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Incorporating Transformative Gender Equality and Social Inclusion in Climate Information Services for Agriculture and Food Security

Advancing a Gender Equality and Social Inclusion (GESI) Framework

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Climate information services (CIS) involve the production, translation, transfer, and use of climate knowledge and information in decision-making and policy and planning. CIS in agriculture can be a critical means to build resilience and maintain food security and livelihoods for those most at risk in the face of climate change and variability, such as smallholder farmers. However, unless women and other marginalized groups were deliberately involved during the planning and development of agricultural innovations and services, it is still possible for them to be excluded from these innovations and services meant to help them cope with climate risks and uncertainties.

Context-specific social and cultural norms mold and shape gender identities—the different roles, tasks,

Key messages

- Women and marginalized communities should be intentionally included in the design and development stages of Climate Information Services (CIS) to avoid their exclusion from the benefits.
- A framework was developed for advancing Gender Equality and Social Inclusion (GESI), specifically in the context of CIS design and development for agriculture and food security.
- The GESI Framework includes indicators on gender targeting by intentional design, collection and analysis of sex-disaggregated data, dissemination of the technological options for CIS access, and continuous monitoring and evaluation of gender and empowerment.
- The application of the GESI Framework would be more impactful if it is implemented in the context of empowerment and transformation of gender relations through broader changes in norms and cultural practice.

and responsibilities of men and women—as well as gender relations. Gender relations also intersect with other social attributes such as socio-economic class, race, ethnicity, age, religion, and caste to further isolate and marginalize certain groups within a society. While gender relations may change and evolve over time, gender inequalities continue to persist—such as in access to information and income. As a result, despite the broader innovations and advances within the agricultural and climate information services arenas, gender and social gaps can still be present and disadvantageous for women, and to an even greater extent when intersectionality is considered—which examines vulnerabilities such as disability (Sterling 2021, Huyer 2019).

This Info Note introduces a framework and recommendations of resources for incorporating gender and social inclusive approaches in CIS for agriculture and food security, from the early stages to dissemination and use, with the aim to not only empower but seek to transform gender relations by targeting structural inequalities.

Barriers to advancing gender equality and inclusion in CIS

In Africa and elsewhere, an intersection of disadvantages involving entry barriers, structural barriers, and systemic barriers continue to make it difficult for women, rural communities, and other marginalized groups to access and benefit from CIS.

TABLE 1: TYPES OF BARRIERS TO WOMEN'S ACCESS TO CIS AND ITS BENEFITS (IWMI 2020)

Entry Barriers	Structural Barriers	Systemic Barriers
<ul style="list-style-type: none"> • Unequal access to assets, such as land, water and financial resources • Lack of capabilities to pursue investments using CIS • Limited decision-making ability and agency or the lack thereof • Socially defined roles, identities, responsibilities and opportunities • Further compounded inequalities through the intersection of gender, age, class, race, ethnicity, religion and caste • Lack of control over use of the CIS technology, such as radio • Lack of input into CIS content and format, and lack of income to pay for use of ICT such as mobile phones • Complex and intersecting barriers within a patriarchal system, including gender and age, class, race, ethnicity, religion, caste, and disability 	<ul style="list-style-type: none"> • Gender inequalities across institutions, from within households to community, from local to global market, from local to state and civil society entities making it difficult to access CIS • Cultures of privilege, hierarchy and exclusion at scale, and lack of tools to assess and act on dimensions of power reinforce the system's status quo 	<ul style="list-style-type: none"> • Climate challenges, agro-ecological specificities, markets, and CIS that target those who are best positioned to make the practical changes do not account for the requirements, needs, and realities of the poor, vulnerable and marginalized • Knowledge, technology, and economies that assume homogeneity, or ignore further inequalities • Distance, disconnect, language, skillsets and other exclusion barriers that may disable individual and/or collective initiatives from seeing transformative change

Understanding and overcoming these existing barriers are key to achieving progress in advancing gender equality and inclusion in CIS. These barriers are summarized in the above Table 1 and are further explored in the following selected resources:

- [Working Paper](#): Gender-smart agriculture: An agenda for gender and socially inclusive climate-resilient agriculture
- [Research Report](#): Information and Communications Technologies in a Changing Climate: A Path towards Gender Transformative Food Security
- A breakdown of the types of barriers to gender equality and social inclusion, and strategies for overcoming these barriers are outlined in this [Research Report](#): Gender and Inclusion Strategy 2020-2023: New landscapes of water equality and inclusion, with relevant and applicable implications for CIS, by the Accelerating Impacts of CGIAR Research for Africa (AICCRA) Project and International Water Management Institute (IWMI), with relevant and applicable implications for CIS.

A Framework for Gender Equality and Social Inclusion (GESI)

A [Gender Equality and Social Inclusion \(GESI\) Framework](#), developed through a literature review of methodological approach while informing the implementation of the ongoing AICCRA Project (Mapedza et al 2023), includes five key indicators:

- Gender targeting by intentional design
- Collection of sex-disaggregated data
- Analysis of the sex-disaggregated data

- Dissemination of the technological options for CIS access
- Continuous monitoring and evaluation of gender and empowerment.

According to a study by the Canadian International Development Research Centre (IDRC) and the American Jewish World Service (AJWS), a Gender Transformative Approach is one that is “striving towards changes that address the root causes of gender inequality, moving beyond the individual to the structural” (Mullinax et al 2018). For as long as social norms and structural inequalities still exist, CIS that is gender neutral or blind—i.e. not recognizing or favoring any gender inequality—will contribute towards the perpetuation of gender inequalities. Instead, a Transformative Approach to CIS entails proactively seeking to change norms and agency at a societal level to promote shared power, control of resources, decision-making, and leadership at different levels, as well as support for empowerment of women and men.

Despite obstacles, women farmers who can access climate information do use and benefit from it (Partey et al 2020). Increasing access to CIS adapted for their specific requirements will enable women to make appropriate climate-informed decisions that unlock benefits from increased agricultural output, increased knowledge, and increased opportunities (Huyer et al 2021). Furthermore, CIS should be integrated with a broader adaptation approach for achieving food security, climate resilience, and

increasing decision-making ability and agency for women and marginalized groups (Sterling 2021). A few examples of indicators for Gender Empowerment and Transformation through CIS are listed in Table 2.

Gender targeting by intentional design

Gender targeting by design seeks to understand who is targeted by the CIS, who would benefit from it, and who is systematically excluded from accessing it. This process will delve into power dynamics and agency issues to inform the design of CIS with embedded strategic responses and solutions in mind. For example, when aggregated by gender, men were found to be particularly responsive in adopting CIS use for climate risk mitigation, attributed to their ability to easily access and use telephone devices compared to women. Men were also able to access more financial resources and had control of household income which allowed them to purchase mobile phones (Partey et al 2020). Selected resources for examples of gender-targeting approaches in CIS design include:

- [Journal Article](#): Using Seasonal Forecast as an Adaptation Strategy: Gender Differential Impact on Yield and Income in Senegal
- [Journal Article](#): Gender and climate risk management: evidence of climate information use in Ghana.
- [Info Note](#): Strategies for achieving gender responsive climate services
- [Checklist](#): Gender Considerations for Climate Services and Safety Nets through public discussions and airing of their views (Huyer, 2019; Sterling & Huyer, 2010)
- A [Guide](#) to Participatory Scenario Planning (PSP): Experiences from the Agro-Climate Information Services for women and ethnic minority farmers in South-East Asia (ACIS) project in Ha Tinh and Dien Bien province, Vietnam

Sex-aggregated data collection and analysis

While women tend to have lower rate and lower quality access to CIS, the local contexts can vary

TABLE 2: GENDER EMPOWERMENT & TRANSFORMATION INDICATORS THROUGH CIS (ABONESH ET AL 2022, ALKIRE ET AL 2013, HARIHARAN ET AL 2020)

Empowerment Indicators	Transformation Indicators
<ul style="list-style-type: none"> • Better access to information to manage agricultural risk • Better access to information through mobile-based agro-advisories • Better crop diversification/ any change in cropping pattern • Increased participation in decisions over use of income • Increased income • Increased participation in decision making related to changes in agriculture production 	<ul style="list-style-type: none"> • Improved participation in village level decision making • Increase in senior positions held by women/ men in community level groups, producer or youth organizations • Increased participation in a political program or institution at local/village level • Increased participation in a political program or institution at sub-national or national level • Increased confidence in speaking in public

with vast and nuanced differences. Aspects of CIS gender data collection, design, and implementation can help to ensure that the gender differential access and use of CIS information are grounded within the gender context of the location where CIS is disseminated, accessed, and used (Sterling 2021). The design of survey questionnaires and methodology for collecting information can determine the quality and usefulness of the collected data. Intentionality must be demonstrated to collect sex-disaggregated data, as well as analyzed upon collection to inform CIS activities. Selected resources for data collection and analysis for design and evaluation of CIS include:

- A guideline for a rapid evaluation of agro-climate information systems, including the process for data collection and data analysis and some preliminary results from a minor pilot survey in [Working Paper](#): Guide for impact assessment of agro-climate information services
- [Info Note](#): Gender-differences in Agro-Climate Information Services (Findings from ACIS baseline survey in Ha Tinh and Dien Bien provinces, Vietnam)
- [Journal article](#): Lessons in understanding and addressing user needs in climate services from Mali

Dissemination of technological options for CIS access

Many of those without digital connectivity to access climate information—due to various systemic barriers such as affordability, literacy, language, and many other obstacles—tend to be women and those in rural areas and other marginalized communities (Belur & Brudvig 2021). Women’s access to climate information is often further shaped by social norms and unpaid labor that restrict women’s attendance and interactions in meetings, workshops, and trainings, as well as limit their contact with agricultural advisory services and membership in supportive collectives and groups (Ingabire 2021). The dissemination of technological options and services must be informed by analysis of data disaggregated by sex and other attributes as this has implications on access to CIS. Capacity building, Radio Listening Clubs, Farmer Promoters, and other in-person exchanges are some useful channels for reducing these disparities in CIS access. Selected resources for examples of such approaches include:

- [Info Note](#): Identifying Pathways for More Gender-Sensitive Communication Channels in Climate Services



- [Info Note](#): Closing Gender Gaps in Farmers’ Access to Climate Information: The Case of Radio Listeners Clubs (RLCs) in Rwanda, Preliminary results of a mixed-method analysis.
- [Info Note](#): Access and use of weather and climate information by women and men farmers: Rwanda Climate Services for Agriculture qualitative evaluation preliminary findings

Monitoring and evaluation of gender and empowerment

Monitoring and empowerment evaluation offers an opportunity to assess gender performance and draw upon experiences to modify and improve the ongoing development interventions. The studies that have been conducted so far to determine the value of CIS for farmers were only achievable due to CIS initiatives that had incorporated an evaluation framework in their design from the beginning, underscoring the importance of designing climate service programs for evaluation based on an impact pathway rather than treating evaluation as an after-thought (Tall et al 2019). To strengthen the evidence base on the true value of CIS and close knowledge gaps on how CIS design can help promote gender equity and empowerment, evaluation efforts will need to draw on a combination of qualitative and quantitative approaches to identify and assess the nuances, be sensitive to the heterogeneity of user groups, and include larger dimensions of the agricultural system (Tall et al 2019, Gumucio et al 2022). Selected resources for gender inclusion and empowerment in monitoring and evaluation of CIS include:

- [Journal article](#): Do climate services make a difference? A review of evaluation methodologies and practices to assess the value of climate information services for farmers: Implications for Africa
- [Journal Article](#): Enhancing climate services design and implementation through gender-responsive evaluation
- [Info Note](#): Climate Services for Agriculture in Rwanda: Initial findings from PICSA monitoring and evaluation
- [Working Paper](#): Inclusion of gender equality in monitoring and evaluation of climate services

Overcoming barriers and paving the way forward for gender equity and social inclusion in CIS

Policy makers and local governments are increasingly adopting wider and more equitable gender sensitivity (Villavicencio et al 2018), paving the way for gender and social inclusive considerations to be further and better incorporated in the design, development, implementation, access, and use of CIS. Meeting women's climate information needs, developing information and communications technologies that respond to women's preferences, and pursuing cross-sectoral collaborations through the inclusion of women's groups and networks will be important to enhance action on climate information (Gumucio 2020). As women and men are equitably afforded improved access to tailored CIS innovations and resources, they can become equal partners and collaborators in

reducing risks and improving their capabilities to adapt to the mounting challenges of climate change and variability.

The proposed GESI Framework offers a mechanism for enhancing gender empowerment and transformation within CIS. The removal of barriers will enable women, youths, men and people with other vulnerabilities to have equal access to CIS to respond to the climate risks and vulnerabilities impacting their agriculture production and livelihoods. The following resources offer a review of best practices and opportunities for further research and improvements in CIS:

- [Journal Article](#): Gender-responsive rural climate services: a review of the literature
- A [Learning Agenda](#) that speaks to current "good practices" in CIS design, management, and evaluation, and identifies the pathway to better practices in the future.

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About AICCRA INFONOTES

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