Challenges in integrating gender and youth data into food security and nutrition interventions: barriers and strategies for improvement

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Sommaire

Key messages

- **Importance of Integration**: Integrating gender and youth data into Food Security and Nutrition (FSN) interventions is essential for fostering inclusiveness, equity, and sustainable development. This is particularly critical in Africa, where exclusive gender and age norms often marginalize women and youth in food systems.

- **Key Barriers**:

  ‣ A lack of capacities and expertise among FSN implementers working in African non-governmental organizations (NGOs) often limits the ability to integrate gender and youth data effectively.

  ‣ Cultural, social, political, and religious norms in African countries pose significant challenges to collecting and using gender and youth data.

  ‣ The absence of local incentives and enforcement mechanisms discourages the integration of gender and youth considerations into FSN interventions.

- **Proposed Strategies**: There are two main areas of focus for integrating gender and youth data: data collection and data analysis.

  ‣ Approaches for data collection include methods such as focus group discussions (FGDs), participatory mapping, participatory rural appraisal, and photovoice. Additionally, tools like the Gender and Youth Balance Tree, Youth and Land Responsiveness Criteria, and success stories can support the process.

  ‣ Approaches for data analysis involve the use of frameworks such as the Women's Empowerment in Agriculture Index (WEAI) and the gender analysis matrix. Advanced techniques like inferential statistics and machine-learning algorithms can also be employed to analyze and integrate the data.

- **Evidence Gaps**: There is a significant lack of empirical evidence on strategies for effectively integrating gender and youth data into FSN interventions. Youth-focused integration strategies are particularly underrepresented in the literature, leading to a scarcity of actionable approaches.

- **Call for Research**: Empirical research is urgently needed to explore, test, and validate the effectiveness of potential strategies for integrating gender and youth data into FSN interventions.

Introduction

Africa is experiencing unprecedented population growth, with approximately 60% of its inhabitants under the age of 25 (World Economic Forum, 2023[1]). This demographic trend has led to increased food demand (FAO, 2019)[2]. In most contexts in Africa, women and youth play crucial roles in the three pillars of Food Security and Nutrition (FSN): food availability, food access, and food utilization [1]. The International Food Policy Research Institute (IFPRI) highlighted in 2009 that countries with severe hunger problems also had high levels of gender inequality [2]. Closing the gender and youth gap in agriculture could substantially reduce hunger and enhance food availability [3].

Recognizing these gender disparities, there is a growing acknowledgment of the necessity to effectively integrate gender and youth data into program and project cycles. This integration is critical for achieving national development goals and addressing global challenges, such as FSN ([2]; [3]; [4]; [5]; [6]). Ensuring the inclusion of gender and youth perspectives in FSN interventions is essential not only for equitable development but also for maximizing the effectiveness and sustainability of these initiatives across Africa.

However, significant variation exists in how FSN intervention implementers perceive gender and youth roles, leading to challenges in effectively integrating these perspectives into FSN programs and project cycles. In Africa, sociocultural, economic, and political barriers further hinder this integration into program and project cycles ([7]). Despite attention on integrating gender and youth aspects in development policy and practice since the mid-1990s ([8]; [9]), challenges persist. Collecting and utilizing gender and youth data is crucial for addressing the sociocultural, economic, and political barriers that hinder their effective integration. Such data help identify the specific needs, constraints, and opportunities for women and youth, enabling more targeted and impactful interventions. These gender and youth data enable more targeted and effective interventions that ensure the full participation of women and youth in FSN initiatives. Without such data, programs may overlook critical factors, leading to less impactful outcomes. To address the challenges of FSN in Africa, public and private organizations have initiated development projects and programs aimed at empowering and supporting local communities. The success of these

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1   How will Africa's youth population drive global growth? | World Economic Forum

2   The State of Food and Agriculture 2019 | FAO

3   The state of food and agriculture 2010-2011- Women in Agriculture: Closing the gender gap for development - World | ReliefWeb

initiatives hinges on the integration of gender and youth data (**[8]**; **[9]**).

To ensure the effective integration of gender and youth data into FSN interventions, particularly within African NGOs, there is an urgent need to enhance the capacities of implementers and practitioners working in this sector. A USAID survey of its implementing partners revealed a growing need for capacity development in integrating gender and youth data into FSN interventions. In response, ACED, with financial support from USAID through the GAYA initiative, is implementing a project aimed at strengthening stakeholder capacities. The primary objective is to identify effective strategies for collecting, analyzing, using, and integrating gender and youth data into FSN interventions. Once identified, these strategies will be compiled into a technical manual, which will then be converted into an online training course for African NGOs.

This rapid systematic review, coupled with key informant interviews, explores the barriers hindering the integration of gender and youth data into FSN interventions. It provides evidence-based strategies and approaches that can be used to collect, analyze, and integrate gender and youth data into FSN plans, policies, programs, and projects related to FSN in African regions.

Méthod

To comprehensively identify strategies and approaches for collecting, analyzing, and integrating gender and youth data into FSN interventions, we conducted a rapid systematic review and key informant interviews. The systematic review focused on identifying and evaluating documented, publicly accessible methods and approaches used in FSN interventions. Additionally, we conducted key informant interviews with ten experts selected for their specialized knowledge in gender, youth, and the Mmonitoring and Evaluation (M&E) of FSN projects.

Conceptual framework for integrating gender and youth data in FSN Interventions

The integration of gender and youth data in FSN interventions is a four-step process to ensure gender and youth considerations are systematically embedded throughout each phase of an intervention. This process includes: (1) understanding youth and gender concepts, (2) collecting gender and youth data, (3) analyzing gender and youth data, and (4) utilizing gender and youth data (Figure 1).
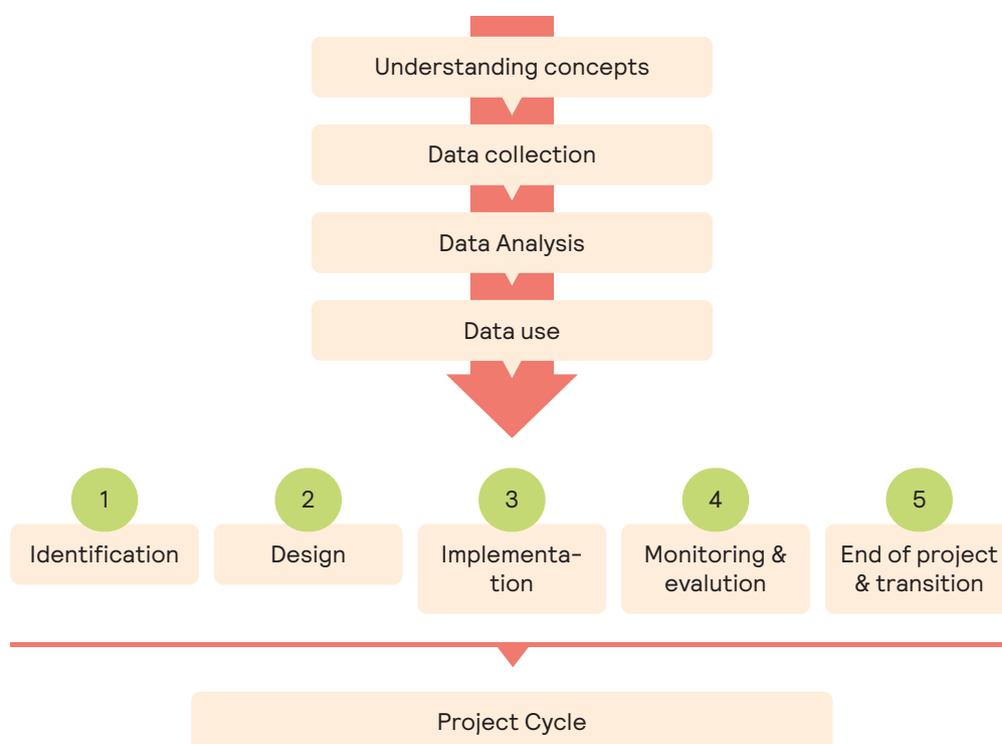

Figure 1: Conceptual framework for integrating gender and youth data in FSN interventions

a) Understanding gender and youth concepts

Implementers must first understand key concepts like gender identity, intersectionality, equality, and equity. This foundational knowledge enables them to recognize gender and age-related nuances in FSN, ensuring a targeted and inclusive approach.

b) Collecting gender and youth data

With a solid understanding of the concepts, implementers can collect gender and youth data through primary sources (e.g. surveys and interviews) and secondary sources (e.g. existing studies). Data should capture diverse demographic, social, and economic factors to reflect the full scope of gender and youth dynamics in the intervention area.

c) Analyzing gender and youth data

Analyzing the collected data allows implementers to identify specific needs, challenges, and opportunities for various groups. Intersectional analysis ensures the data reflects the realities of both gender and youth, guiding evidence-based decisions.

d) Utilizing gender and youth data

Finally, implementers can apply insights from the analysis to shape intervention identification, design, implementation, monitoring and evaluation, and project closure and transition. Integrating gender and youth data across all project stages helps address inequities and enhance FSN program effectiveness.

This four-step process ensures FSN interventions are inclusive, evidence-driven, and responsive to gender and youth needs, ultimately improving program impact and sustainability.

Data collection

To conduct the rapid systematic review, we employed a comprehensive nine-step approach to thoroughly examine strategies for collecting, analyzing, and integrating gender and youth data into FSN interventions. These steps included defining a control list of articles, defining research questions, establishing inclusion and exclusion criteria, formulating a data search strategy, eliminating duplicates, downloading and screening full texts, performing quality appraisal, extracting data, and writing the rapid systematic review report.

The first step in establishing a control list of articles consisted of a web scraping for articles on strategies for collecting, analyzing, and integrating gender and youth data. This step helped to acquire a foundational understanding of the topic and allow familiarity with essential terminologies and synonyms used across the subject. The next stage consisted of stating the research question using the PICO tool ([10]), omitting the comparison aspect due to the qualitative nature of the review. The research question guiding the study was

> *'What are the strategies for collecting, analyzing, and applying gender and youth data in food security and nutrition interventions?'*

Based on this question, key foundational terms were identified, including 'strategies,' 'collect,' 'analyze,' 'integrate,' 'gender,' 'youth,' 'data,' 'food security and nutrition,' and 'interventions'. :

The inclusion criteria covered studies that focused on integrating gender or youth dimensions into FSN, promoted gender equality within FSN initiatives; and were published between 2000 and 2024. Exclusion criteria applied to studies that did not address gender or youth dimensions in FSN initiatives or contained unreliable or duplicate data.

The data collection phase involved six steps. The search strategy included both peer-reviewed articles and grey literature, utilizing a Boolean search and searching across various databases, such as Research Gate, Scopus, and Google Scholar. Duplicates were eliminated using Excel. Screening involved two subsets: one based on titles and abstracts and the other on full content. Quality appraisal was performed by reviewers using a checklist. Data extraction was conducted by including full texts in a structured Excel sheet.

In total, 2,300 documents were found based on the search query and after applying the exclusion criteria, only 265 were considered. Out of these 265 documents, only 96 were selected based on the title and abstract screening.

Based on the above methodology, the proposed systematic review search query was: ALL (*«strategies»* OR *«practices»* OR *«approaches»* OR *«methods»* OR *«techniques»* OR *«protocols»* OR *«procedures»* OR *«tactics»* OR *«methodologies»* OR *«systems»* OR *«frameworks»* AND *«collecting»* OR *«gathering»* OR *«acquiring»* OR *«compiling»* OR *«retrieving»* OR *«assembling»* OR *«obtaining»* OR *«accumulating»* AND *«analyzing»* OR *«interpreting»* OR *«processing»* AND *«applying»* OR *«utilizing»* OR *«leveraging»* OR *«employing»* OR *«using»* OR *«exploiting»* OR *«deploying»* OR *«integrating»* OR *«incorporating»* AND *«sex»* OR *«gender identity»* OR *«gender role»* OR *«gender dynamics»* OR *«gender-based»* OR *«gender differences»* OR *«gender»* OR *«gender equality»* AND *«youth»* OR *«young people»* OR *«adolescents»* OR *«teenagers»* OR *«young population»* OR *«minors»* OR *«young demographic»* AND *«data»* OR *«information»* OR *«insights»* OR *«metrics»* AND *«indicators»* OR *«evidence»* AND *«food security»* OR *«nutrition»* OR *«agriculture»* OR *«food access»* OR *«food sufficiency»* AND *«programs»* OR *«policies»* OR *«initiatives»* OR *«projects»* OR *«interventions»*) AND PUBYEAR > 2007 AND PUBYEAR < 2025 AND (LIMIT-TO (SUBJAREA , *«AGRI»*)) AND (LIMIT-TO (DOCTYPE , *«ar»*) OR LIMIT-TO (DOCTYPE , *«bk»*)) AND (LIMIT-TO (OA , *«all»*)).

To triangulate our findings and identify other relevant unpublished methods, we identified ten experts in gender, youth, and M&E of FSN projects. We conducted 10 key informant interviews with these experts, which explored the strategies that could be used or potentially used to collect, analyze, and apply gender and youth data.

Data analysis

Data analysis focused on synthesizing findings and identifying key strategies or methods for collecting, analyzing, and applying gender and youth data.

Barriers and factors limiting the understanding, collection, analysis, and use of gender and youth data in FSN interventions

Several barriers were found to hinder the integration of gender and youth data into FSN programs. The most frequently cited barriers were classified into three categories, starting with the most frequently cited to the least emphasized: (i) lack of relevant technical expertise and skills of FSN implementers among African NGOs, (ii) cultural, social, political, and religious norms in African countries hindering gender and youth data collection, (iii) the lack of local incentive and enforcement mechanisms to foster the consideration of youth and gender data within FSN interventions.

From the review, the primary limiting factor was identified as the lack of expertise and capacity within the project implementation team, which significantly hinders the inclusion of gender and youth considerations in projects ([11]; [6]; [7]). Most project implementation teams lack the basic knowledge or comprehension of gender and youth concepts. The teams also have limited knowledge of the tools used to collect, analyze, use, and integrate gender and youth data within FSN interventions. For instance, according to [7], project staff often have insufficient gender knowledge and skills while holding junior positions with less autonomy and decision-making power, which strongly exacerbates the lack of gender and youth data in FSN interventions. In addition, [11] noted in their study that there is a critical lack of skills in M&E and gender budgeting.

Further studies revealed a lack of gender technical capacity including gender budgeting along with a lack of resources allocated for gender issues ([12]; [13];[11]). Throughout M&E processes, specialists lack the capacities and expertise to collect and disaggregate gender and youth data effectively. Even when such efforts are made, they are sometimes insufficient for meaningful analysis and conclusions ([12]; [13]; [11]; [5]).

M&E efforts frequently focus on tracking men's and women's participation in activities while overlooking broader considerations, such as youth and age dynamics ([13]).

Focusing solely on gender participation indicators often overlooks the intersection of gender and age, missing key dynamics within households and organizations. As a result, many gender indicators fail to assess these complex relationships, limiting their ability to measure meaningful

change over time ([5]). Even when gender considerations are integrated at the design stage, they are often neglected during implementation and subsequently in M&E due to a lack of necessary skills among intervention implementers to effectively utilize this data ([14]). [14] further highlight that many project implementation teams have limited experience in understanding, interpreting, and executing gender-related activities outlined in the project design. This lack of expertise creates inconsistencies and gaps between project design and the implementation of FSN interventions ([14]; [11]).

The second most-cited challenge when it comes to the use of gender and youth data to inform FSN interventions is related to social, political, and religious norms ([11]; [15]; [16]; [6]). These norms make primary data collection on gender and youth challenging or even impossible at the FSN intervention design stage, which is crucial for ensuring inclusive and sustainable interventions. Findings from the GAYA report indicate that in many African countries, such as Burundi, DRC, Somalia, and Uganda, highly patriarchal societies restrict the decision-making power of women and youth, limiting their participation in surveys and FGDs at the design stage to communicate their challenges. Consequently, gender and youth data are not collected, analyzed, and used through the FSN intervention.

From the same source, in Bangladesh, the report highlighted that some staff have gender biases and do not support the hiring of women. This leads to a decisive impact on gender integration, especially considering that staff of these organizations are perceived by many as role models on gender equality. Regarding political norms, some countries give little consideration to gender equality, and there is no enforcement of laws that promote it. According to [14] and [11], there is limited capacity, political interference (due to ineffective decentralization), and functional implementation structures at the local level in Africa to promote gende equality.

The third most frequently discussed barrier to integrating gender and youth data in FSN programs, as highlighted in the literature ([12]; [14]; [11]; [6]), is the lack of local incentives and enforcement mechanisms. Studies revealed that there is a lack of enforcement to apply gender-sensitive policies ([12]) and also, that the lack of law enforcement at the local level leads to constrained access to resources ([11]). Most of the existing sectorial policies are "gender blind" ([11]). According to [6], policies and practices supporting food and nutrition security in Africa often lack rigor and pragmatism in their application. The study also found that projects prioritize gender data over youth data, resulting in less attention to youth-related information ([12]).

In addition to the three widely cited factors, the literature highlights other limitations, including insufficient financial, material, and human resources throughout project intervention cycles, as well as a lack of awareness

among public institutions responsible for data collection regarding the importance of gender and youth data (**[12]**). Addressing all barriers is critical to ensuring that gender and youth data are meaningfully integrated into FSN programs. Without overcoming these limitations, efforts to improve food security will continue to overlook the unique needs of women and youth, perpetuating inequities in African food systems.
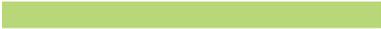
Strategies for integrating gender and youth data in FSN interventions

To improve the integration of gender and youth data in FSN interventions, various authors have proposed strategies to overcome barriers to data collection, analysis, utilization, and integration..

Strategies to collect gender and youth data in FSN interventions

Several studies ([15]; [17]) highlight the necessity of incorporating gender and youth data in FSN interventions, beginning with training the project design team on gender and youth concepts. The team should collect data from representatives from gender and youth advocating organizations in the intervention areas. The team members' gender and youth capacities should be strengthened through targeted training, capacity-building workshops, and hands-on mentoring to ensure they possess the knowledge and skills necessary to understand and apply different gender and youth data collection strategies effectively. In one key informant interview, a gender expert emphasized: "The design and implementation team should be carefully selected to ensure their beliefs and norms align with the gender and youth dimensions addressed in the FSN project."

 After equipping the design and implementation team with foundational gender and youth concepts, different strategies should be employed to collect gender and youth data. [18] argue that gender and youth data should be collected in a disaggregated manner to ensure comprehensive coverage of both groups. An expert in statistics stated: "Most FSN interventions focus on the household level rather than considering individuals within the household. Therefore, disaggregated data should be collected at the individual level to ensure all specific aspects of gender and youth are covered."

Participatory methods are central to effectively collecting and utilizing gender and youth data, as they enable implementers to capture the lived experiences, needs, and perspectives of diverse community members. These methods foster inclusivity, empower participants, and provide context-specific insights critical for designing interventions that resonate with the target groups. The methods used to collect data can be qualitative, quantitative, or mixed. For qualitative methods, several authors recommend

using tools such as FGDs, photovoice, participatory drudgery score, the Youth and Land Responsiveness Criteria (YLRC), participatory mapping, and the Gender and Youth Balance Tree (GYBT).

In the case of FGDs, [15] and [17] suggest their use as a valuable strategy for collecting gender and youth data in FSN interventions, as they provide nuanced insights into the roles, perceptions, and challenges faced by different groups, essential for designing effective interventions ([19];[20]). A study by [21] using FGDs revealed that male-only and female-only households faced higher food insecurity than dual-headed households. To obtain a holistic view of gender and youth data, a gender expert recommended: "After the general focus group, the group should be separated by sex and age to explore the challenges and specificities of each stratum. Furthermore, a non-structured discussion should be initiated with each participant to delve deeper into their statements from the FGDs."

The YLRC tool is appropriate for examining youth access to land across various institutional domains, including the state, market, community, and household ([22]). This tool provides information on land needs by different categories of youth, the level of access and control of land, and how to address sustainable management of that land. The YLRC tool inquires about five themes: youth recognition, land information, land governance, land policies, and land use and access. In Malawi, this strategy highlighted discrepancies between community leaders' perspectives (that youth can access land through parents) and those of the youth (young men described their lack of reliable access to land in the matrilineal context) ([23]).

Participatory mapping tools such as Participatory Rural Appraisal (PRA) and photovoice are valuable in collecting gender and youth data. According to [24]; [25], and [23], PRA helps understand community empowerment by revealing gendered spatial resource patterns, including use, access, control, and ownership. Groups categorized by interest, age, and gender create maps using local materials to depict features like landmarks and water points, adding information about achievements in FSN and providing a nuanced view of resource distribution and community dynamics.

Photovoice, developed by [26], empowers participants by giving them a tool to express their experiences and perspectives. Participants take photos representing their experiences, challenges, and aspirations related to gender and youth issues, which provide rich insights into their lived experiences. These images serve as a basis for group discussions or individual interviews, fostering deeper reflection and uncovering nuanced insights into gender and youth dynamics.

The Gender and Youth Balance Tree represents a comprehensive tool that detects inequities in resources, agency, and achievements, primarily focusing on the household domain. This interactive exercise involves participants drawing a tree to symbolically represent the work of each

gender and age group in a household (the roots) and the rewards to each household member (the branches). This analogy of the household as a tree highlights the need to work for the common good. The GYBT quickly obtains information about various dimensions of equity within the household, such as daily time allocation, resource control, income control, and beliefs and perceptions about the roles and responsibilities of household members. The GYBT tool has been tested and used in Ghana, Indonesia, and Malawi to efficiently collect data (**[27]**; **[28]**; **[23]**).

Gender and youth analysis frameworks are also among the methods to efficiently collect gender and youth data. Multiple authors (**[29]**; **[30]**; **[31]**) recommend frameworks such as WEAI and the Gender Analysis Matrix (GAM).

- The WEAI, launched in 2012 by IFPRI, the Oxford Poverty and Human Development Initiative, and USAID's Feed the Future, is the first comprehensive and standardized tool designed to measure women's empowerment and inclusion in the agricultural sector. WEAI tracks gender equality and the transformation of gender norms through two sub-indices: one assessing women's empowerment across five domains in agriculture and the other measuring gender parity in empowerment within households. The index provides detailed data disaggregated by age, gender, location, agroecological region, residence type (urban, peri-urban, or rural), ethnicity, and socioeconomic and occupational class. It also measures women's empowerment relative to men within their households. Since its initial release, multiple versions of WEAI have been developed.

- The GAM, created by A. Rani Parker in 1993, helps communities and grassroots workers identify gender issues, challenge assumptions, and find solutions. It serves multiple purposes, such as part of gender training and as a participatory planning tool. GAM evaluates project objectives across four societal levels (women, men, household, community) and four impact areas (labor, time, resources, culture). Its principles are: (i) essential gender analysis knowledge resides within the community, (ii) external technical expertise is unnecessary beyond facilitation, and (iii) gender analysis must be conducted by those being analyzed to foster transformation.;.

Regarding quantitative methods, experts recommend using quantitative questionnaires to gather information on gender and youth. Additionally, the participatory drudgery score, developed by the International Institute of Tropical Agriculture through the Africa RISING project, is a straightforward tool for obtaining information on how tiresome tasks are. The facilitator creates a matrix with tasks as rows (e.g. planting, weeding, harvesting) and technologies being compared as columns (e.g. maize with and without cowpeas as a living mulch), then asks participants to allocate counters based on the level of drudgery of each task, with ten counters representing the most taxing agricultural task and one the easiest.

Mixed methods are also recommended to delve deeper into the reasons behind the figures stated by respondents during quantitative surveys. **[32]** reported that using a mixed methods approach, combining quantitative surveys with qualitative interviews, helps capture detailed and nuanced data on gender and youth experiences. This dual approach provides a comprehensive understanding of the different challenges faced by youth and women of various ages in their work related to the project or program to be implemented. Triangulating data from multiple sources and methods strengthens the reliability and validity of the findings, ensuring a more accurate analysis.

Strategies to analyze gender and youth data in FSN interventions

After collecting gender and youth data, various analytical methods can be employed to ensure that the data provides effective insights into gender and youth. These methods, commonly used by practitioners, can be categorized into qualitative, quantitative, and mixed methods.

Regarding qualitative methods, success stories and life stories are prominent. Success stories are narratives focusing on positive outcomes and the factors contributing to those outcomes. They highlight best practices, innovations, and the impact of interventions. Life stories are in-depth narratives that capture an individual's experiences, challenges, and achievements over time (**[33]**;**[34]**). These provide a rich, contextual understanding of a person's life and are particularly useful for exploring the intersections of gender, age, and food security. As one respondent noted, *«Life stories are valuable methods to explore in depth the reasons behind the figures provided by quantitative approaches in quantitative analyses.»*

Quantitative methods encompass descriptive analyses, data disaggregation by gender and youth, inferential statistics, artificial intelligence, and Geographic Information Systems (GIS) mapping. Descriptive statistics summarize and describe the characteristics of the data collected, providing important insights into the distribution and key characteristics such as frequency distribution and means. Gender and youth data disaggregation involves analyzing data separately for men and women in different age groups to identify specific needs and impacts. Presenting data in this way is the first step toward greater acknowledgment of the needs of women and youth and enhancing their inclusion in FSN activities, projects, programs, and policies. For instance, a study in Rwanda by **[35]** reported that gender-disaggregated data showed that female-headed households benefited more from agricultural interventions promoting biofortified crops. According to **[23]**, decision-makers found gender and youth-disaggregated information helpful in exploring critical issues, such as participation, benefits, needs, and

constraints to women's participation.

Inferential statistics, a branch of statistics, helps make regressions to explain phenomena related to gender and food security and also helps to evidence intersectional considerations. For example, a study in Egypt on optimizing nutrient profiling for Egyptian youth used non-parametric Chi-square tests to assess gender-based differences in dietary choices [36].

Leveraging artificial intelligence and big data analytics to analyze large volumes of data efficiently has been adopted to speed up and provide quality insights from gender and youth data. These methods support the task of analyzing, detecting, and predicting FSN-relevant dynamics, disaggregated by gender and age groups. For example, [37] used a machine-learning algorithm to identify risk factors for low muscle mass based on nutritional and health-related factors among men and women. In another case, [38] used machine-learning algorithms, specifically Random Forest, Support Vector Machines, and K-Nearest Neighbor algorithms, to process dietary patterns or nutrient and food intake data to predict malnutrition among children under five years of age in Bangladesh. Additionally, a linear regression algorithm was used to identify risk factors for stunting, underweight, and wasting among children in Bangladesh.

GIS mapping plays a significant role in analyzing gender and youth data for FSN interventions. This digital tool enables spatial analysis and visualization, helping to identify geographic patterns and trends that support informed decision-making and strategic planning. Various studies ([39]; [40]) have demonstrated its different use cases. For instance, according to [39] , GIS has been effectively used in the Women, Infants, and Children program to manage and plan nutrition services. By mapping the geographic locations of clients, vendors, and markets, GIS helped identify unmet needs and service gaps.

Strategies to mainstream gender and youth data in FSN interventions

The first and foremost priority is to integrate key insights from gender and youth data analysis into targeting strategies for FSN interventions. This ensures that programs effectively reach the most vulnerable populations. For example, in Ghana, a microcredit program combined with nutrition education was adapted based on data insights to better address child feeding practices and nutritional outcomes [41].

To enhance the effectiveness and efficiency of FSN interventions, programs should be designed and adjusted based on data-driven insights. Incorporating gender and youth data into program activities, design, and M&E plans is essential, as these groups face unique barriers and have

specific needs that differ from the general population.

Targeted data allow implementers to identify disparities, tailor interventions, and ultimately ensure that programs address the actual circumstances affecting women and youth in food security contexts. This approach makes interventions more relevant and impactful. To further enhance mainstreaming, it is recommended that gender and youth data be included in all stages of program development and evaluation, ensuring this data shapes the intervention, from the initial needs assessment to the final impact analysis. This could include setting specific, measurable gender and youth-related goals within logical frameworks, identifying key performance indicators that reflect progress on these goals, and integrating disaggregated data analysis as a standard practice in M&E processes.

A study conducted by SELEVER in Burkina Faso utilized detailed data to design a comprehensive intervention that integrated poultry farming with nutrition education and women's empowerment activities [42]. This approach not only improved food security outcomes but also empowered women economically and socially, underlining the value of gender-focused data in fostering holistic, sustainable outcomes. Mainstreaming data insights across all project components – from planning to resource allocation and reporting, ensures that gender and youth considerations are systematically addressed. Embedding these insights into work plans and logical frameworks helps guide implementation and ensures alignment with program goals. For instance, the Lady Health Worker program in Pakistan successfully integrated child development and growth data into its logical framework, leading to enhanced program outcomes [43].

Gaps of knowledge and future research prospects

Significant gaps exist in our current understanding of effectively collecting, analyzing, and integrating gender and youth data into FSN interventions. This review indicates a lack of scientific evidence on the most effective strategies for incorporating gender and youth data into FSN interventions. Although various methods, such as FGDs, participatory mapping, and gender analysis frameworks, have been suggested, empirical studies are needed to validate their effectiveness in diverse African contexts where sociocultural, religious, and political norms may hinder integration efforts.

Youth issues, in particular, have received insufficient attention in the literature, resulting in a scarcity of strategies to integrate their dimensions into FSN interventions. Our review revealed a lack of studies that provide robust evidence on methods for fully integrating youth considerations within FSN interventions, especially within the African context. Furthermore, there is a gap in the scientific literature regarding the link between long-term impacts of integrating gender and youth data and the sustainability and effectiveness of FSN interventions. More research is needed to assess the outcomes of such integration over time.

The current body of literature on strategies for integrating gender and youth data into FSN interventions highlights significant gaps in knowledge. It underscores the urgent need for future research to develop comprehensive and targeted approaches for collecting, analyzing, and integrating gender and youth data. Addressing these gaps is essential for advancing gender equality, youth empowerment, and the inclusiveness of FSN interventions globally, particularly in Africa.

Study limitations

This study on *«Challenges in integrating gender and youth data into food security and nutrition interventions: barriers and strategies for improvement»* has several limitations that must be acknowledged. First, the scope of the rapid systematic review may be constrained by the range of literature covered, potentially excluding relevant studies that are not published in English or French or are not readily accessible online. Second, the time constraints inherent in a rapid systematic review may have limited the depth of analysis, potentially impacting the comprehensiveness and quality of the evidence synthesis. Third, the operationalization of key concepts such as 'gender integration' and 'youth participation' may vary across studies, making direct comparisons and synthesis challenging.

These limitations highlight the need for ongoing research and evaluation to address these gaps, ensuring that findings remain relevant, robust, and actionable for future FSN interventions.

Conclusion

Remplacer par ce texte: This rapid systematic review compiles available data on the challenges related to integrating gender and youth data into food and nutrition security interventions. It also explores the strategies used to collect, analyze, and utilize this data within this framework. The studies analyzed provide practical insights into the key steps for fully integrating

gender and youth dimensions, in order to ensure more effective, inclusive, and sustainable programs capable of addressing food insecurity and improving nutritional outcomes.

The obstacles identified and the strategies outlined in this review constitute an essential resource for the development of this technical guide, which will serve as the basis for an online training course. The development of this manual will be conducted in partnership with African NGOs engaged in food and nutrition security, to ensure that the strategies are contextualized and relevant to local realities.

By equipping intervention managers with the necessary skills and knowledge, this initiative aims to strengthen the impact and sustainability of food and nutrition security programs across Africa.

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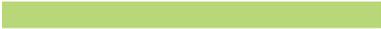
List of acronyms

ACED	:	African Center for Equitable Development
FGDs	:	Focus Group Discussions
GAM	:	Gender Analysis Matrix
GAYA	:	Gender And Youth Activity
GYBT	:	Gender and Youth Balance Tree
IFPRI	:	International Food Policy Research Institute
M&E	:	Monitoring and Evaluation
NGO	:	Non-Governmental Organization
PRA	:	Participatory Rural Appraisal
FSN	:	Food Security and Nutrition
GIS	:	Geographic Information System
USAID	:	United States Agency for International Development
WEAI	:	Women's Empowerment in Agriculture Index
YLRC	:	Youth and Land Responsiveness Criteria

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Acknowledgments

ACED

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