frontiers | Frontiers in Sustainable Food Systems

TYPE Original Research
PUBLISHED 28 November 2022
DOI 10.3389/fsufs.2022.862654

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Social Movements, Institutions and Governance, a section of the journal Frontiers in Sustainable Food Systems

RECEIVED 26 January 2022
ACCEPTED 11 November 2022
PUBLISHED 28 November 2022

CITATION
Mulema AA, Cramer L and Huyer S (2022) Stakeholder engagement in gender and climate change policy processes: Lessons from the climate change, agriculture and food security research program.
Front. Sustain. Food Syst. 6:862654.
doi: 10.3389/fsufs.2022.862654

Stakeholder engagement in gender and climate change policy processes: Lessons from the climate change, agriculture and food security research program

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Introduction: With the rapid increase in climate shocks and hazards, policies governing climate change have proliferated while the integration of gender considerations to address gender-differentiated needs and impacts has remained a challenge. Stakeholder engagement is touted as a critical ingredient in climate change decisions and governance at different levels to achieve equitable outcomes. However, effective methods and outcomes of gender-responsive stakeholder engagement processes for climate change policy development are rarely published.

Methods: We apply the framework of 10 principles for effective agricultural research for development programs to analyze the stakeholder engagement processes in the context of the CGIAR's Research Program on Climate Change, Agriculture and Food Security gender and climate change policy projects. We analyze both primary and secondary data to understand the categories of stakeholders engaged, methods of engagement, the outcomes and lessons learned across five regions.

Results and discussion: Our results show that analysis of the existing policies and programs is a very critical entry point for identifying the points of leverage, the types of stakeholders to engage and how to engage them in the processes that focus on integrating gender in climate policies. Co-learning and co-development of knowledge products cultivate interest and commitment among stakeholders to address gender dynamics, although systematic monitoring and evaluation remains a challenge. This has implications for effective stakeholder engagement in mainstreaming gender in climate policies and evidence-based policy formulation for sustainable agriculture and food systems. Working with influential stakeholders, with the capacity and interest to address gender considerations yields more positive results. Mechanisms to address power relations need to be in place for gender considerations to be voiced and integrated and include women in decision-making processes.

KEYWORDS

gender, stakeholder engagement, policy change, climate change, agriculture

Introduction

Climate change adversely affects food production directly and indirectly, through crop and livestock loss, decreased employment opportunities, and climate-induced human migration, among many other pathways (IPCC, 2022).

> *These impacts are likely to be more severe by 2030 and beyond, placing global food security and the livelihoods of hundreds of millions of people at risk (Ross et al., 2019, p. 1).*

Rural communities in developing countries are expected to be affected more than those in developed countries because of their extensive dependence on natural resources and weather-dependent activities for their livelihoods (Dasgupta et al., 2014).

While the notion that climate change is a global problem is widely accepted, solutions remain highly controversial, with different disciplines and stakeholders providing multiple recommendations (Sun and Yang, 2016). Climate change has been described as a "wicked problem"—one whose complexity and discourse continuously changes and involves the interests of multiple actors (Collins and Ison, 2009; FitzGibbon and Mensah, 2012). The use of conventional tools and processes of knowledge production around such a dynamic issue has been disputed, leading to a need for shifts in methods that analyze the interconnections between cause and consequences across scales. Moving beyond expert-driven science to co-production of knowledge and social learning is expected to generate more equitable science-driven solutions that are attuned to local contexts (Collins and Ison, 2009; FitzGibbon and Mensah, 2012).

Central to this learning process is the need for social and gender transformative research that informs policy engagement processes and the design of gender-responsive climate change policies. Women's considerable involvement in agriculture and their role in sustaining the livelihoods and food security of their households highlights the need to address the gender gap in terms of access to resources, productivity, and vulnerability in the wake of climate change (Huyer, 2016; Gumucio et al., 2019; Chanana-Nag and Aggarwal, 2020; Huyer and Partey, 2020). These gaps are influenced by sociocultural gender norms and power relations that need to be addressed to reduce the vulnerability of women and men to climate change effects (Alston, 2014). The 2022 IPCC report on Impacts, Adaptation, and Vulnerability notes that climate change is likely to perpetuate existing gender and social inequalities with the impacts varying by age, gender, urbanization, and socioeconomic factors (Dankelman, 2010; IPCC, 2022). Recognition of the differential realities between women and men (considering other factors that intersect with gender) is an important prerequisite to ensuring that actions aimed at adaptation and mitigation are gender responsive. Ignoring gender issues in agriculture in the face of climate change constrains the successful and sustainable implementation of mitigation and adaptation measures, posing threats to global food systems (Huyer, 2016). Similarly, policy decisions that ignore risks of adverse effects on different categories of people can worsen the impacts of and vulnerabilities to climate change (IPCC, 2022).

One of the major challenges in addressing climate change is the disconnect between stakeholders including the scientific community, politicians, large corporations, small to medium-sized enterprises, industries, social activists, consumers, and the media, among others (Sun and Yang, 2016). This presents a lack of shared understanding of climate change as a problem, the roles and responsibilities that organizations may play, and the potential solutions. While there is agreement about the need for stakeholder engagement in climate change decision-making processes, detailed methods and outcomes of stakeholder engagement are rarely published, particularly approaches that address gender equality in climate policy. IPCC (2022) states that there are very few examples of successful integration of gender and other social inequities in climate policies to address climate change vulnerabilities and questions of social justice. Therefore, there is a gap of empirical data on best practices for stakeholder engagement in the climate change policy-development arena that integrates gender considerations. Gender equality seeks to narrow inequitable gaps between men and women and refers to the state in which access to rights, resources, opportunities and benefits are unaffected by the gender of the person (OECD, 2019). It is imperative that multi-stakeholder engagement processes are inclusive, and all individuals are supported, valued and respected for their contributions.

This paper presents a synthesis of stakeholder engagements, lessons learned and good practices of engaging multiple stakeholders in integrating gender considerations in climate change and agriculture policies. We draw from the experiences of the CGIAR Research Program (CRP) on Climate Change, Agriculture and Food Security (CCAFS) to present these findings. First, we articulate the kind of research that was conducted, the key stakeholders and how they were involved, the lessons learned from the outcomes of engagement with stakeholders, challenges experienced, and gaps requiring further research. We analyze stakeholder engagement efforts in five regions based on key informant interviews and a literature review: East Africa, West Africa, South Asia, Southeast Asia, and Latin America. We then present results for 10 principles of effective agricultural research for development programs (AR4D) developed by Vermeulen and Campbell (2015) and adopted by Dinesh et al. (2018), along with lessons learned and key integrated conclusions coming out of our analysis. By consolidating this information, we hope to contribute to the literature documenting lessons on stakeholder engagement

in climate change and gender-responsive policy analysis and design.

Analytical framework

We adopt Freeman's (1984) definition of a stakeholder as a group or individual who is affected by or can affect the achievement of an organization's objectives. Stakeholder engagement is an empowering process as it helps stakeholders with an interest in an issue to have input and exert a degree of control on what happens in their own lives and communities (Ulrich, 1983 cited by Gregory et al., 2020). While instrumental approaches view stakeholder engagement as a means to an end and focus on managing stakeholders to attain a purpose (Jones et al., 2018) the critical view of stakeholder theory places emphasis on values which also set the boundaries demarcating the issues of relevance to stakeholders (Edward et al., 2004). Several authors have recognized the influence of stakeholder power in building alliances, exchanging information and coordinating, with invisible stakeholder ties being highly influential in the implementation of an intervention. Hence it is important to capture the role of the complex political and power dynamics in multi-stakeholder engagement processes (Pouloudi et al., 2016; Fliaster and Kolloch, 2017; Gregory et al., 2020).

We employ the framework of principles for effective agricultural research for development programs (AR4D) developed by Vermeulen and Campbell (2015) and adopted by Dinesh et al. (2018) to frame the stakeholder engagement process in the context of CCAFS gender and climate change policy projects. These publications also originate from the CCAFS program and advance a theory-informed approach for identifying and analyzing stakeholders, allocating resources, maintaining a dynamic orientation, and understanding politics and power relations among stakeholders. The framework is presented in Table 1. Given our focus on stakeholder engagement, this framework offers an appropriate means of analysing the effectiveness of the program's activities in a holistic manner. It is flexible enough to be used with a variety of topics, including gender analysis. For each principle, we reflect on instances in which the projects used the principle effectively and, in some cases, we observe that the principle could have been taken into consideration more for improved effectiveness.

The CCAFS gender and social inclusion theory of change (ToC) prioritized the principle of "tackle power and influence" to foster equitable adoption of climate-smart agricultural technologies and influence policy. In this approach, change is attained by working with partners to build evidence that is informed by gender research; ensuring that gender and women's empowerment are dealt with in coordinated climate and agricultural policies; building mechanisms to engender finance; and enhancing the capacity of local institutions and services to close the gender gap (see Huyer et al., 2016 for more details). Figure 1 shows how the principles feed into the ToC for gender analysis.

Methods

This paper focuses on CCAFS projects that worked explicitly on engaging with stakeholders to integrate gender into government agriculture and climate change policies. Projects that were engaged with policy makers and addressed gender concerns as a small sub-component of broader issues were not included because our main interest was in those activities for which gender equality was the driving force. We gathered primary and secondary data for this paper. Secondary data were collected by searching the archive of CCAFS-related publications available through cgspace.cgiar.org and doing keyword searches on the CCAFS website for blog stories and news updates related to "gender", "policy", "stakeholder", "engagement" and other related terms. These sources were used to extract such information as the types of stakeholders involved, the modes of engagement, challenges identified, and results achieved. In total, we gleaned information from 27 documents which were a combination of working papers, project reports, and peer-reviewed articles. In addition to this literature review, we also used purposive sampling to select key informants with whom we conducted interviews and email discussions. These interviewees were project leaders and other staff within the CCAFS research program who provided more detailed information on issues that were not addressed in the reviewed literature. We interviewed 11 CCAFS researchers involved in gender-based policy engagement processes. These 11 respondents covered all the projects engaged in gender and policy work within CCAFS. They included two postdoctoral researchers specifically focused on gender and climate change research, science officers from each CCAFS region who were not gender experts but come from different disciplinary backgrounds and have a general understanding of gender concerns, a project leader with a background in gender research and center-based gender specialist, and a regional program leader who has a strong background in partnership and engagement. Data from the interviews were analyzed using content analysis to identify emerging themes, meanings, and relationships. Data from both primary and secondary sources were then analyzed using the stakeholder principles presented in the framework above (Table 1).

One of the main limitations faced during this study was the difficulty of recall for the whole 10-year period during which CCAFS was in operation. While there were a few staff members who have been with the program since its inception in 2011, others joined more recently and some had worked for CCAFS earlier in the program but subsequently left. Our topics of interest as laid out in the analytical framework were not always

TABLE 1 CCAFS principles for agricultural research and development.

1. Navigate toward specific points of leverage	Points of leverage are areas where a small intervention can lead to large changes. Weak leverage points have limited ability to drive change, therefore it is essential to identify leverage points which are tangible and can drive change.
2. Allocate resources in three thirds	Effective AR4D programs should invest a third of resources on research, a third on engaging with next users and a third on improving the capacity of next users for uptake of research. This does not mean strict allocation of financial resources in thirds but adopting an approach which puts emphasis on partnerships and capacity building, in addition to generating sound science.
3. Join in external processes	Rather than creating new processes and events, science-policy engagement efforts should join existing processes of next users wherever possible. This includes boundary spanning work between researchers and user groups to define products and to foster dialogue.
4. Use research products to build scientific credibility	Enhancing credibility, i.e., scientific adequacy of technical information, is key to successful science-policy engagement. In addition to credibility, salience and legitimacy are important factors to respond to the needs of next users, and to ensure that the process is fair and respectful of stakeholders. Researchers should use a strategy based on high impact publications, research and open access policies to enhance their scientific credibility and thus support science-policy engagement processes.
5. Sustain co-learning throughout policy engagement and implementation	Co-learning processes facilitate knowledge exchange, coproduction and learning in the science-policy engagement process. Research products should be tailored and translated through co-learning processes to suit needs of next users.
6. Tackle power and influence	Power relations, including the status of individuals involved in the engagement process may affect the outcomes of the process. This is especially true in the case of the agricultural sector, where knowledge is highly politicized and researchers need to navigate power relations. This principle proposes that researchers should be mindful of gender and other power differences.
7. Invest in and monitor capacity enhancement	Strengthening the capacity of agricultural sector actors such as extension services is a priority to enable farming communities to cope with climate change impacts. Capacity enhancement efforts can both help next users better articulate demand, and to effectively translate knowledge into actions at the field level. In this context, AR4D has a role to play, and the principle proposes that research efforts should focus on enhancing the capacity of next users and research partners and measuring progress.
8. Mainstream higher-level goals	AR4D efforts integrate research activities and outputs with an impact pathway leading to development outcomes, and international development partners pursue this pathway to realize impacts for higher-level goals such as improved livelihoods and food security. This principle proposes mainstreaming higher-level goals of poverty reduction, gender equity, social inclusion, environmental sustainability and improved nutrition in policy engagement efforts to help focus on development outcomes.
9. Create mechanisms for internal learning	Mechanisms for internal learning, such as a theory of change approach, can help balance research efforts with the priorities of next users. Researchers should include processes to review the theory of change, re-align the strategy for impact, and seize emerging opportunities to be successful.
10. Communicate strategically and actively	Effective communication between researchers and next users is a key boundary management function, and the emphasis of communication efforts has shifted from generic approaches to targeted ones which facilitate knowledge brokering. This principle proposes that research efforts should develop communications strategies to link closely with the impact pathways identified.

Adapted from Dinesh et al. (2018).

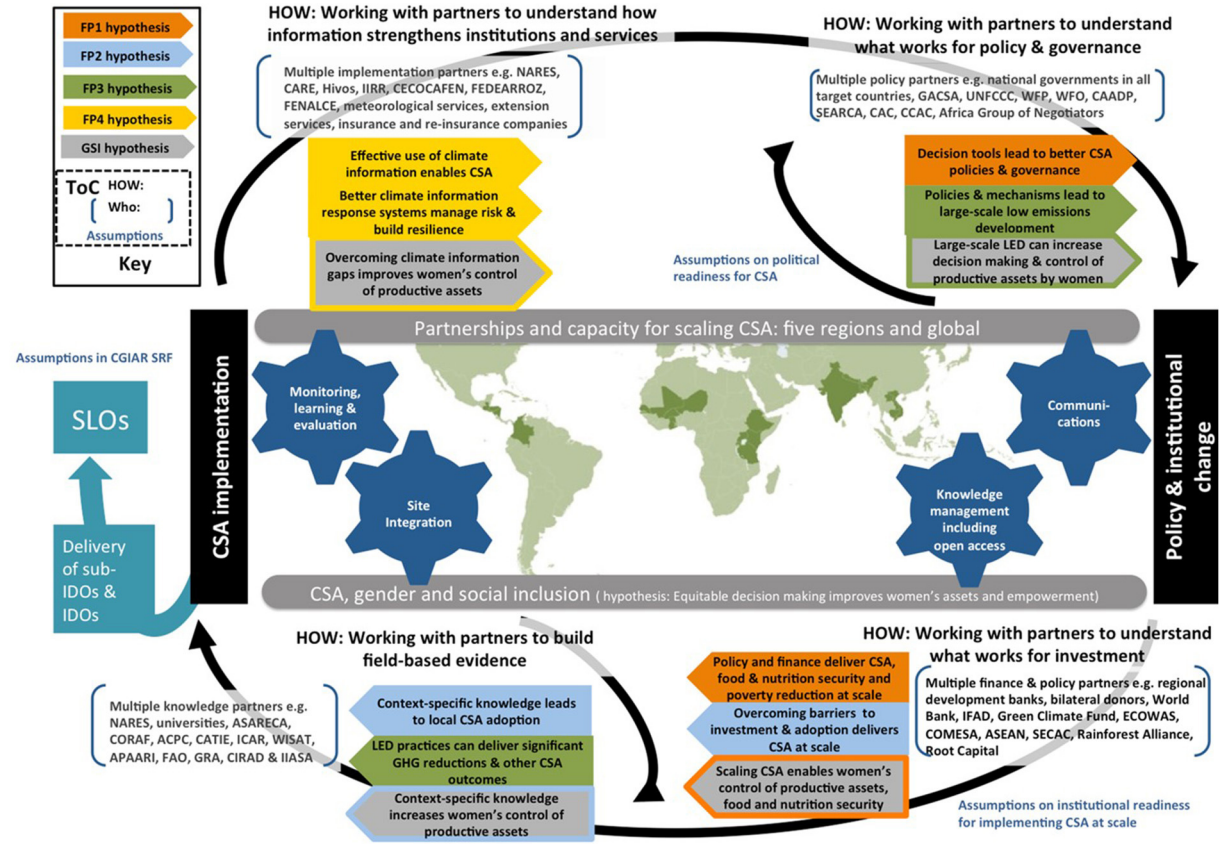

FIGURE 1
CCAFS-GSI theory of change (Huyer et al., 2016).

written up in the project documentation, and so we had to piece together information from the key informant interviews with staff who were not always part of the project activities at their inception. As such, issues around how stakeholders were selected or how frequently they were engaged may not be as well documented as was expected.

Results

This section presents CCAFS's approaches to stakeholder engagement in climate change or agriculture policies that address gender inequalities, the main lessons learned, and the challenges of working with multiple stakeholders in policy-related projects. In general, CCAFS activities over the past 10 years have included project components that were designed explicitly to create awareness among policy makers about the need for gender-responsive climate change and agriculture policies. These activities included gender awareness-raising engagements, sharing of evidence regarding gender differences in agriculture and climate change, analysing gender-responsiveness of existing policies, and assisting in policy revision with the aim of making specific policies more gender-responsive. We used the framework of stakeholder principles listed in Table 1 to analyze CCAFS's project activities related to stakeholder engagement in policy processes that address gender concerns. Although the results are self-reported (which might be considered a limitation), this information is validated by the results from the literature review. Table 2 summarizes the projects, geographic scope, the types of stakeholders engaged, methods of engagement, and outcomes of the engagement process.

Navigate toward specific points of leverage

This principle proposes the identification of interventions that can bring about major changes. Stakeholder engagement within the projects was done strategically, particularly when the topic to be addressed, such as gender mainstreaming, was not accepted universally as necessary to address. Several projects conducted situation and gender analyses to establish an understanding of the local, national or regional context,

TABLE 2 Summary of CCAFS projects involving gender and climate policy engagement.

Project name (Short form of name)	Country	Kind of stakeholder	Outputs and outcomes (successes)
Engagement, synthesis and support in gender *(Gender and Social Inclusion—GSI project)*	Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Nigeria, South Sudan, Sudan, Tanzania, Rwanda, and Uganda; Papua New Guinea	Ministries of agriculture and gender units, universities, civil society organizations e.g., Africa Group of Negotiators Expert Support (AGNES), researchers, donors	Increased capacity and commitment of policy makers and Africa's negotiators to mainstream gender in national and global climate change policies, negotiations, strategies and activities, formulation of gender-responsive country-specific plans, gender impact assessment indicators developed, submissions to the UNFCCC on Gender Mainstreaming in NAPs and NDCs; Gender and Climate Smart Action Plan in Nigeria; Submissions to the Subsidiary Body for Scientific and Technological Advice (SBSTA) sessions; Submissions to the UNFCCC Gender Action Plan (GAP); gender-responsive Nationally Appropriate Mitigation Actions (NAMAs) for Kenya's dairy sector; gender- and socially-inclusive NDC for Papua New Guinea; technical working and position papers on agriculture, gender and climate change in Africa, blogs, briefs, gender-responsive CSA frameworks for Kenya, Uganda Tanzania, Namibia and Botswana
Regional and national engagement, synthesis and strategic research for East Africa (EA) *(CCAFS EA regional project)*	Kenya, Ethiopia, Uganda, Tanzania	Ministries of agriculture and gender units, universities, civil society organizations (e.g., AGNES), Regional Economic Commission, and donors	Submissions to the Subsidiary Body for Scientific and Technological Advice (SBSTA) sessions; Submissions to the UNFCCC Gender Action Plan (GAP), technical working and position papers on agriculture, gender and climate change in Africa, blogs, briefs, gender-responsive CSA frameworks for Kenya, Uganda Tanzania, Namibia and Botswana, gender-responsive Nationally Appropriate Mitigation Actions (NAMAs) for Kenya's dairy sector, and long-term climate resilient strategies for Uganda
Policy action for climate change adaptation *(PACCA)*	Uganda and Tanzania	Ministry of agriculture, Environment units, parliamentarians, private sector, universities, researchers, NGOs, media, farmer-based organizations, and donors	Gender and policy briefs, the Uganda climate law was made gender-responsive due to increased awareness, scenario-guided policy recommendations applied to draft policies, gaps in policy coordination between governance levels identified and addressed through multi-stakeholder innovation platforms, increased commitment amongst actors to integrate gender in regional and national policies
Regional/national synthesis, engagement and support in West Africa *(CCAFS WA regional project)*	Ghana	Policy makers (Ghana Science Policy Platform), Researchers, Universities, private sector, civil society, NGOs, regional commission, CSV focal points, media	A gender, agriculture and climate change profile of Ghana *(forthcoming)*

(Continued)

TABLE 2 (Continued)

Project name (Short form of name)	Country	Kind of stakeholder	Outputs and outcomes (successes)
Shaping equitable climate change policies for resilient food systems across Central America and the Caribbean (CAC) *(Shaping CAC Policies)*	Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Peru	Central American Agricultural Council (CAC), ministries of agriculture, Ministry of Environment, COMMCA, universities	Regional adoption of the gender capacity development guide, gender and climate-smart module developed, guidelines for gender integration in agriculture, food security and climate change policy, scenario-based strategic planning adopted in several countries
Scaling-up strategies for climate risk management in South Asian (SA) agriculture *(CCAFS SA regional project)*	Nepal	Ministry of Agriculture, Land Management and Cooperatives, Women members of parliament, local government, deputy mayors, chief of rural municipality and wards	Training guides developed; increased commitment of policy makers to integrate gender in climate change policies and actions
A Climate Services Menu (CliSM) for Southeast Asia *(CliSM)*	Vietnam, Laos and Cambodia	The Ministry of Natural Resources and Environment, Ministry of Water Resources and Meteorology, Provincial Department of Agriculture and Rural Development, Provincial Department of Environment and Natural Resources, NGOs, Farmers, women and youth unions	Agro-climatic forecasts and local adaptation plans adopted by local government and women and youth unions. ACIS integrated in the rural development plans and provincial forecasting system, ACIS integrated into the Support for the implementation of the Paris Agreement in Viet Nam initiative

Some activities were undertaken jointly by projects working in conjunction with each other but for the purposes of the table they have been separated into only one row/project. Note that (1) the projects also undertook other activities not listed here and (2) there were many other CCAFS projects not included in this study because they did not explicitly work toward incorporating gender equity concerns into policy. This table and paper focus on the policy engagement for gender equity aspects of the activities.

to identify which stakeholders to engage, and to discover entry points that would yield results. In Uganda and Tanzania, the PACCA project team conducted situational analyses to understand the existing level of gender integration in agricultural and natural resource policies and budgets at national and sub-national levels. A doctoral researcher dedicated to this analysis helped keep the topic of gender at the forefront of the project's work. The analysis helped the team find entry points to engaging with stakeholders on the topic of gender and climate change at different governance levels. The CCAFS South Asia regional project's work in Nepal also reviewed existing climate and agricultural policies.

In the Shaping CAC Policies project led by the Alliance of Bioversity and CIAT (ABC), there was a postdoctoral researcher dedicated to the gender component of the research and engagement. The project also invested resources to understand country contexts and relevant stakeholders before final selection of the focus countries and stakeholders. There was a deliberate effort to select and engage stakeholders with an observable interest in gender to take part in the workshops on gender and inclusive policy as remarked by the postdoctoral researcher:

> *Those directors of agriculture were the ones whom we considered would be best positioned to participate in such a workshop. A majority of people had interest but had lots of questions on how to incorporate gender issues in their work. The selection of participants had to do with people who were in key positions to be able to work on agriculture and climate-related policies or planning and would have an interest in gender issues.*

In Shaping CAC Policies, the project chose to focus on Peru and Nicaragua because Peru had been working on a gender and climate action plan, which offered a window of opportunity. It was also easier to travel to Peru from Colombia, where the researchers were based, which facilitated the engagement. In Nicaragua, CCAFS and ABC had support through a partnership with CATIE, a regional institute for tropical agricultural research and higher education. CATIE had already been implementing some projects that included gender capacity building, so the Shaping CAC Policies project was able to build upon that and engage with decision makers who had already been involved with CATIE. The Ministry of

Agriculture in Nicaragua also had already established a gender unit, which made it easier to find entry points through which to connect.

The work of CCAFS's GSI team, along with inputs from the East and West Africa regional teams, used a specific point of leverage with the AGNES group to contribute technical content to gender submissions to the UNFCCC and submissions to the SBSTA. They were also able to support opportunities to integrate gender into national policies, such as the Nigeria Gender and Climate Action Plan, NAPs and NDCs. One of the GSI team members who was on staff when the work began had already been involved in meetings on gender integration in Kenyan climate change policies and became a temporary member of the African Working Group on Gender and Climate Change. Getting involved in the AGNES group and contributing technical and financial support to their workshops allowed CCAFS to participate at that point of leverage to help inform AGNES's submissions, which in turn helped formulate some national submissions as well. These engagements with strategic groups helped provide points where substantive technical inputs plus a relatively small amount of financial support helped in the development of submissions representing African positions on gender integration to international bodies such as UNFCCC.

Allocate resources in three thirds

This principle emphasizes allocating resources equally to three interrelated aspects: building partnerships, building capacity and generating science. Partnerships for delivery and scale were central to CCAFS processes as well as capacity development. Several respondents reported the importance of taking time to build relationships, being patient and persistent in cultivating a rapport with decision-makers, and building consensus with multiple stakeholders. By using the principle of allocating resources in three-thirds, that emphasis on building and maintaining partnerships remains at the forefront.

Most projects included in this study reported investing time and resources to working with Ministries of Agriculture, Environment and Gender, and sometimes with specific gender units in those Ministries. The stakeholders engaged were identified purposely by the leading partners, particularly the Ministry of Agriculture or Gender, and/or snowball stakeholder identification where stakeholders recommended other actors within their networks. The Shaping CAC Policies project worked directly with Ministries of Gender and brought them together with Ministries of Agriculture to harmonize the activities. Additionally, the project team worked with the Central American Agricultural Council (CAC), a body that governs all the Ministries of Agriculture in the Central America region. The CCAFS SA regional project in Nepal and the PACCA project in Tanzania worked only with women policymakers, and other projects worked with a mix of men and women decision makers and youth. In Uganda, the PACCA project tried to get more women representatives attending stakeholder meetings at national and sub-national levels in response to the low women representation at multi-stakeholder forums.

The common methods of engagement to maintain partnerships and build capacities were meetings, capacity building workshops, webinars, and learning platforms. The CCAFS SA regional work in Nepal also involved site visits to farming communities with local women leaders and policymakers. Capacity development workshops on the integration of gender in climate policy, negotiations and actions enhanced partners' commitment to addressing gender in climate policies and negotiation for gender action plans at the international and national levels. CCAFS projects in the regions invested in action research to generate evidence that informed the climate policy processes, resulting in technical reports, policy briefs, and training manuals, among other outputs.

The GSI team was especially cognizant of the importance of allocating resources to engaging with next users. A good deal of the work with the AGNES group was investment of staff time in building the relationship, identifying African gender researchers who could contribute to the group and providing financial support for the meetings where submissions to the UNFCCC on gender topics were prepared. The GSI team also lent technical support for the organization of meetings and contributed to the content of submissions as part of the engagement process. These meetings took place in parallel with the preparation of submissions on agricultural topics under the Koronivia Joint Work on Agriculture. This provided opportunities for cross-learning between the gender and agriculture working groups as well as joint capacity building on issues related to gender and climate change and topics such as how to contribute to IPCC reports. The relationships built in these engagements also led to further opportunities, such as involvement in and support for a Gender and Climate Change Action Plan for Nigeria and the UNFCCC's Gender Action Plan. In the beginning, the major challenge for the gender component of the AGNES work was identifying experts on gender and climate change issues. One respondent noted, "Gender is a very specific field, so you also need experts who can support the process".

It is important to acknowledge that spending time building relationships and investing in engagement can be costly, hence the need for dedication of one-third of both time and financial resources. The project length was sometimes too short for this to happen effectively, thereby affecting the attainment of the desired goals. Issues of budget cuts meant that some planned activities could not take place, and this was further hindered by lack of continuity of project activities. As one project team member reported: "Sometimes, we might aspire to create better policies or better programs, but the reality is that we might not have money or budget to do these activities." This is a reminder

for the agricultural research for development community that adopting the three-thirds principle requires proper and realistic planning at the beginning of a project.

Join in external processes

This principle acknowledges building on existing processes rather than creating new processes and events. We found that adding support to groups that were already working on the same or similar issues provided better opportunities than trying to start from scratch and avoided the risk of duplicating efforts. For example, the Shaping CAC Policies project found through their initial situation analysis that the Ministry of Agriculture in Nicaragua had a gender unit. This institutional arrangement created an entry point for sharing findings from the gender and agricultural policy analysis, and the institutional organization allowed for more free-flowing communication. The ministry officials had more capacity to act upon the information and results shared by the project and were able to consider incorporating them into environmental plans for certain regions of Nicaragua in which they were involved. The CCAFS researchers also found a window of opportunity to contribute to an ongoing process in Peru to develop a gender and climate action plan which took place early in the project. Joining in this external process provided the opportunity to contribute knowledge and evidence developed by CCAFS on gender and agriculture under climate change.

The engagement through the GSI and East Africa teams in the AGNES group was also an example of the benefits of joining an external process. The connections formed with AGNES members from various countries opened opportunities to participate in national processes that were underway. One example arose within the Kenyan Ministry of Agriculture, Livestock, Fisheries and Cooperatives. The Ministry had embarked on a process to develop a gender policy for the agricultural sector, but it had stalled for several years. When the ministry was ready to restart the process, CCAFS was able to join with the Ministry and other partners to help move it forward.

Use research products to build scientific credibility

This principle emphasizes the use of a strategy based on high-impact publications, research, and open access policies to enhance researchers' scientific credibility and thus support science-policy engagement processes. In general, the CCAFS program constructed a firm foundation of scientific outputs that established it as one of the leading research programs on climate change and agriculture. Several high-impact papers explored the projected impacts of climate change on crop yields and livestock production systems (Thornton et al., 2014; Thornton and Herrero, 2015; Campbell et al., 2016; Aggarwal et al., 2019), and decision support tools designed to help weigh trade-offs along with contributions to other global and regional reports established the scientific credibility of the program.

More specifically, the outputs of the projects covered in this study helped build the reputation of the program and its projects as carrying out relevant research on gender and equity concerns. Several projects conducted an analysis of the extent to which gender concerns were integrated into climate and agri-food systems policies, and these formed a basis for influencing climate change policies and working toward making them more gender-responsive. Such analyses were conducted in most of the regions, and results were presented to a range of stakeholders for feedback. Continuous action research and scenario analysis were instrumental in guiding climate policy actions. The outcomes span across scales from international to local levels, including submissions of position statements to UNFCCC which culminated in the UNFCCC's Gender Action Plan and National Action Plans. These then influenced regional and national policies, enhancing stakeholders' commitment to integrating gender in policy processes.

In the partnership with AGNES, the CCAFS researchers who participated in the semi-annual meetings contributed evidence of the impacts of climate change on gender inequalities which were used to help support the submissions to UNFCCC. The group produced policy briefs out of the IPCC Special Report on Climate Change and Land, including a special gender-focused brief *(Closing the Gender Gap in African Agriculture in the Face of Climate Change*; AGNES, 2020). This was created because of the value placed on gender issues by the leader and supported by members of AGNES. Collaboration with AGNES also led to a background paper on gender implications of the Koronivia Joint Work on Agriculture that provided information to African negotiators prior to the meetings of the UNFCCC Subsidiary Bodies (Masiko et al., 2019). Another collaborative output was a conceptual framework, supported by the CCAFS GSI team, that helped guide countries in integrating gender into climate policies (Chingarande et al., 2020).

In West Africa, the CCAFS regional team and GSI team helped support the development of a gender, climate and agriculture profile for Ghana. This work was undertaken to help address the need for data and evidence on gender dimensions of climate smart agriculture (CSA) practices and gender differences in agriculture and climate change. It was noted by several projects that lack of data on gender in agriculture and the gender dimension of CSA practices at national levels made integration of gender considerations difficult in the policy process. The work in Ghana revealed an urgent need for a comprehensive census at the national level and establishment of a monitoring system to ensure that credible information is made available on a

continuous basis as a foundation for effective decision-making. Participation by CCAFS researchers in establishing such systems using validated research instruments aided in building the program's credibility.

In PACCA in Uganda, learning alliances were formed and gender issues were presented at each meeting to broaden stakeholders' understanding of the concerns related to gender and climate change, enhance appreciation of their importance, and develop skills to integrate gender in climate-related policies. This project incorporated such issues at each learning alliance meeting because of the understanding that gender-focused policy engagement needs to incorporate awareness-raising and capacity building at each governance level and be underpinned by solid research that can support the integration of gender concerns in policy discussions. In addition to research products focused on gender concerns, the project also provided information on the current climate and possible future climate scenarios as part of the effort to build scientific credibility in other areas in addition to gender research.

The CliSM project on agro-climate information services (ACIS) for women and ethnic minority farmers in Southeast Asia also used the provision of credible scientific outputs through action research to help build credibility and inform policy processes. A knowledge generation platform was established to share lessons on the provision of ACIS to women and minority farmers that were applicable to policy development and revision. The evidence generated by the platform was then used in ongoing policy dialogues with stakeholders and helped to scale the project activities from sub-national activities to the national level.

Sustain co-learning throughout policy engagement and implementation

Co-learning and co-production of knowledge are key to the stakeholder engagement process to generate products suited to stakeholder's needs. During the engagement processes, projects used different strategies to elicit perspectives on specific issues. For instance, within the collaboration with AGNES, the strategy used to address gender issues was to have a separate group during workshops to develop the relevant gender submissions outlined in the Paris Agreement follow-up process. CCAFS gender experts also participated in co-developing the knowledge products described above in principle four. The separate gender and agriculture groups of AGNES would meet and develop their submissions in parallel but then present to each other at the end of the workshop so that they could each comment on the work of the other. In this way, gender concerns also became integrated into the agriculture submissions. One of the respondents, an engagement specialist from East Africa, recounted the early days of AGNES meetings:

> *During the meetings, when the discussions were going on and gender kept coming up, a group was set aside to focus on gender issues. There were deliberate discussions to include gender in UNFCCC negotiations. As AGNES, during the workshops, the agriculture and gender groups meet separately but also try to encourage gender experts to join the "agriculture" group to ensure the work of the agriculture group contains a gender element. The gender and agriculture groups sit together and go through each other's submissions for an opportunity to give feedback.*

Within PACCA, the learning alliances were key to gaining a better understanding from the stakeholders of what the barriers were and what possible solutions they proposed for improving integration of gender concerns in policies. Developing and carrying out those solutions jointly ensured that the stakeholders had buy-in to the process and were more likely to act as a result.

The Shaping CAC Policies project worked with the CCAFS Latin American regional team to collaborate with stakeholders in the region and produce policy briefs. The CCAFS researchers requested stakeholder input and shared the briefs with them. The project team distributed a newsletter to them to ensure regular contact.

Co-learning and co-production of knowledge were also key in the CliSM project in Southeast Asia. In the first phase of the project, a participatory scenario planning approach was designed based on the understandings of local contexts and stakeholders. Agro-climate information obtained during the preparations was communicated in the workshop by the facilitators. During the workshop, the participants consolidated and acted upon this information in combination with local knowledge and technical/scientific information to produce agro advisories. These agro-advisories were communicated amongst the local community through various channels, and the evidence of their use was then fed back into policy dialogue processes.

Tackle power and influence

While this principle advises researchers to be aware of gender and other power differences during engagement processes, active attempts to integrate gender-responsiveness into policies resulted in certain difficulties encountered by the CCAFS projects. Several project respondents mentioned issues of power among stakeholders. The CCAFS researchers working on Shaping CAC Policies discussed how the Ministries of Gender and ministerial gender units in Latin America did not have much power to decide or influence the Ministries of Agriculture to adopt the

indicators they were recommending. According to one of the researchers involved:

> *"In the case of Guatemala, there is a lot of interest in gender, but their hands were tied on how much they can do as the gender unit of the ministry. They might not necessarily have the decision-making power for instance to determine which gender indicator the ministry is going to use to measure and monitor issues of gender. When we asked them about the issues to monitor to see where we could influence, it was quite clear to me that they might be able to say what they think or what they would like to, but the gender unit does not have the decision-making power, or they might not even be involved when deciding these indicators. They would tell us the gender unit does not have the power to decide on the indicators or the extent to which gender issues are going to be included in the project. They might not even be part of the process of decision-making."*

In East Africa, researchers from the CCAFS regional team indicated that providing funding to the stakeholder engagement processes increased the power to suggest inputs, while those who were not providing funding had less power. Another problem encountered by the CCAFS projects was that stakeholder engagement processes were often conducted with technical officers within ministries who often do not hold much power compared to the actual policy and law makers (high level ministry officials and national legislators). Within the AGNES group, some of the members did serve on their country's negotiations team, but others were only in an advisory capacity to the negotiators who had a seat at the UNFCCC table. One major obstacle encountered in the AGNES engagement was the power of the chair of the AGN to decide whether to formally submit the gender submissions that were prepared. In at least one instance, the gender submission that was prepared by the gender team members in AGNES was not submitted on behalf of the AGN because it was not considered relevant.

In the Nepal activity led by the CCAFS SA regional team, in which women decision makers were taken for site visits, one of the challenges faced after those visits was the inability of some of the local level policy makers to directly influence higher-level policy. They were unable to make themselves heard in the final planning processes at higher levels. One of the respondents noted, "there was no rejection to introduce gender in policies but there was a tension between policy (theory) and practice among the actors in the local reality."

Invest in and monitor capacity enhancement

A key effort in which to invest time and effort is in developing the capacity of next users and research partners to integrate gender concerns into their work and in monitoring that progress. For technical officers in government ministries who studied agronomy or other biophysical sciences, the introduction of concerns around gender sensitivity and responsiveness of policies may be new to them. CCAFS projects designed ways of building the capacity of gender researchers and others not directly involved in such research to improve the use of gender-based evidence in policy review and design. Making gender part of each discussion on climate change policy and diversifying mechanisms to disseminate information about gender were crucial activities.

The language used to articulate gender issues and the importance of integrating gender in policy was a critical element in getting stakeholders' buy-in. This was mentioned by respondents from PACCA and the Shaping CAC Policies projects. One of the gender experts reported:

> *A lot of us are researchers or academics and you can be theoretical but it's not helpful when you're trying to talk with someone in a ministry. As gender specialists, we have to explain why gender-responsive policymaking is as important as gender integration in projects.*

Within the AGNES partnership in Africa, a major emphasis on capacity enhancement benefited the AGNES members by improving knowledge of gender and climate change issues and providing support in international negotiations. The CCAFS GSI project team supported several African gender researchers to attend the UNFCCC Conference of Parties (COP), where specific networking and capacity building events were held. There were mentoring relationships that developed out of these events, and the attendees had opportunities to experience side events as speakers and participants. The GSI team also helped support AGNES events in Kenya and Senegal where capacity building was a focus alongside development of the UNFCCC submissions. Another capacity building event was a training of Tanzanian Parliamentarians that helped enhance the understanding of lawmakers about the impacts of climate change and the importance of gender-responsive policymaking. As a result of this cumulative capacity enhancement work, the African Development Bank established a program, implemented by CCAFS, for further development of capacity to mainstream gender concerns into climate policies and negotiations: the Inclusive Climate Change Adaptation for a Sustainable Africa (ICCASA) program.

In the Shaping CAC Policies project, close work with the gender unit within the Guatemalan Ministry of Agriculture resulted in a series of workshops to build their capacity to introduce gender issues in climate change, agriculture and food security activities. The outcome of the workshop was a gender guide that they used in further workshops with about 20 organizations in Guatemala. The gender guide helped inform institutions in Guatemala on how to introduce gender at the

design, implementation, and monitoring stage. The Ministry of Agriculture Gender Unit also used the guide to develop a more specific manual for extension agents to help integrate gender considerations in their field work. Guatemala presented the guide to the Gender Network of the Central American Agricultural Council, which motivated other countries to tailor the guide to their specific contexts. For example, Honduras has developed its own guidelines for gender and CSA based on the experience of Guatemala. A larger project, Resilient Central America, is using the manual to diagnose the level of gender integration in the formulation of the Climate Resilience Plan for the bean value chain in Honduras. The Shaping CAC Policies project also worked on capacity building within universities, focusing on including gender issues in technical curricula. The activities were designed and implemented because there were people in some ministries and development organizations who had some basic awareness of the importance of gender considerations for policymaking, but there were other people who were not aware of thinking that way. The capacity building was important to get everyone to the same level of understanding of the importance of incorporating gender considerations in policy and program design.

Mainstream higher-level goals

This principle proposes mainstreaming higher-level goals of poverty reduction, gender equality, social inclusion, environmental sustainability, and improved nutrition in policy engagement efforts to help focus on development outcomes. CCAFS made efforts to mainstream high-level goals within the development of various climate mitigation and adaptation mechanisms and instruments across the focus regions. This has resulted in the development of gender-responsive CSA frameworks for Kenya, Uganda, Tanzania, Namibia, and Botswana, a gender-responsive Nationally Appropriate Mitigation Action (NAMA) for Kenya's dairy sector, Nigeria's Gender and Climate Action Plan, long term climate-resilient strategies for Uganda, and guidelines for gender integration in agriculture, food security and climate change policies in Latin America. In Southeast Asia, the CliSM project engaged with decision makers on developing climate-information services and adaptation planning, which are priorities of the focus countries to achieve higher level goals of food security and poverty reduction. The project concentrated on making such climate services gender-responsive. In Papua New Guinea, collaboration between the CCAFS GSI team and Women in Global Science and Technology (WISAT) through the UNDP Climate Promise initiative resulted in significant integration of gender and social inclusion text in the updated NDC, including a major section in Means of Implementation (Climate Change Development Authority, 2020).

Gender can sometimes be discussed as an issue and written into a policy as a formality at the national level, but gender discourse may be neglected as those national policies are translated down to the subnational level (Acosta et al., 2019a). These tensions between the formal discourse of gender equality and the informal, local discourse, were documented by the doctoral researcher affiliated with the IITA-led project in Uganda and Tanzania (Acosta et al., 2019a,b). There is a tension between what is politically correct—having gender language included—and what it implies in practice. The language used to articulate the importance of integrating gender in policies and the meaning that actors attach to "gender" can also be problematic. Other respondents noted the need to avoid being seen as "activists", as this deters stakeholder's interest in addressing gender issues in policy. This also relates back to the principle of building scientific credibility.

One of the respondents from Latin America recounted:

> *It looks like gender issues are important in the region including the fact that we are writing all these documents. It looks like there are many documents about gender but it's only on the paper. The more I work on gender, the more I realize that it's politically correct but then at the same time, when these actors talk about or explain how they address gender issues, it is very clear that they do not necessarily make a good effort to introduce these gender issues.*

It was noted by the CCAFS East Africa regional team, however, that increased recognition of gender issues at UNFCCC is influencing their importance at national levels and spurring countries to create gender focal desks.

Create mechanisms for internal learning

This principle entails processes that allow for reviewing the theory of change, re-aligning the strategy for impact, and seizing emerging opportunities to be successful. Within the interviews conducted, this principle was noted as having received the least emphasis within the various projects. A recent review of the whole CCAFS program noted that, in general, the program's theory of change is not revisited in a systematic manner (CGIAR Advisory Services (CAS) Secretariat, 2020). The CCAFS GSI leader did discuss and coordinate with the Program Director and leaders of the flagship and regional programs, however this was not formalized. Lack of a systematic monitoring and evaluation (M&E) system to track the outcomes was cited by respondents as an issue, with no indicators to measure progress toward gender equality in the face of climate change. This had been noted as a challenge earlier, and a study on possible gender-related policy indicators which can be used to monitor projects' progress has been published to aid CCAFS in addressing this issue (Tavenner et al., 2020). Respondents also cited a lack of

evidence-based recommendations to inform decision-making as a challenge. The PACCA project undertook an analysis of the integration of gender issues in national and subnational policies and budget and developed recommendations (Ampaire et al., 2020) which helped inform the project design. In general, CCAFS undertook efforts to collect and present good practices and lessons learned from its projects in the form of Info Notes and other communication products targeted both to an external audience and internal staff.

Communicate strategically and actively

This principle proposes that research for development efforts should develop communication strategies to link closely with the identified impact pathways. Several strategies were used to aid communication among different stakeholders. Communication channels included electronic platforms (e.g., email, newsletters, blogs, social media, and websites), physical platforms and written material, such as policy briefs. The mode of communication varied with the type of stakeholder, objectives of the engagement and timing. Farmers were engaged at the farm level using field visits as platforms for consultation and sharing information while policymakers, decision makers, development practitioners, donors and researchers were engaged through meetings, workshops, learning alliances, conferences, and other online platforms (such as webinars, email and websites). Interviews and focus group discussions were used to create a feedback loop among stakeholders.

The frequency of engaging with stakeholders ranged from weekly, monthly, quarterly to biannually. Regular interactions with stakeholders improved the ownership of the project. However, in certain instances, stakeholders did not maintain consistency in participation as new stakeholders came on board, and others dropped off. This is not a concern limited to engaging with decision makers on gender issues; it is a general issue in working with governments as administrations change through elections and ministry officials change as well.

One effective way that respondents mentioned to communicate strategically was using champions to give voice to the issues. CCAFS support in the form of financial contributions to meetings or travel to international events for gender champions in both Kenya and Uganda helped raise the profile of gender issues within climate change discussions. This strategy within AGNES kept gender integration at the forefront in climate change policy discussions and was very valuable in pushing work forward.

Discussion

Applying the 10 principles to analyze the data revealed an interplay between the principles. The principles reinforce each other, thereby aiding advancements in stakeholder engagement processes. Several approaches were applied across the projects and yielded promising outcomes as discussed below.

Strategic stakeholder identification and linkages across the scale

Overall, understanding the local context and type of stakeholders to engage was a very critical entry point in engaging stakeholders on gender and climate change policies. The identification of stakeholders and participants in influential positions with interest in gender issues helped the project staff work closely on agriculture and climate-related policies and integrate gender considerations. Making connections between different governance levels (regional, national, and subnational) nurtured consistency in implementation of integrating gender concerns into policies. This finding confirms the conclusion by Barletti et al. (2020) that projects implementing multistakeholder forums must be designed for engagement and create loops across scales. For instance, the use of learning platforms at different governance levels in Uganda facilitated the harmonization of policy requirements between levels. Working with the regional body in CAC fostered the scaling of good practices in the region. Additionally, working closely with next users such as the ministries and regional bodies facilitated the integration of gender issues in the ministries and the scaling of interventions at regional, national and sub-national levels. This implies that stakeholder identification and engagement need to be strategic to include influential stakeholders who can facilitate the institutionalization of gender mainstreaming at different levels and hold institutions to account for gender equality outcomes. Working on existing draft policies stimulated partners' interest and willingness to engage and act upon proposed recommendations.

Although these approaches were effective, they may potentially result in selection bias and exclusion of minorities (Leventon et al., 2016). The role and relationship of the researcher with stakeholders is very critical for people to open up and contribute to addressing the issue being put forward. Good rapport between the researchers and stakeholders aids the cultivation of a mutually supportive role, with each stakeholder playing their role without raising their expectations (Herron and Zoraida, 2018).

Regular communication and monitoring and evaluation (M&E)

The use of diverse modes of communication improves the reach, transparency and acceptance of research results and helps stakeholders to develop a shared understanding of the objectives

of the engagement (Mulema and Mazur, 2016). Project staff used in-person meetings, emails, phone and video calls and newsletters to remain in contact with stakeholders. This regular communication developed a sense of ownership and fostered the adoption of the results in national plans, strategies and policies. For instance, in Vietnam, the outputs of the CLiSM project's agro-advisories workshops were adopted by the local governments and people's organizations which also facilitated behavioral change.

Communication relates to M&E in the context of measuring the effectiveness of stakeholder engagement because engagement is not possible without clear and regular communication efforts. "Engagement … seeks to overcome alienation, foster communication, and stimulate reform" (Taylor et al., 2003, p.261). Monitoring progress toward gender-responsiveness policies is different from monitoring, evaluating and learning from engagements with multiple stakeholders (see Tavenner et al., 2020). In terms of M&E for engagement processes, lessons that can be drawn from the projects profiled here include documenting several factors that can contribute to fruitful partnerships. Keeping records of the length and nature of the relationship with key partner organizations, tracking the number of outputs that are co-produced, documenting the types of stakeholders represented during participatory processes, noting any marginalized groups that need further representation, periodically revisiting any prior theory of change together with key partners, and noting where adjustments should be made can all help demonstrate the depth of the engagements undertaken.

Gender analysis and capacity development

Gender analysis of climate change and agri-food policies enabled the stakeholders to identify the points of leverage, allocate resources to the partnerships, strengthen capacities, and build scientific credibility. Working with policymakers who had already been trained or previously involved in gender-related projects facilitated by the researchers generated more positive results. The policymakers who had prior knowledge and skills in incorporating gender considerations in projects and had already established a working relationship with the researchers were more readily able to include gender-specific recommendations into their government plans and delivered on the outcomes more easily. This was more evident in the CAC region. Gaining the trust of stakeholders before their involvement in the process and nurturing this trust throughout the engagement process fostered success in regions although it varied. Champion (2007) and Champion and Wilson (2010) emphasize the importance of longer-term relationships of any engagement and argue for ongoing collaborative processes rather than single, one-off events to cultivate trust. The lessons synthesized here support this finding.

A challenge to the principle of capacity enhancement mentioned by several projects was the effect of staff turnover or inconsistency in participation. Individuals who participate in such capacity development sessions may be shifted to other ministries or departments, leaving a gap in the position they vacated. This has also been documented in the health sector where attempts to build capacity in noncommunicable disease prevention suffered setbacks due to high staff turnover within ministries (Juma et al., 2018). Similarly, bringing people together in multi-stakeholder meetings for capacity building is effective but it is difficult to maintain the same attendees each time. Additionally, the language and tone used to articulate the importance of including women and girls in climate change and policy debates proved to be critical in cultivating the buy-in of policy actors.

Managing power relations

The stakeholder engagement processes were characterized by power imbalances that influenced stakeholders' voice and agency. Although women leaders and the institutions with the mandate to address gender issues were involved in specific processes, their participation did not necessarily transform power relations among actors, a finding in line with Chandra and Shmelev (2017) who note that power analysis is rarely addressed in the CSA literature and that power relations can shape the policies around gender, agriculture and climate change. Positionality and patriarchal gender norms influenced the extent to which stakeholders committed to fully engaging women in decision-making forums and implementing gender-responsive policy actions that call for greater equality. For instance, the representatives from the Ministry of Gender in Central America and women leaders in Nepal were not considered fully legitimate decision-makers. Patriarchal relations remained firmly entrenched and were difficult to challenge. This was also documented in Nepal, where findings showed that the implementation of climate change adaptation policies was influenced heavily by power relations (Nagoda and Nightingale, 2017).

These dynamics were also experienced in the engagements facilitated by AGNES, hindering the submission of gender position statements at the UNFCCC. Norms that place men in decision-making roles contribute to male dominance in decision-making platforms, in addition to other factors, such as ethnicity, that constrain women from taking advantage of available opportunities. The disparities between the international gender mainstreaming ideology and local meanings of gender mainstreaming which influence the policy interactive processes are well documented (Wittman, 2010; Acosta et al., 2019a,b). The respondents did not offer concrete

recommendations or lessons learned on how to improve the management of power relations, making this area one that deserves more research and understanding of how to overcome these challenges.

Identifying leverage points through science and co-production of knowledge

The use of scientific evidence enabled the researchers, policymakers, and other stakeholders to contextualize the problem, the type of engagements needed and the actions to be undertaken, which helped tap into already existing interventions. These findings are akin to Gumucio and Tafur Rueda (2015), Paudyal et al. (2019), Ampaire et al. (2020). The engagement of policymakers and decision-makers in the co-production of gender analyses (particularly from the policy arena) resulted in policy briefs that identified gender-related gaps and informed the actions to be undertaken (Masiko et al., 2019; Chingarande et al., 2020; such publications include AGNES, 2020). Those policy briefs then served as leverage points through which to further advance collaborations, similar to a finding of Harvey et al. (2021) which identified policy briefs as boundary objects through which the spheres of decision-making and science could be linked.

Several interactive approaches were applied across the regions to aid in co-learning and co-production of knowledge that informed the policies. The guidelines, manuals, and briefs served as steppingstones toward capacity development to foster the implementation of proposed actions and cultivate stakeholders' commitment. Co-production of gender-related outcomes created ownership of the outcomes and their application. Being physically present in the country was critical for continuous and sustained learning. Modalities needed to be in place to facilitate continued learning and exchanges among policymakers and other stakeholders. Regular interactions to review progress and develop corrective measures are a necessity for successful engagements. Action plans and resources need to be in place to hold stakeholders to account to the public. Collaborative development of strategies, guidelines and action plans that mandate the integration of gender in climate policies facilitated the implementation of policies and actions developed and lack of these resulted in non-implementation of plans or inadequate resources allocated to facilitate effective implementation.

Conclusions and recommendations

This paper has used both empirical research and a literature review to synthesize CCAFS's experiences in engaging multiple stakeholders in gender and climate change policy processes. Despite the increased recognition that women and men play different roles in agriculture, have different preferences, and are affected by climate change differently, climate change policies have not fully integrated gender. Stakeholder engagement is touted as a critical ingredient in climate change policy decisions and governance to address gender inequalities in agriculture under climate change. Using the framework of the principles for AR4D, the analysis shows that diverse stakeholders were engaged in the gender and climate change policy processes undertaken by CCAFS, with the Ministries of Agriculture and regional bodies being the main stakeholders. Our main conclusions from this work center on (1) the types of stakeholders and how they are engaged, (2) the co-production of policy research findings to build credibility, and (3) the importance of addressing power and influence in policy processes.

First, we found that stakeholders engaged by the CCAFS projects on gender issues were strategically identified since the topic is not universally accepted as necessary in climate policy. This had to be accompanied by gender awareness and capacity development to challenge the stereotypes and get the stakeholders' buy-in to the integration of gender in climate policy. Respondents reported that introducing gender concerns into agriculture and climate policy can be a challenging and daunting process where policymakers lack the awareness and capacities to diagnose and address gender issues. The results show that identification and engagement at multiple governance levels of influential stakeholders with an interest and prior experience in gender integration helped facilitate harmonization, institutionalization, and scaling of gender mainstreaming initiatives at different scales–to some extent–by influencing other actors.

Second, the findings illustrate that gender analysis of existing climate change and agri-food policies was a critical step toward initiating stakeholder engagement on gender and climate policy issues. Research evidence enabled the project staff to identify the points of leverage to strengthen the engagement of relevant stakeholders, allocate resources to the partnerships, strengthen capacities, and build scientific credibility in gender-smart climate policy. The process was mediated by effective mechanisms for communication, co-learning, and knowledge production to advance gender in climate policy documents.

Third, data from this study show that tensions are inherent in engaging multi-stakeholders in climate policy processes that address gender issues. Stakeholder engagement processes that tackle gender inequalities in climate policy need to recognize the existing power structures and stakeholders' relations that influence the equal treatment of women and men, considering other factors that intersect with gender, e.g., age, ethnicity and geographical location. Although the gender unit of the ministries and other gender experts were involved in the processes, they had less power to influence the inclusivity of agriculture and climate-related policy decisions at the regional and national levels. This relative lack of power might be attributed to cultural norms, the gendered language, and social structures in place.

For example, in a patriarchal society the cultural norms of prioritizing cash crops in agricultural policies may hamper efforts to make policies gender sensitive. In terms of language, referring to farmers only with male pronouns may preclude associating farming activities with women. Alternatively, in languages that are gender neutral or that use masculine plurals to refer to both genders, special attention is needed to ensure that policy text is gender-sensitive. Social structures within ministries that place gender units on a lower rung than other units may reduce their ability to influence policy processes. We also found that the lack of systematic monitoring systems can lead to gaps in the availability of gender-disaggregated data to inform decisions and co-learning among stakeholders, making it difficult to track whether decisions improved livelihoods and gender equality outcomes more widely.

Our recommendations stemming from this research address the three major conclusions. First, we recommend that projects seeking to address gender or other topics with similar sensitivity be strategic in engaging stakeholders already sensitive to gender concerns to help advance the agenda while simultaneously putting in effort to build capacity and awareness among influential stakeholders who have not yet fully embraced the topic. This can aid in navigating toward specific points of leverage, such as integrating gender concerns into an ongoing policy process. Second, we recommend that other projects hoping to engage with policymakers invest time and resources in establishing their scientific credibility while also co-learning and co-developing knowledge with stakeholders. Building trust in these relationships takes time and engaging in joint policy analysis or other types of research with the identified stakeholders can help build this trust. Third, power dynamics can affect policy processes. Although multi-stakeholder approaches aim at bringing interdependent stakeholders together to find solutions to complex problems, putting the right people together does not automatically generate an inclusive and equitable process. For example, different stakeholders in a meeting or policy forum may have diverging perspectives or different opportunities to express their views, and may be listened to differently, creating winners and losers. Both policy practitioners and researchers will need to be aware of these dynamics in the context of multi-stakeholder processes, to facilitate inputs and articulation of perspectives from all stakeholders. Therefore, we recommend that gender practitioners and researchers develop the necessary skills to manage power dynamics in multi-stakeholder processes. Such skills can be pursued through capacity building courses in negotiation and other soft skills training courses. Finally, we recommend that more active and systematized mechanisms for internal learning be integrated in evaluation of policy engagement by researchers together with practitioners and policy partners, through consultation, analysis and resulting co-production of revised strategies for policy engagement.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

AM and LC designed the data collection instruments, collected data, and analyzed them. The first draft of the manuscript was written by AM and LC with input from SH. All authors contributed to the study conception and design. All authors read and approved the final manuscript.

Funding

This work was implemented as part of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), which was carried out with support from the CGIAR Trust Fund and through bilateral funding agreements. For details, please visit https://ccafs.cgiar.org/donors. We also acknowledge the funding from the International Development Association (IDA) of the World Bank to the Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) project.

Acknowledgments

The authors would like to thank the respondents who gave their time for interviews and email discussions regarding the topic. We also thank Dr. Philip Thornton, CCAFS Flagship Leader for Policies and Priorities for Climate Smart Agriculture for his guidance and feedback on earlier drafts. We thank the local research and development partners, and communities that we work with.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fsufs.2022.862654/full#supplementary-material

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