers to burst their banks.*

*Germany's complex federal system, with responsibility divided between federal, state and local governments, seems to have been a big part of the problem. Early-warning systems failed."*

# Winter of Despair



# Winter of despair



# Epoch of incredulity

- A wide-angle view -- Ecological, social , gender – not in the flood management lexicon?
- When you don't think community , you can't think gender !
- And always, funding for gender mainstreaming?

# Epoch of belief

- The global urgency fuels a resurgence in flood management re- thinking?
- Global crises diverts funding?

# Spring of Hope

***We need leaders who do not hide behind dams and dikes, but who seek collaboration and gender sensitive action.***

**Bespoke Strategies?**

**Awareness and advocacy for policy makers?**

**Community needs assessments?**

**International support?**



# The Best of Times

- Hard
  - New technical thinking
  - Ability to adapt
  - Constant revision to fit changing context
  - Community led Planning platforms
- Soft
  - Inter-personnel skills
  - Team building
  - Powers of conviction
  - Networking across generations /disciplines



# Age of Wisdom

- Increased resilience for communities
- More opportunities for young women
- Minimized damage and casualties
- Better planning for extreme events



## **The New Influencers ?**

**What do bulletproof vests, fire escapes,  
windshield wipers and laser printers have in  
common?**

**All were invented by women**

**Give women a chance?**

**Thank you!**

# International Women's Day 2022

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Mainstreaming gender into END 2 END  
– Early Warning Systems – Flood  
Forecasting & Integrated Flood  
Management



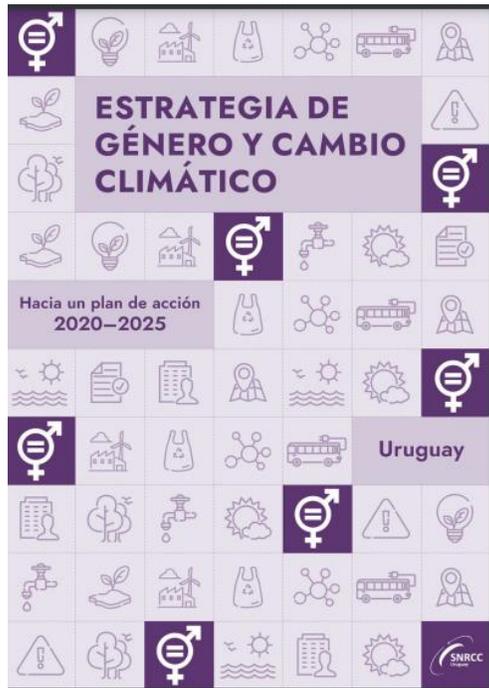
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# **Mainstreaming gender into E2E- EWS-FF and IFM in Uruguay**



# Uruguay's Strategy on Gender and Climate Change through 2030 and its Plan of Action through 2025



- It proposes to integrate Gender into Climate Change Policy Instruments, for example, the Nationally Determined Contributions (NDCs)
- The Strategy establishes the need to categorize all the measures in the NDCs as gender responsive or not.

<https://www.gub.uy/ministerio-ambiente/politicas-y-gestion/genero-cambio-climatico-uruguay#:~:text=La%20Estrategia%20de%20g%C3%A9nero%20y,g%C3%A9nero%20de%20la%20pol%C3%ADtica%2C%20integrando>

- This Strategy on Gender and Climate Change **was agreed by the whole public system in Uruguay, what will be really important for the implementation stage.**
- For example, **early warning systems for flood forecasting and flood risk mapping are adaptation measures to climate change and integrate the Nationally Determined Contributions of Uruguay. They were categorized as having the potential to reduce gender gaps.**
- Currently we are working on what could be the specific gender actions for each measure.

## As an example, 2 possible gender actions we could consider in the case of E2E EWS-FF:

- In the participatory preparation of flood risk mapping equal participation of men and women is needed, both in number but also in sharing their perception of risk.
- We tend to communicate roles that are gender stereotypes. It is important that when we communicate, we use images of both men and women, rescuing, speaking, taking care of others.

**International Cooperation** has contributed to mainstreaming gender into water issues in Uruguay, including into E2E EWS-FF, **by establishing as prerequisite for project financing the inclusion of the gender approach in project proposals.**

**This is an example:**



# Adaptación en Acción

Cuenca Santa Lucía

Gestión integrada de los recursos hídricos para la construcción de un futuro sostenible

Agencias implementadoras del sector de Agua Urbana de EUROCLIMA+



Financiado por la Unión Europea



Ejecutado por



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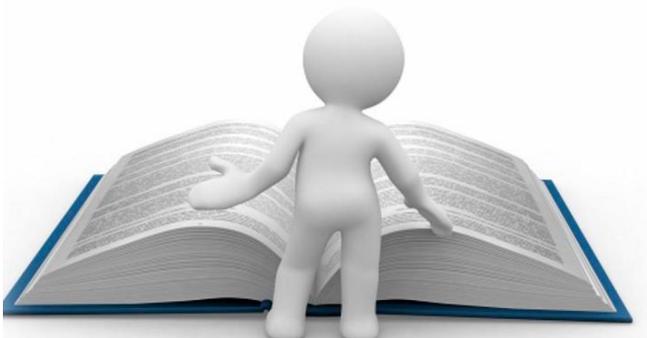
Ministerio de Ambiente

# **How NMHs with WMO can support or improve mainstreaming gender into E2E- EWS-FF and IFM?**



1)

- Generating specific manuals/guidelines on mainstreaming gender for E2E EWS-FF and IFM
- Doing Capacity building
- Doing Pilot Implementation Projects
- Preparing indicators of success and using them



**INDICATORS**  
IN  
**MONITORING & EVALUATION**

Capacity Building



2)

- Encouraging new generations, girls and young women to get involved with science and technology, engineering, hydrology, meteorology, oceanography, climate science.
- Promoting special activities, on February 11 each year.
- Offering scholarships and internships with a quota for women

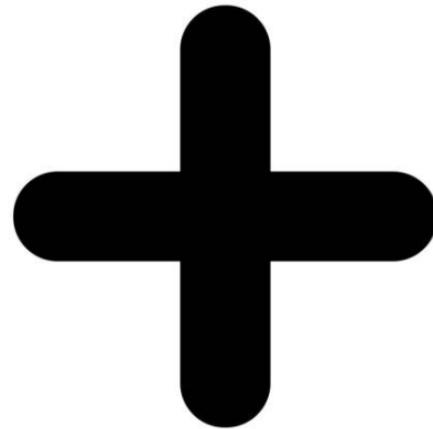


International Day of Women and Girls  
in Science, 11 February



3) We must thrive to have greater parity of women and men in technical services, such as in engineering, IT, and climate sciences

But, 50% of female professionals does not guarantee that the gender perspective is incorporated. What is needed? That both men and women are trained in the gender approach.



4) We need Capacity Building at all levels on gender perspective, and that includes decision makers, policy makers

We need Policy instruments and measures that incorporate gender perspective

We need Agreements with the Academy and Research institutions that can nurture public policies



I PLEDGE

5) When doing project budgeting, we need to reserve budget for specific activities to mainstream gender into E2E EWS FF or any of its components, a decent budget, not just for the looks.



I PLEDGE

**Will you join me in my pledge?**

**Thank you!**

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