

Stakeholder engagement in gender and climate change policy processes: Lessons from CCAFS

Working Paper No. 349

CGIAR Research Program on Climate Change,
Agriculture and Food Security (CCAFS)

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RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



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About CCAFS

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Abstract

With the rapid increase in the dynamics caused by climate change, policies governing climate change have proliferated while the integration of gender considerations to address the 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. However, detailed methods and outcomes of gender-responsive stakeholder engagement processes for climate change policy development are rarely published. This paper uses a CCAFS-developed framework of 10 stakeholder engagement principles to examine the stakeholder engagement processes in the gender and climate change policy arena in the context of CGIAR's Research Program on Climate Change, Agriculture and Food Security (CCAFS). We analyze both primary and secondary data to understand the categories of stakeholders engaged, methods of engagement, and the outcomes and lessons learned across five regions. Our results show that analysis of the existing policies and programs is a very critical entry point for identifying the points of leverage, the type of stakeholders to engage and how to engage them in the processes that focus on integrating gender in climate policies. 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. Co-learning and co-development of knowledge products cultivate interest and commitment among stakeholders to address gender issues, 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.

Keywords

Gender, stakeholders, policies, climate change.

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Introduction

Climate change affects food production directly and indirectly, through crop and livestock loss, decreased employment opportunities, and climate-induced human migration associated with climate impacts on agriculture, among many other pathways (IPCC, 2018). 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). 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 the local context (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 to sustain 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 agriculture in the wake of climate change (Chanana-Nag and Aggarwal, 2020; Gumucio et al., 2019; Huyer, 2016; Huyer and Partey, 2020). These are influenced by sociocultural and gender norms that need to be addressed to reduce the vulnerability of women and men to climate change effects (Alston, 2014).

Climate change is likely to perpetuate existing social (IPCC 2014) and gender (Dankleman, 2010) inequalities. Recognition of the differential realities between women and men 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 climate change mitigation and adaptation measures, posing threats to global food systems (Huyer, 2016).

One of the major challenges in addressing climate change is the disconnect between stakeholders including the scientific community, politicians of various countries, 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 offered by research. While there is agreement about the need for stakeholder engagement in climate change decision-making processes, detailed methods and outcomes of stakeholder engagement for climate change policy development are rarely published, particularly approaches that address gender equality in climate policy. 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.

This paper presents a synthesis of stakeholder engagements, outcomes, lessons learned and good practices of engaging multiple stakeholders in integrating gender considerations in climate change and agriculture policies drawing from the experiences of the CGIAR Research Program (CRP) on Climate Change, Agriculture and Food Security (CCAFS). We articulate the kind of research conducted, the key stakeholders and how they were involved, outcomes of different engagements, the lessons learned (including successful approaches), challenges experienced, and gaps requiring further research. We analyze stakeholder engagement efforts in five regions: East Africa, West Africa, South Asia, Southeast Asia, and Latin America, although the analysis extends to continental levels. By consolidating this information, we hope to contribute to the literature documenting lessons on stakeholder engagement regarding climate change and gender-sensitive policy analysis and design.

Analytical framework

A stakeholder is 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 a stake 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, information exchange and coordination, with the 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 (Fliaster and Kolloch, 2017; Gregory et al., 2020; Pouloudi et al., 2016).

We employ the framework of principles for effective agricultural research for development programs 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 below. 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.

Table 1. CCAFS stakeholder principles

<p>1. Navigate toward specific points of leverage</p>	<p>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 have the ability to drive change.</p>
<p>2. Allocate resources in three thirds</p>	<p>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.</p>
<p>3. Join in external processes</p>	<p>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.</p>
<p>4. Use research products to build scientific credibility</p>	<p>Enhancing credibility, i.e., scientific adequacy of technical information, is key to successful science-policy engagement. Cash et al. (2003) found that 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.</p>
<p>5. Sustain co-learning throughout policy engagement and implementation</p>	<p>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.</p>
<p>6. Tackle power and influence</p>	<p>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. Also, in the context of power and influence, the United Nations Environment Program has called for gender equality in all science-policy activities, to avoid aggravating existing inequalities (UNEP 2017). This principle proposes that researchers should be mindful of gender and other power differences.</p>
<p>7. Invest in and monitor capacity enhancement</p>	<p>Strengthening the capacity of farmers and 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.</p>
<p>8. Mainstream higher-level goals</p>	<p>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.</p>

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 in order 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.

Source: Adapted from Dinesh et al. 2018.

Methods

The focus of this paper is on CCAFS projects that worked explicitly on engaging with stakeholders to integrate gender-responsiveness into government policies related to agriculture and climate change. Projects that were engaged with policy makers and addressed gender concerns as a sub-component of broader issues were not included because our main interest was in those activities for which gender sensitivity 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 served as the basis for a literature review during which we extracted such information as the types of stakeholders involved, the modes of engagement, frequency, challenges identified and results achieved. In total, we gleaned information from 27 documents which were a combination of working papers, project reports, blog stories and peer-reviewed articles. In addition to this literature review, we also conducted key informant interviews and email discussions with project leaders and other colleagues within the CCAFS research program to collect more detailed information and focus on issues that were not addressed in the literature such as power relations. We interviewed 12 CCAFS researchers involved in gender and policy engagement. The topic guide used for these interviews is included in Annex 1 and the positions and organizations of the individuals are listed in Annex 2. Data from the interviews were analysed using content analysis to identify emerging themes, meanings, and relationships. Data from both primary and secondary

sources were then analysed 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 period during which CCAFS has been in operation. While there were a few staff members who have been with the program since its inception, others joined more recently and some who had worked for CCAFS earlier in the program have since left. Our topics of interest as laid out in the analytical framework were not always written up in the project documentation, and so we had to piece together information from the key informant interviews with colleagues 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 we would have liked.

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, conducting policy analyses on the gender sensitivity of existing policies and assisting in policy revision with an aim to making specific policies more gender-responsive. We use the framework of stakeholder principles listed in Table 1 to analyze the activities related to engagement in policy processes involving gender concerns carried out by CCAFS projects. Table 2 below summarizes the projects, geographic scope, the types of stakeholders engaged, methods of engagement and outcomes of the engagement process. Fuller descriptions of the projects can be found in Annex 3.

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

Project name (Short form of name)	Project lead	Country	Kind of stakeholder	Type and purpose of engagement	Methods	Outputs and outcomes (successes)
Engagement, synthesis and support in gender (GSI project)	CCAFS Gender and Social Inclusion (GSI) team	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. AGNES, researchers, donors	Promote gender-inclusive climate policymaking, negotiations, and practices to reduce gender-based vulnerabilities and improve resiliency for both men and women across Africa; gender capacity development of decision makers and climate policy negotiators; gender inputs to climate policy	Webinars, meetings, trainings/ workshops, and communication through social media channels	Increased capacity and commitment of policy makers and Africa’s negotiators to mainstream gender in national and global climate change policy, 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

Project name (Short form of name)	Project lead	Country	Kind of stakeholder	Type and purpose of engagement	Methods	Outputs and outcomes (successes)
Regional and national engagement, synthesis and strategic research for East Africa (CAAFS EA regional project)	CAAFS East Africa regional team	Kenya, Ethiopia, Uganda, Tanzania	Ministries of agriculture and gender units, universities, civil society organizations (e.g. Africa Group of Negotiators Expert Support -AGNES), Regional Economic Commission, and donors	Using scientific evidence to influence climate change policy at national, regional and international levels, gender capacity development of decision makers and climate policy negotiators	Workshops, meetings, write-shops, webinars, conferences	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)	IITA	Uganda and Tanzania	Ministry of agriculture, Environment units, parliamentarians, private sector, universities, researchers, NGOs, media, farmer-based organizations, and donors	Gender analysis of agri-food and climate policies and budgets to inform the Policy Action for Climate Change Adaption, climate scenario analysis to inform policy	Desk reviews, workshops, validation meetings, multi-stakeholder platforms at district and national levels, info-notes, interviews	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

Project name (Short form of name)	Project lead	Country	Kind of stakeholder	Type and purpose of engagement	Methods	Outputs and outcomes (successes)
Regional/national synthesis, engagement and support in West Africa (CAAFS WA regional project)	CAAFS West Africa regional team	Ghana	Policy makers (Ghana Science Policy Platform), Researchers, Universities, private sector, civil society, NGOs, regional commission, CSV focal points, media	Developing a gender, climate and agriculture profile of Ghana	Science-policy dialogue platforms (national and district)	A gender, agriculture and climate change profile of Ghana with support from CCAFS GSI and Women in Global Science and Technology (WISAT)
Shaping equitable climate change policies for resilient food systems across Central America and the Caribbean (Shaping CAC Policies)	Alliance of Bioversity and CIAT and CCAFS Latin America team	Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Peru	Central American Agricultural Council (CAC), ministries of agriculture, Ministry of Environment, COMMCA, universities	Generating evidence of gender-sensitive climate-smart agriculture and policies, desk-based gender analysis of climate and agri-food policies, Scenario-based analysis for policy formulation	Workshops, training, webinars, meetings, emails, policy briefs, newsletters	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

Project name (Short form of name)	Project lead	Country	Kind of stakeholder	Type and purpose of engagement	Methods	Outputs and outcomes (successes)
Scaling-up strategies for climate risk management in South Asian agriculture (CAAFS SA regional project)	CAAFS South Asia regional team	Nepal	Ministry of Agriculture, Land Management and Cooperatives, Women members of parliament, local government, deputy mayors, chief of rural municipality and wards	Agriculture and climate change policy reviews for gender analysis, enhancing awareness and capacity of women leaders and policymakers on gender, agriculture, and climate change	Traveling seminars	Training guides developed; increased commitment of policy makers to integrate gender in climate change policies and actions
A Climate Services Menu for Southeast Asia (CliSM)	Alliance of Bioversity and CIAT and ICRAF	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	Develop Agro-climate Information Services (ACIS) for women and ethnic minority farmers and adaption planning	Participatory scenario planning workshops, interviews and focus group discussions, conferences, policy briefs, websites of influential institutions	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

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 being put forward for consideration, 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, 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 consideration 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 SA 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 post-doctoral researcher dedicated to the gender component of the research and engagement. The project also invested resources to understand the countries' contexts and analysis of stakeholders to engage 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 one of the key informants:

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 Gender and Social Inclusion (GSI) team, along with inputs from the East and West Africa regional teams, used a specific point of leverage with the Africa Group of Negotiators Expert Support (AGNES) group to contribute technical content to gender submissions to the UNFCCC, submissions to the Subsidiary Body for Scientific and Technological Advice (SBSTA), as well as supporting 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 of 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 the African Group of Negotiators 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 entails an approach that emphasizes engaging through partnerships and building capacity while also generating science. Partnerships for delivery and scale are central to the 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 allocating 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. 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 were stakeholder meetings, capacity building workshops, webinars, and learning platforms. The CCAFS SA regional work in Nepal also involved site visits to farming communities with 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 and building capacity. A good deal of the work with the AGNES group was investment of staff time in building the relationship and 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, and there were opportunities for cross-learning between the gender and

agriculture groups and joint capacity building on issues related to gender and climate change and other topics as well, such as how to contribute to reports produced by the Intergovernmental Panel on Climate Change (IPCC). The relationships built in these engagements also led to further opportunities, such as the involvement and support for a Gender and Climate Change Action Plan for Nigeria and the UNFCCC's Gender Action Plan.

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 external processes

This principle acknowledges building on existing processes rather than creating new processes and events. 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. CATIE had been doing projects that included gender capacity building and training for the partner organizations with which they were coordinating, and this made engaging with those decision makers who had been involved in CATIE's projects more fruitful. The ministry officials had more capacity to act upon the information and results that the project were sharing, and were able to consider incorporating them into environmental planning they were involved in for certain regions of Nicaragua. The CCAFS researchers also found a window of opportunity to contribute to an ongoing process in Peru's work on a gender and climate action plan which took place early in the project. Joining in this external

process gave 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 to joining an external process. The connections formed with AGNES members from various countries opened up opportunities to participate in national processes that were underway. One example arose within the Kenyan Ministry of Agriculture, Livestock, Fisheries and Cooperatives. The Ministry has 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 has constructed a firm foundation of scientific outputs that have established it as one of the leading research programs on climate change and agriculture. Several high impact papers have explored the projected impacts of climate change on crop yields and livestock production systems, and decision support tools designed to help weigh trade-offs along with contributions to other global and regional reports have established the scientific credibility of the program as a whole.

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 analyses 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 towards making them more gender-responsive. Such analyses were conducted in most of the regions, and results presented to a range of stakeholders for feedback. Continuous action research and scenario analysis have been instrumental in guiding climate policy actions. The outcomes span across the scale from international to local levels including submissions of position statements to UNFCCC which culminated into the UNFCCC's Gender Action Plan and National Action Plans,

influencing regional and national policies, enhancing stakeholders' commitment to integrating gender in policy processes, and knowledge management.

In the collaboration with AGNES, the several CCAFS researchers who participated in the semi-annual meetings contributed evidence on the impacts of climate change on gender inequalities which was used to help support the submissions to UNFCCC. The group undertook an exercise of producing 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, supported by members of AGNES. CCAFS supported AGNES for several years financially, technically and in identifying African gender researchers who could contribute to the group. 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". 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 is a conceptual framework, supported by the CCAFS GSI team, that helps guide countries on 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 profile of climate smart agriculture in Ghana (CCAFS 2020). This work was undertaken to help address the need for data and evidence on gender dimensions of 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 makes 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 the 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 used elsewhere aids 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 the skill 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 would provide 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 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 take action 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, actively trying to integrate gender-responsiveness into

policies resulted in certain difficulties encountered by the projects under study. 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). However, they have staying power, while the policy and law makers may change at every election, with resulting changes in policy-makers' interest. 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 or not 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.

In the Nepal activity led by the CCASF 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 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 in 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 have 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 and parcel of each discussion on climate change policy and diversifying mechanisms to disseminate information about gender has been critical.

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 the PACCA and Shaping CAC Policies projects. One of the key informants 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-sensitive policy-making is as important as gender inclusion in projects.

Within the AGNES partnership in Africa, a major emphasis on capacity enhancement has benefited the AGNES members by improving knowledge of gender and climate change issues and provided 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 law makers about the oncoming impacts of climate change and the importance of gender responsive policy making. 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 inclusion 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 policy making, 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 equity, social inclusion, environmental sustainability, and improved nutrition in policy engagement efforts to help focus on development outcomes. CCAFS staff have 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-sensitive 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 levels goals of food security and poverty reduction, and the project concentrated on making such climate services gender-sensitive. 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 and 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 can become 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; Acosta et al., 2019b). There is a tension between what is politically correct – having gender-sensitive 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 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 its politically correct but then at that 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 does discuss and coordinate with the Program Director and leaders of the flagship and regional programs, however this is 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 for improving the progress (Ampaire et al., 2020) which helped inform the project design. In general, CCAFS has undertaken 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 impact pathways identified. Several strategies were used to aid communication among different stakeholders. Communication

channels included electronic platforms (e.g. email, newsletters, blogs, social media, and websites), policy briefs, as well as interviews, and focus group discussions to get feedback. 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). The frequency of engaging with stakeholders ranged from weekly, monthly, quarterly to biannually. Regular interactions with stakeholders improve the ownership of the project. However, in certain instances, stakeholders did not maintain consistency in participation as new stakeholders come 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 through the use of champions to give voice to the issues. CCAFS support in the form of financial contributions to meetings or travel to international events for key champions in both Kenya and Uganda helped raise the profile of gender issues within climate change discussions. A strategic ally within AGNES kept gender-sensitive issues at the forefront in climate change policy discussions and was very valuable in pushing work forward.

Discussion

Applying the 10 principles of effective research for development programs to analyze the data revealed an interplay between the principles. The principles reinforce each other, thereby aiding advancements in stakeholder engagement processes. 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 issues. 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 as discussed below.

Stakeholder identification and linkages across the scale

The identification and selection of stakeholders and participants who were in influential positions and had an interest in gender issues helped the project staff to work closely on agriculture and climate-related policies or plans and integrate gender considerations in the process. Making connections between different governance levels -regional, national, and subnational levels nurtured consistency in implementation. For instance, the use of learning platforms at different governance levels in Uganda facilitated the harmonization of policy requirements between levels. Additionally, working closely with next users such as the ministries and regional bodies e.g. in Central America 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 already 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, although multiple iterations during snowball selection can reduce this likelihood (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).

Communications and monitoring and evaluation (M&E)

The use of diverse modes of communication improves transparency and acceptance of research results and helps stakeholders to develop a shared understanding of the objectives of the engagement (Mulema and Mazur, 2016). Projects used in-person meetings, emails, phone and video calls and newsletters to remain in touch with stakeholders. This 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 government and people's organizations which also facilitated behavioral change.

Communications 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). M&E for the progress toward inclusion of gender-sensitive and gender-responsive in policies is different from monitoring, evaluating and learning from engagements with multiple stakeholders (see Tavenner et al., 2020 for recommendations on the former). In terms of M&E for engagement processes, lessons that can be drawn from the projects profiled here include documenting a number of 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 jointly (co-)produced, documenting the types of stakeholders represented during participation processes and noting any marginalized groups that need further representation, and 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 capacity development

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 on 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 also delivered on the outcomes more easily. 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. Similarly, bringing people together in AGNES meetings for capacity building is effective but it is difficult to maintain the same attendees each time.

Managing power relations

Respondents noted that stakeholder engagement processes were characterized by power imbalances that influenced stakeholders' 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 et al. (2017) who note that power analysis is rarely addressed in the CSA literature and that power relations have the ability to shape the policies around gender, agriculture and climate change. Patriarchal 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 in control over resources. 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 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 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 (Acosta et al., 2019a; Acosta et al., 2019b; Wittman, 2010). 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 and the type of engagements needed and actions to be undertaken, tapping into already existing interventions (Ampaire et al, 2020; Gumucio and Tafur Rueda, 2015; Paudyal et al 2019). The engagement of policymakers and decision-makers in co-production of gender analyses of the existing situations (particularly from the policy arena) resulted in policy briefs that identified gender-related gaps and informed the actions to be undertaken (such publications include AGNES, 2020; Masiko et al., 2019; Chingarande et al., 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. It should be noted that in some cases, leverage points were not necessarily identified strictly through science but by the serendipity of being in the right place at the right time to be tapped to contribute to ongoing or planned processes.

Several interactive approaches were applied across the regions to aid co-learning and co-production of knowledge that informed the investment options. The guidelines, manuals, and briefs served as stepping stones 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 synthesized CCAFS's experiences in engaging multiple stakeholders in gender and climate policy processes using both empirical research and a literature review. Despite the increased recognition that women and men play different roles in agriculture, have different preferences, and that climate change impacts them differently, climate change policies have not fully integrated gender (see Huyer et al., 2020). 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 stakeholder principles, the analysis shows that a diversity of stakeholders were engaged in the gender and climate policy processes with the Ministries of Agriculture and regional bodies being the main stakeholders.

Stakeholders with whom to engage on gender issues were strategically identified since the topic is not accepted universally as necessary to include in climate policy. This has 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. 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. Identification and engagement of influential stakeholders at multiple governance levels, with an interest and prior experience in gender integration, facilitated harmonization, institutionalization, and scaling of gender mainstreaming initiatives at different scales -- to some extent -- by influencing other actors.

Gender analysis of existing climate change and agri-food policies was a very critical step towards initiating stakeholder engagement on gender and climate policy issues. Research 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.

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 which influence the equal treatment of women and men. 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 might be attributed to cultural norms, the gendered language structure, and social structures in place. This calls for researchers with an interest in gender and the skills to manage power dynamics in multistakeholder processes. 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. Going forward, more systematized mechanisms for internal learning can improve engagement processes and be even more successful in seizing opportunities to inform integration of gender concerns in agriculture and climate change policy making.

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Annexes

Annex 1. Topic guide for key informant interviews

- Over the past 10 years of implementing the CCAFS program, have you engaged stakeholders in policy dialogues that included discussions on gender?
- If yes, kindly give us more specifics about these engagements. Probing questions:
 - Who were the key stakeholders? (which ministry, which NGOs, etc)
 - Was the engagement something that was led by a CCAFS project or were CCAFS project scientists part of a larger activity that they were not central to convening?
 - What were the objectives/purpose of engagement?
 - Was the engagement centered around addressing gender issues within a specific policy?
 - Or did gender concerns get raised during a policy process that was not explicitly gender-focused?
 - How were the stakeholders identified, and who was involved in the process of stakeholder identification? Were there any gender considerations?
 - What did the engagement process look like? (frequency of meetings, length of involvement, etc)
 - What were the policies examined, if any, and the stage of policy?
 - What are the key lessons learned about good practices to use when addressing gender issues within policies?
 - What were the main challenges faced related to addressing gender in policies?
 - What were the outcomes/achievements related to the process?
 - How were arguments for and against specific gender issues related to the subject matter managed?

Annex 2. Positions and organizations of respondents

	Position	Affiliation
1	Gender Specialist	CIMMYT
2	Partnership Specialist	CCAFS/ILRI
3	Postdoctoral researcher	Alliance of Bioversity and CIAT
4	Postdoctoral researcher	IITA/ Alliance of Bioversity and CIAT
5	Project Leader	IITA
6	Regional Leader	CCAFS/ICRISAT
7	Science Officer	CCAFS/ILRI
8	Science Officer	CCAFS/Alliance of Bioversity and CIAT
9	Science Officer	CCAFS/IRRI
10	Science Officer	CCAFS/ICRISAT
11	Theme Leader	CCAFS/ILRI
12	Visiting Scientist	IITA

Annex 3. Project descriptions

All info is taken from the CCAFS website, <https://ccafs.cgiar.org/>

Engagement, synthesis and support in gender (GSI project)

The GSI team undertakes research to inform, catalyse and target CSA solutions to women, youth and other vulnerable groups, increase the control of disadvantaged groups over productive assets and resources, and increase their participation in climate-relevant decision-making. The project team also helps coordinate the integration of gender-focused research within other CCAFS projects. The team uses engagement with partners to share research and co-produce knowledge.

Regional and national engagement, synthesis and strategic research for East Africa (CCAFS EA regional project)

The project will evaluate, promote and increase access to a portfolio of CSA technologies and practices (crop, livestock and integrated soil and water management) across EA to transform and re-orient agricultural systems to new realities of climate change using an inclusive business development approach for CSA, including strengthening seed systems and capacity of farmers. Adoption and effects of CSA on agricultural productivity, food security, incomes, soil fertility and health, and building resilience and adaptive capacities, and potential to reduce GHG emissions and sequester carbon in agricultural systems will be

assessed. In addition, digital solutions and models for improving packaging and dissemination of climate services will be tested and promoted, including agro-advisories and market information in selected CSVs.

Through engagement, partnerships, communication and south-south initiatives, it will support sub-national, national and regional policy processes, strategies and initiatives on CSA. In order to mainstream CSA into country and regional policies, the project will work with national, regional and international policymakers, African Group of Negotiators for agriculture and civil society organizations to integrate CCAFS and CGIAR knowledge outputs and products to inform policies, strategies and initiatives for supporting CSA and inform implementation of countries' NDCs, NAPs and NAMAs. Key partners include farmer organizations, Ministries of Agriculture, Livestock, Environment, and Climate Change, national research institutions, CGIAR centers, national and international universities, regional and international organizations, NGOs and private sector. Gender and youth will be integrated throughout project activities, partnering with GSI, UN Women and the CSA Youth Network.

Policy action for climate change adaptation (PACCA)

The Policy Action for Climate Change Adaptation (PACCA) project sought to inform and link policies and institutions from national to local level for the development and adoption of climate-resilient food systems in Uganda and Tanzania. The project connected the scientific community with policy actors through learning alliances. Research evidence was generated through activities that included analyzing policy formulation and implementation processes, trade-off analysis, future socio-economic and climate scenario development, creating evidence-based gender awareness, and applied information economics.

The generated knowledge was exchanged with learning alliance members, who used it to implement policy engagement actions. The learning alliance participants included government technocrats and policy decision-makers, scientists, non-governmental organizations, private sector representatives and farmers' associations at national and sub-national levels.

The ambition was to encourage science-policy exchanges and create opportunities for stakeholders to express needs and current knowledge gaps, while educating participants

about climate issues. All activities aimed to better inform the implementation of climate-resilient policies that encourage the adoption of gender-responsive climate-smart agricultural practices across multiple scales in the two countries.

Regional/national synthesis, engagement and support in West Africa (CCAFS WA regional project)

This project intends to build on the achievements of CCAFS in West Africa to meet major development needs and strategically contribute to emerging policy initiatives such as the National Agricultural Investment Plans (NAIPs), Nationally Determined Contributions (NDCs) and development of climate-smart agricultural investment plans. The project uses socio-economic scenarios to understand complex interactions between socio-economic factors, political developments and climate change in order to generate policy recommendations that can be integrated into national agricultural development plans, strategies and programs. In addition, climate science, policy and environmental research, and agricultural modelling will be linked with food systems research and socio-economic scenarios to integrate climate concerns into food security and nutrition planning. Specifically, the project promotes climate-smart agriculture in the NDCs and NAIPs, as well as monitor agricultural contributions to them. The project assists countries in the development of eligible bankable projects to climate finance initiatives such as the Green Climate Fund. It uses climate science, food systems research and CCAFS scenarios methods to influence policy formulation that will permit the scaling up of science-evidenced climate-smart agriculture options, the integration of climate concerns into national policies and the enactment of plans and policies that increase investment toward improved access to diverse and locally acceptable diets. Finally, the project focuses on determining what kind of enabling environment is needed to promote inclusive, gender-equitable and responsible agricultural investments. To achieve the aforementioned objectives, already existing district and national multi-stakeholder policy dialogue platforms established by CCAFS shall be improved and technically assisted to lead the science-policy interfaces on climate change and climate-smart agriculture.

Shaping equitable climate change policies for resilient food systems across Central America and the Caribbean (Shaping CAC Policies)

This project works closely with countries and regional bodies in Central America to improve decision making processes, policy design and implementation to support more resilient food systems for improved food security and nutrition in the context of progressive climate change. We take stock of existing policies and regulations to understand barriers and success factors in order to inform more appropriate policy mixes to address the complex, cross-sectoral agenda of climate change, food security and nutrition. Through the development and analysis of exploratory scenarios and foresight, including on gender-related issues, and the modelling of possible impacts under climate change, we support the formulation of improved or new policies, decision making processes and governance structures at national and regional levels. By 2020 we will have contributed to an equitable and enabling institutional and policy environment for sustainable food systems under progressive climate change.

The project consists of four main components including policy mix analysis, explorative scenarios development, and modelling of food and nutrition futures in parallel to demand-driven policy engagement and gender analysis. The project will be aligned to an International Fund for Agricultural Development ([IFAD](#)) funded project "[A Common Journey](#)" led by CIAT on climate policy analysis and capacity building across countries and other field-based projects where implementation of policies can be showcased.

Scaling-up strategies for climate risk management in South Asian agriculture (CAAFS SA regional project)

This project is an intervention to scale-out weather resilient agricultural intervention through CCAFS's successful approach on Climate-Smart Villages (CSV). It strives to improve the adaptability and resilience of farmers in the relatively food insecure and vulnerable regions of India, and to use this evidence in supporting designs of large-scale climate adaptation programs being implemented or being developed in India and in neighbouring countries of Nepal and Bangladesh. A mix of locally relevant climate-smart technologies and practices, identified based on global knowledge, and complemented with weather information services are implemented in the CSVs.

The project is being implemented by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) in collaboration with a local NGO, the ICT industry (climate services and market linkage), insurance industry (crop insurance program), input suppliers (for seeds, fertilizers and machines), and national agriculture research systems (knowledge partners).

Gender inclusion and empowerment forms an intricate part of the project's overarching goal of building resilience of farmer communities. All three districts are characterized by different social structures and therefore women's role in agriculture as well as their level of participation in public forums and interventions differs across the three project districts. Throughout all stages of project implementation, conscious efforts have been taken to include women and young farmers as not just beneficiaries but also as active participants across the key stages of the project.

A Climate Services Menu for Southeast Asia (CliSM)

CARE, ICRAF and CIAT have implemented different approaches for climate services (CS) across diverse rural livelihoods contexts providing a learning platform for understanding CS scaling opportunities in Vietnam and elsewhere.

Tentative bottlenecks and gaps have been identified in the CS-Value Chain (VC) of relevance for scaling. Scaling models need to be flexible to consider the heterogeneity of rural livelihoods and end-users' needs. Drawing on a set of new bilateral projects offers exquisite opportunities to fill strengthen links between national and subnational CS-VC. Furthermore, the case study sites offer three diverse contexts to develop and test the scaling framework.

By better understanding the effect of rural livelihoods heterogeneity (the end-users) and different field-tested approaches, the project aims at designing and implementing scalable CS. To do this, this the project will develop an analysis framework to characterize scaling pathways and approaches for CS-VC. The CS-scaling framework and lessons learned from the engagement and validation process across local-level implementation sites will result in (1) a methodology to assess and implement scaling pathways for CS-VC for decision-making institutions and practitioners of CS development, and (2) guideline for policy makers and implementors.

The process will be based on participatory approaches with national and sub-national level stakeholders across the CS-VC in Vietnam to support their engagement and ownership and will support the design of a strategy for potential scaling pathways of CS in Vietnam. The guidelines can potentially contribute to Vietnam's development of the Global Framework for Climate Services and the National Adaptation Plan.



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The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) brings together some of the world's best researchers in agricultural science, development research, climate science and Earth system science, to identify and address the most important interactions, synergies and tradeoffs between climate change, agriculture and food security. For more information, visit us at <https://ccafs.cgiar.org/>.

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