

 POLICY Brief

August 2026

 **UNDERSTANDING HOW CLIMATE
CHANGE, GENDER, NUTRITION, AND
CAPACITY GAPS ARE INTEGRATED INTO
POLICY AND PROGRAMMING: LESSONS
FROM SENEGAL**

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Background

Climate change, gender inequalities, food insecurity, and malnutrition are a set of interrelated challenges that weigh heavily on low- and middle-income (LMI) countries. Despite being major policy priorities, these challenges come up against significant financial and capacity constraints.

Although there is growing research on the interactions between climate change, malnutrition, and gender, significant gaps remain in understanding the complex relationships between these three elements. Current research shows that women are often the most vulnerable to climate change (IPAR 2024) due to existing gender inequalities that constrain women's access to resources, services, assets, and agency (Bryan et al. 2024). These disparities can limit women's adaptive capacity and increase their vulnerability to climate-related shocks. Further, by 2050, climate change will increase the burden of disease from chronic and hidden hunger by 10 percent, as measured by the total number of disability-adjusted life years (DALYs) (Sulser et al. 2021). Climate change may affect nutrition not only through food availability but also through food quality, as modeling studies project that elevated CO₂ concentrations will reduce the protein, iron, and zinc content of staple crops, increasing the risk of deficiencies among vulnerable populations such as women of reproductive age and children less than five years of age in the high risk regions of South and Southeast Asia, Africa, and the Middle East (Smith and Myers, 2018).



The effect of climate change on agrifood and water systems also affects human nutrition (Bliznashka and Iruhiriye 2025). Rising temperatures, erratic rainfall, droughts, and extreme weather events reduce agricultural yields, livestock productivity, and fishery resources. These changes promote the spread of pests and disease and disrupt storage, distribution, and other food supply chain activities (Fanzo et al. 2018; Ringler et al. 2023), leading to reduced food availability and access while increasing food prices, particularly for vulnerable and socially excluded populations, especially women. Overall, these disruptions contribute to inadequate diets and increased risk of malnutrition in all its forms—undernutrition, overweight, and obesity—and to diet-related noncommunicable diseases such as hypertension, diabetes, and cardiovascular disease (Fanzo and Downs 2021).

Progress on specific development goals (i.e., climate change adaptation and mitigation, women's empowerment, nutrition, and healthy and sustainable diets) requires coherent policy across relevant sectors that identify and leverage synergies, manage trade-offs, and maximize co-benefits across the multiple goals. Accordingly, the Gender, Climate Change, and Nutrition (GCAN) Initiative conducted a capacity needs assessments to identify the strengths, challenges, and opportunities of institutions involved in the design, implementation, and monitoring of climate change, gender, and nutrition policies and programs. Capacity is conceptualized as more than just training; it encompasses knowledge, skills, motivation, and relationships at three levels—individual (human capital and specific skills); organizational (internal policies, mechanisms, and processes); and systemic (the collective capacity of a network of entities to mobilize new solutions for social and economic purposes) (USAID, 2021). This integrated approach addresses the finding that climate policies and plans do not adequately consider gender and nutrition goals and are inadequately funded (Acosta et al. 2019; Ampaire et al. 2020; Huyer et al. 2020; Mersha and van Laerhoven 2019).

This brief presents the main findings of the capacity needs assessments, including key institutional gaps, regarding the integration of gender and nutrition and climate change in policies, strategies, and programs in Senegal. Building on the assessment findings, the brief also presents recommendations developed collaboratively with stakeholders to strengthen the integration of gender, nutrition, and climate change in strategies in Senegal.



Methodology

Although this brief focuses on findings from Senegal, the study was conducted across multiple countries. The assessment employed a mixed-methods approach, combining a quantitative survey administered in Ethiopia, Kenya, Nigeria, and Senegal with key informant interviews. The survey findings presented reflect responses from all four countries, while the qualitative findings are specific to the Senegal context.

Survey

- An online quantitative survey was administered to experts from institutions involved in climate change, nutrition, and gender-related policies across the four countries (n=136). The survey examined organizational and systems capacities to design, implement, and monitor actions that integrate gender, nutrition, and climate change, as well as issues related to data access and use, organizational culture, and the integration of this nexus into programs. Respondents were identified through a Net-Map analysis and in consultation with national partners.

Key-informant interviews

- A total of 66 semi-structured interviews were conducted with key informants in the four countries to deepen understanding of country-specific contexts and identify potential areas for action, investment, and collaboration. In Senegal, 12 interviews were conducted.
- Interviews focused on topics such as policy processes in the climate change sector, consideration of gender, nutrition, and climate change in policy processes, organizational and systems capacities across these sectors, and support for capacities.
- The interviews were recorded and transcribed. Data from the interviews were analyzed in Excel using thematic content analysis. A hybrid approach, combining inductive and deductive coding, was adopted. Regular debriefing sessions were held among study team members to ensure consistency in coding and to discuss emerging findings;
- A validation workshop was organized with interview respondents to review the qualitative findings, validate and enrich the study results and to then co-develop a capacity-building plan informed by the evidence generated through the study.



Key Findings

Both survey results and key informant interviews in Senegal show that the importance of gender, climate, and nutrition in policy and program development is recognized, and many institutions have taken significant steps to integrate these issues.

The survey findings suggest that while gender, climate change, and nutrition are increasingly recognized in policy and program processes, integration across all three areas is limited. Among the 136 experts surveyed, 56% reported involvement in policy and program design and 57% in implementation and monitoring processes. Respondents generally perceived that at least two of the three thematic areas were adequately considered in policy design; however, far fewer reported simultaneous integration of gender, climate, and nutrition. For example, 73% of gender experts felt climate considerations were sufficiently addressed in the policies they worked on, but only 33% felt nutrition was adequately considered, and only 33% reported that both climate and nutrition were integrated together into gender policies and programs. Similarly, among climate experts, 66% believed gender and 61% believed nutrition were sufficiently considered, yet less than half (47%) reported integration of all three themes. Respondents identified that insufficient evidence and lack of relevant indicators remained important constraints.

The results also indicate that many organizations have established strategies related to gender, climate change, or nutrition, although institutional capacity remain uneven. For instance, 86% of nutrition experts reported that their organizations have well-articulated gender strategies, while 56% of nutrition experts reported their institutions having climate strategies. Furthermore, only 50% of gender experts reported having strategies on nutrition within their organizations. Capacity gaps may partly explain these differences: 80% of climate experts believed their institutions had access to gender expertise and 66% to nutrition expertise. Comparatively, only 38% of gender experts reported access to climate or nutrition expertise.

In Senegal, there is political recognition to climate change, gender, and nutrition, but the institutional framework for integrated action is still under development.

As a Sahelian coastal country, Senegal is among the states most exposed to the effects of climate change. This structural vulnerability has led authorities to place the fight against climate change at the heart of national development priorities, with clear multisectoral ambition. Climate policies are becoming more comprehensive. Senegal has made a decisive shift from short-term action plans to medium- and long-term strategic frameworks. Three major instruments mark this trajectory:

- The Nationally Determined Contribution (NDC)
- National Adaptation Plans (NAPs)
- The Long-Term Low-Carbon Development Strategy

Developed under the leadership of the Ministry of the Environment in a participatory, multisector process (involving agriculture, fisheries, and health, among others), these documents reflect the growing institutional recognition of the cross-disciplinary nature of climate challenges. The involvement of multiple ministries working in coordination is one of the most significant achievements of this initiative. Three institutional pillars form the foundation of a nexus approach:

- On climate, the National Committee on Climate Change (COMNACC) is the flagship body for embedding the nexus into policy planning and monitoring, promoting dialogue and the collaborative development of initiatives;
- On nutrition, the National Council for Nutrition Development (CNDN), attached to the Office of the Prime Minister, ensures a multisector approach. The Multisector Strategic Plan for Nutrition (PSMN), supported by ministerial sector action plans, is its concrete expression;



- On gender, the National Strategy for Gender Equity and Equality (SNEEG) provides structure for the entire framework, with gender units in all ministries. The gender-climate link has recently been reinforced with the publication, in May 2025, of a guide for integrating gender into the NAP process—a groundbreaking tool that is a significant qualitative advance.

These efforts are not limited to the central government level. At the regional level, local governments are supported in drafting development plans integrating these three elements. Local planning tools put integration into practice. At the local level, some initiatives demonstrate an uptake of the nexus. One such example is the promotion of non-timber forest products (NTFPs), which are rich in micronutrients and well adapted to local climatic conditions, illustrating approaches that link climate resilience, nutritional security, and women's economic role.

This national and local institutional framework is being implemented in close collaboration with technical and financial partners, whose ongoing commitment helps strengthen coherence and coordination around the climate, gender, and nutrition nexus.

While political will is existent and mechanisms are in place, effective implementation remains a challenge: intersectoral coordination, stakeholder capacity, adequate funding, and the use of data are preconditions for effective integration that is beyond policy statements.

Technical capacity: disparities across sectors

Survey results highlighted a trend of greater focus on singular thematic areas and weaker multisector integration. Respondents to the semi-structured interviews in Senegal also highlighted the availability of qualified experts in all three thematic areas of climate change, gender and nutrition, many of whom are gradually striving to integrate at least two of these areas into their analyses and interventions.

Senegal benefits from a strong network of climate change specialists and researchers, particularly within institutions such as ANACIM, ISRA, and the national climate committees. These experts contribute to the development of adaptation frameworks and programs, and to the production of procedural manuals that serve as reference guides. They are also active on the international stage, participating in Conferences of the Parties (COPs) and serving as negotiators representing the country. As one interviewee noted:





« In terms of experience and expertise, Senegal is very advanced... It has experts capable of representing the country effectively in negotiations, which is fundamental.» ESS4, R1, gender expert.



However, while Senegal has experts in climate change , few specialists focus on the links between climate change, gender, agriculture, and nutrition. Capacity gaps at the system level identified by respondents primarily revolved around a better understanding of the links between nexus elements. Skills for translating policies into operational practice and technical information into concrete actions were strongly requested. As one stakeholder summarized it:



« The challenge is not to provide training in one area or in another, but to know how to combine the three and make them operational. » ESS4, R1, gender expert.



At the organizational level, most institutions reported having specialists in at least one area. Organizations such as IPAR (*Initiative Prospective Agricole et Rurale*) or IED Afrique (*Innovations Environnement Développement*) have the capacity to facilitate training at the intersection of gender and climate change. Nevertheless, very few were capable of integrating all three. Nutrition was repeatedly cited as a weak area within organizations, even among those working on food-system strategies.

A noticeable disconnect between planning and funding

Interview respondents noted that the main obstacle to implementing policies addressing the climate change, gender, and nutrition is a lack of funding. Respondents noted that national policies and programs are increasingly incorporating budget lines specifically dedicated to these three elements, even though gender actors were less likely to report that budgets in their field include lines devoted to nutrition or climate change. While progress has been made in integrating gender and climate considerations into national budget planning, notably with circulars from the Office of the Prime Minister encouraging inclusion of these elements into sector budgets, resources remain inadequate and ad hoc. Short-term financing predominates, while long-term investments to support strategic sectors such as agriculture, food production, and green transitions are lacking. This creates a contradiction between ambitions for long-term planning and the limited availability of long-term resources. Access to climate finance remains a noted constraint. Stakeholders emphasize that, despite the existence of international funds, means of access are often not understood. Some donors do not fully honor their commitments, and national stakeholders lack the capacity to prepare fundable projects. As one interviewee pointed out, it is essential to:



« Know what is available and how to access it. ». ESS8, R1, Climate change specialist.



Mobilizing the private sector could seem to be a solution to bolster available financial resources according to respondents. Private-sector involvement facilitates access to long-term, low-cost financing, particularly in mobilizing green funds. Diversifying funding sources could be an option for reducing dependence on public resources only or on short-term international financing.

Data and research on the nexus: a lack of integrated data and common tools is a major constraint

Effective policy implementation also depends on the availability of relevant indicators and the use of information or data for implementation and monitoring. Overall, the availability of data on the complex interactions between climate, nutrition, and gender remains limited. Nevertheless, examples of disaggregated and cross-referenced data offering a cross-disciplinary view of the interactions between the three elements were provided. Interviewees noted that data collected in the nutrition sector are systematically disaggregated by sex and age. The same approach is taken by initiatives that cross-reference nutritional data with climate information. Targeted initiatives, such as the development of biofortified varieties adapted to climate stress, illustrate a research dynamic oriented toward a nexus approach.

Respondents expressed that their institutions rely on a variety of sources to inform their policies and programs, although the use of these sources is uneven. Workshops and conferences are used by 80 percent of respondents, making them the most common source. Briefings, internal documents, and institution-specific data collection are used by approximately 38 percent of respondents. Peer-reviewed articles are consulted less frequently (29 percent). Learning mechanisms are dominated by formats that offer little structure. Despite their strategic importance for public policy, integration of data related to the climate change, nutrition, and gender nexus remains limited. It was also noted that the available information remains largely sector-specific and scattered.

Persistent challenges in integrating the nexus

The analysis reveals policy efforts to address the climate-gender-nutrition nexus.. Some stakeholders question the depth of commitment, however. Even though policies, including NAPs and NDCs, have begun to incorporate gender and nutrition objectives, progress toward these goals is not adequately tracked, and results are not being documented.

The approach is more multisectoral than intersectoral. The example given to illustrate this point is the development of the Agricultural Sector Adaptation Plan. Respondents of the semi-structured interviews emphasized that the plan should be co-led by the two ministries, Agriculture and the Environment, but has remained dominated by the latter, which limits the former's effective involvement.

Institutional coordination, even when it is structured, still needs to evolve toward a truly systemic and transdisciplinary approach. For example, ministry units have not systematically integrated climate change into development policies and initiatives. This is due to a lack of knowledge of monitoring tools and appropriate indicators, and to a need for a better understanding of the gender approaches required to link them to other elements.

Another challenge mentioned was the involvement of all relevant stakeholders, especially community-based organizations, from the policy design stage through to the evaluation phase. Information on climate change and its interactions with gender and nutrition must be generated, leveraged, and disseminated beyond purely technical circles to inform public policy. Innovations, often arising out of pilot projects, demonstrate local dynamism but remain limited in their systemic impact.



Recommandations majeures

Policy and Program Design

- Establish a permanent institutional framework to ensure that the nexus is integrated into institutional mechanisms and documents such as national plans (CND, the long-term low-carbon strategy, PNA) and sector policies (SNEEG, PSMN, sector NAPs);
- Establish inter-institutional, interdisciplinary working groups and joint monitoring committees to improve dialogue and policy coherence on the nexus, as well as intersector collaboration; COMNAC could serve as a framework.
- Promoting a resilient food systems approach that fully integrates often underrepresented elements, such as nutrition and gender, is one recommended solution.

Implementation

- Mobilize long-term resources such as climate funds by strengthening the role of the private sector, while integrating the nexus into multi-year public financing;
- Ensure that a significant portion of resources reaches end beneficiaries, particularly communities, by involving them in policy design and implementation, and that resources are effectively used for the nexus. It was proposed that the LBA (Agricultural Bank) and the CSE (Ecological Monitoring Center) further raise awareness and facilitate access to green financing;
- Strengthen coherent implementation by improving synergies among existing sector plans.

Monitoring and Evaluation

- Identify and define relevant indicators that contribute to understanding the link between gender, climate change, and nutrition.
- Establish a common monitoring and evaluation system with tools tailored to the three elements to increase accountability of public policies. The Ministry of the Environment's Monitoring, Evaluation, and Learning (MEL) system can serve as a common framework.
- Generate data and use existing data not only for quantification but also for qualitative, context-specific analysis of gender inequalities and climate and nutritional vulnerabilities in interventions.

Suggestions for Capacity Building

- Develop training tailored to different stakeholders to foster an understanding of the intersection of the climate change, gender, and nutrition nexus (environmental education, challenging gender stereotypes) and the design and implementation of nexus-related policies and programs, prioritizing frontline operational actors;
- Provide training to translate scientific and policy documents into practice, enabling technical information to be translated into concrete actions;
- Expand institutional and organizational expertise beyond a single field or sector by training and equipping specialists to master the three elements of the nexus; transdisciplinary teams composed of experts in climate change, gender, and nutrition; should be encouraged
- At the same time, it is important to examine how local knowledge and practices, such as use of indigenous crops rich in micronutrients and environmentally friendly, can contribute to nexus programs.



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Since 2016, the Gender, Climate Change, and Nutrition Integration Initiative (GCAN) has worked to integrate considerations related to gender, climate resilience, and nutrition into policies, interventions, and research. In coordination with all stakeholders, it aims to ensure that investments, policies, and actions on climate change fully incorporate the goals of gender equality, women's empowerment, and food and nutrition security. GCAN is implemented by the International Food Policy Research Institute (IFPRI) and is supported by the Gates Foundation. <https://gcan.ifpri.info/>





At IPAR, the theme Youth, Women, Entrepreneurial Strategies and Mobility is organized, across its various projects, around a common question: how do institutional frameworks, support mechanisms, and socio-economic and migratory dynamics shape the entrepreneurial strategies and empowerment of young people and women, and to what extent do ongoing transformations (agroecological and technological transition, reconfiguration of food systems) create — or fail to create — spaces for action?

Through this theme, the gender perspective adopted goes beyond a simple analysis of issues specific to women. It becomes an analytical framework for understanding social, economic, environmental, digital, and political dynamics and transformations, as well as the power relations among women, young people, vulnerable groups, and men.



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