



Making CSA-CIS-One-health Innovations Inclusive: AICCRA Ghana activities on mainstreaming and customizing innovations to women and youth needs

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Abstract

Men, women and youth have different resource access and use, and thus, different adaptive capacities and uptake of climate smart innovations. To promote CSA, CIS and One-Health innovations that respond to the needs of women and youth, the Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) project in Ghana systematically mainstreamed gender and social inclusion into knowledge products, decision support tools and dissemination approaches, and further customized these to the needs of women and youth. AICCRA Ghana prioritized cowpea and sweet potato value chains for their women friendliness in addition to maize, yam and tomatoes which also involve substantial numbers of women and youth in their value chains. The project prioritized CSA technologies that are women and youth friendly including their lower associated drudgery, affordability, availability and socio-cultural acceptability. To disseminate these technologies, AICCRA Ghana ensured plots selected to host demonstration were convenient to women. The project intentionally selected women's plots to host demonstration as a way to demystify cultural norms around the productivity of women's farms. The project further customized field days to the meetings of women's VSLA groups to encourage more women to attend. The project disseminated CIS through community radios which reached many women and was crucial for farm decision making especially the harvesting of cowpea. To improve women's decision making in farmer based organizations, AICCRA Ghana convened women's sub-groups and engaged in transformative dialogues around gender norms that impede their participation and leadership. This improved women's collective action and improved their voice in FBOs.

Introduction

Men, women and youth have different resource access and use, including access to climate smart agriculture (CSA), climate information service (CIS), and financing. These differences affect their climate change adaptive capacities. There however exists a potential for women's and youth's enhanced access and use of CSA/CIS technologies, access to appropriate financing mechanism, reduction of workloads and collective action through group participation to contribute to building their climate resilience (Tovennor et al. 2019; Huyer et al. 2021). Targeting the needs of women and youth in interventions aimed at enhancing access to CSA and CIS technologies not only contribute to increase their resilience to adapt to climate change, but also to challenge gender norms and build a more equal society (Huyer, 2019; Sterling & Huyer, 2010). With insights from our situational analysis, ACCRA Ghana adopts an approach that mainstreams gender and youth responsiveness into all activities and when needed, further customise activities to the needs of women and youth. AICCRA Ghana's approach embodies a constant reflection to intentionally respond to the needs of women and youth, and avoid the unintended consequences of assumed gender neutrality of interventions. Below, we present our activities for mainstreaming and customising interventions to the needs of women and youth. We highlight how we targeted their needs through crop selection and CSA prioritisation, dissemination approaches and transformational dialogues in intervention communities. We also highlight how our Ag-data hub mainstreams social inclusion into knowledge products and decision support tools. We then reflect on key learnings for further mainstreaming and customisation of GSI in the coming implementing year.

Prioritisation of crop value chains and CSA practices.

Different crops are of strategic importance to the food and nutrition security needs of Ghana, and men, women and youth engage differently in the production of these crops. To make AICCRA Ghana interventions socially inclusive, we targeted a combination of crops that are key to food security and or directly engage many women and youth in their value chains. We selected, maize, yam, cowpea, sweet potato and tomato as priority crops for our interventions. Evidence from our situational analysis indicates that maize production engages substantial numbers of women and youth especially in the middle belt of the country. Yam engages many male youth, and for sweet potato which is a high value crop, women dominate in its production. Cowpea is generally a women's crop for which even women who do not have access to their own land do intercrop in household yam and maize farms. Women hold about 67% of land area harvested for cowpea (CAAFS, 2021). Although the tomato value chain is not dominated by women producers as own account farmers, they are integrated as household labour with direct consequences on labour availability for their crops. Women are also the main aggregators of tomato from farmers. Thus, intervention in the tomato value chain is key for women's workload as own account farmers and/or household labour and their role as aggregators. AICCRA Ghana priority value chains therefore are strategic crops for women and youth.

In prioritising CSA practices for the selected crops, AICCRA Ghana partners, collaborators and end users, not only subjected the practices to climate smart indicators, we also subjected them to women and youth friendly indicators. We used indicators such availability, affordability, socio-cultural acceptability, and lower associated drudgery and implementation requirements among others (Plate 1) to check the technologies for their women and youth friendliness. Affordability of CSA technologies for instance, is key since women in general have challenges mobilising the needed capital to invest in their farms including accessing CSA technologies. Also, checking the CSA practices for their lower associated drudgery is very critical for women

own account farmers and women integrated into household farming as labour. Our situational analysis showed the enormity of women’s labour burden in farming which contributes to their time poverty and ill-health. When hired labour is required, women still face challenges because of their low levels of capital to hire labour. Thus, a labour-intensive CSA practice will likely worsen women’s labour burden, reduce their net income, and potentially also impede their uptake of the practices. CSA practices that inherently reduce the workload of women and or reduce their over-reliance on hired labour are therefore gender smart and women-friendly.

The current prioritization has 4 main outcomes: **Climate smartness, Gender and Social inclusion, One Health achievement and Enabling Environment**

Specific comments pertinent to the different indicators are provided in text boxes besides each indicator

- **Climate smartness**
Three indicators for assessing the CSA pillars considered are Productivity, Adaptation and Mitigation. The indicators illustrate the potential for the practice to generate positive effects for the farmer in the context of the 3 pillars
- **Gender and social inclusion**
4 indicators are proposed: Labour requirement, youth involvement, lower costs and women friendliness. The women friendliness is further unpacked into lower associated drudgery, accessibility, affordability, socio-cultural appropriateness of the practice, and lower implementation requirements
- **One health**
The One Health Achievement has 6 indicators notably: reduced pest load, addressing nutrient depletion, increased soil water adequacy, addressing soil water pollution, preserving biodiversity and lowering GHG emissions
- **End-user friendliness**
This unpacks the "End user acceptance and requires less complementary activities" as the "Enabling Environment" and is broken down into 4 sub-indicators e.g., Access to local institutions; Market linkage; Technical feasibility and Farmers' investment capacity to adopt the practice.

Scoring matrix (5 point scale)

* The prioritization will use a 5-point scale - where 1 = very low importance, 2 = low importance, 3 = medium importance, 4 = high importance and 5 = very high importance

This indicator and sub-indicators are meant to be looked at within the context of women friendliness. Often women are disenfranchised and the availability, access or affordability of the practices serves as a stumbling block...
The more a practice contributes positively to any of these indicators, the higher the score it deserves.

Note: This template presents the identified Ghana CSA practices. For each of identified prioritization criteria, the prioritization will be done using a 5-point scale = where 1 = very low importance, 2 = low importance, 3 = medium importance

N°	Practice	Climate Smartness			Gender & Social Inclusion								Reduces Pest Load	Addresses Nutrient Depletion	Addresses Soil Water Adequacy									
		Score against CSA Pillars			Labour Requirement		Youth Involvement		Women Friendliness															
		Productivity	Adaptation	Mitigation	Male	Female	Male	Female	Lower associated Drudgery	Availability	Accessibility	Affordability				Socio-cultural acceptability	Lower Implementation requirements							
1 Practice 1	<p>This illustrates the potential for the practice to generate positive effects on the three CSA pillars</p> <p>Level of effort needed to carry out or implement the practice (in terms of number of days/hours)</p> <p>Probably consider male and female here?</p>				<p>Level of interest or extent to which a practice is able to attract the youth into implementing it. This has a gender component since male preferences are likely to be different from female ones</p>		<p>"The Lower the associated drudgery the better"</p>		<p>Are all components needed to implement the CSA practice available to women in their settings</p>		<p>Are all components needed to implement the CSA practice affordable to women in their settings</p>		<p>Are all components needed to implement the CSA practice accessible to women in their settings</p>		<p>This is related to implementation within the underlying social rules and customs</p>		<p>This relates to the lower technical skill requirement - Lower implementation requirements" the better a practice is hence a higher score is</p>		<p>The ability of a practice to confer benefits on soil, crop and animal health e.g. ground cover, feed of residual biomass for livestock and contribute toward feed and nutritional security, does not promote animal pests' population</p>			<p>Some practices indirectly contribute towards human health e.g. good irrigation practices that prevent stagnant water help with the fight against malaria, good compost management can prevent illnesses that would carry.</p>		
2 Practice 2																								
3 Practice 3																								
4 Practice 4																								
5 Practice 5																								
6 Practice 6																								
7 Practice 7																								
8 Practice 8																								
9 Practice 9																								
10 Practice 10																								

Plate 1: AICCRA Ghana CSA prioritisation indicators.

AICCRA Ghana’s prioritisation processes therefore resulted in inclusion of crops that are women and youth-friendly and selection of CSA practices that are sensitive to the peculiar needs of women and youth. The bundling of these practices for selected cropping systems (Table 1) is also strategic for women needs. For instance, AICCRA Ghana prioritises and promotes cowpea-yam/maize intercropping to build C stocks. Cowpea is a women’s crop while production of maize and yam is mainly by men. With the promotion of cowpea-yam/maize intercropping, this practice indirectly offers women strategic access to men’s land for cowpea cultivation in instances where such practices were hitherto absent. This is particularly relevant in the northern part of the country where many women do not usually have their own plots.

Table1: AICCRA Ghana crops and promoted CSA practices

North (Maize, Cowpea, Yam & Potato)	Bono (Maize, Yam, Cowpea)	Central (Potato)	Upper East & West (Maize, Cowpea & Tomato)
Minimum tillage	Promotion of disease, pest and drought tolerant maize and cowpea varieties	Promotion of On-Farm Composting	Promotion of disease and pest tolerant varieties
Cowpea /maize-yam intercropping to build soil C stocks	Minimum tillage for maize and cowpea production	Organic amendment for soil health	Minimum tillage with Water management (mulching)
Promotion of stress (drought, early maturing, striga and low N) tolerant Improved maize, cowpea varieties	Seedbed options-Ridging as an alternative to mounding for yam production	Enhanced biopesticide use	Cowpea /maize intercropping to build soil C stocks
Organic amendment for soil health	Water management (mulching)	Promotion of disease and pest tolerant varieties	Enhanced biopesticide use
Enhancing access to climate information	Enhancing access to climate information	Enhancing access to climate information	Enhancing access to climate information

Dissemination and scaling of CSA/CIS/One-health technologies

To disseminate the prioritised CSA/CIS/One-health technologies, AICCRA Ghana adopts a two-prong approach; interaction with collaborators, mainly extension officers, agriculture-based CSOs and media houses, and interaction with end-users, mainly farmers. For collaborators, this involves trainings and capacity building on prioritised technologies and CIS, and for end-users, capacitation through demonstrating these practices in selected demonstration fields in intervention communities, and facilitating the availability of the technologies in their geographical areas. Dissemination of CSA/CIS/One-health technologies can be inclusive when scaling approaches are consistent with meeting the needs of women and youth, (Huyer et al. 2021). Thus, to ensure social inclusion in our dissemination activities, AICCRA Ghana consciously engages men, women and youth in capacity building activities.

Capacitation of collaborators

As part of our capacitation for collaborators, AICCRA has organised capacitation trainings for agriculture extension officers and personnel from partner organisations (See appendix 1 for details of capacity building activities with partners and collaborators). To make this capacitation inclusive, we particularly reached out to women in collaborating organisations to build their capacity and also foster women-to-women interactions between collaborators and farmers. This women-to-women interaction is critical especially in settings where cultural norms still create discomfort for women farmers to actively interact with male extension officers. Many of the women extension officers are also connected to the Women in Agriculture Development Directorate (WIAD) of MoFA, and their engagement with women farmers in AICCRA intervention communities offers an additional opportunity for farmers to access the support services from WIAD. In Tuba community for instance, working with female extension officers from the Ministry of Food and Agriculture (MoFA) was important in reaching out to women farmers and to convene them for end-user

capacitation activities. This collaboration has also initiated talks with the WIAD unit in the district to offer additional capacitation for the women’s group.

During our situational analysis, it became evident that extension services can sometimes be gender blind and not responsive to the peculiar needs of women farmers especially. Thus, to ensure that our collaborators disseminate information in mediums and strategies that meet the needs of women and youth, AICCRA has built the capacities of our collaborators on gender and youth sensitive extension strategies. Collaborators have been capacitated on gender awareness and gaps, and how to work towards being responsive to women and youth needs, including timing of extension activities, modes of communicating, and being reflective of specific extension information needs of women and youth. AICCRA Ghana’s manual for training collaborators on CSA/CIS/One-health innovations has a section on approaches to deliver gender smart extension. A complete manual for capacitation on GSI sensitive approaches is currently in its draft stage.

Our situational analysis also revealed that, for many farmers especially youth and women, radio and community information centres are crucial sources of information on CSA and CIS. And many women indicated that even in situations where their schedules do not allow them to attend meetings to get informed on CSA /CIS, they access such information when delivered through radio and community information centres. Thus, to enhance women and youth access to AICCRA Ghana innovations, AICCRA Ghana has



established a network of community radio and information centres and capacitated personnel from these media on AICCRA Ghana’s CSA practices, and on interpreting CIS for planning agriculture activities (Plate 2)

Plate 2: AICCRA Ghana media training on CSA/CIS/One-health innovations

These personnel from the media have further been connected to the platform of Ghana Meteorological Agency to access CIS and disseminate these to farmers. The information that is disseminated to farmers especially women is already making impact (See Vignette 1).

Bongo is a vegetable producing enclave where majority of women also produce cowpea. In addition to their own cowpea farms, they are also the main source of labour for harvesting cowpea for men's farm. According to women in this area, cowpea harvesting has to be conducted on time when the ground is still soaked to allow for easy harvesting. In many instances in the past however, they were not able to predict cessation of rainfall. And thus, they were mostly caught in situations where rainfall ceased, the ground hardened and cowpea harvesting became onerous. In such situations, they have to carry water from rivers to water the ground in the farms to soften the soil and allow for easy harvesting of cowpea. The Bongo Community radio is one of the media houses AICCRA Ghana is working with. Personnel from this radio have been trained on AICCRA Ghana's innovation and connected to GMET's platform to access CIS. With the radio's partnership with AICCRA and connection to GMET's platform, they disseminated information on rainfall onset, cessation and duration to farmers this cropping season. Women upon hearing information on rainfall cessation planned and mobilised resources to harvest cowpea. Many women were therefore able to harvest their cowpea in time before the ground hardened. To these women, this information was timely and important; it prevented them from engaging in the hitherto drudgery involved in fetching water from rivers to water the ground before they could harvest cowpea.

Vignette 1: CIS impact for women through community radio

Community radios and information centres are strategic to enhance women's access to CSA/CIS and also market information. ESOKO, AICCRA Ghana's partner for disseminating CSA/CIS innovations through digital mediums has currently profiled all community information centres in AICCRA intervention communities in the Bono East region. These community information centres have been connected to ESOKO's platform where they access information on AICCRA's CSA/CIS innovations as well as market prices for produce. Information on market prices for instance, is improving the price negotiating capacity of women who are the main small-scale aggregators in these communities. In the upcoming implementing year, AICCRA Ghana's partnership with community radios and information centres will be enhanced to include radio listening clubs with FBOs and VSLAs and to directly get feedback on AICCRA Ghana innovations through radio phone-in sessions with farmers.

Capacitation of end-users

AICCRA Ghana adopts field demonstrations as the main route to disseminate prioritised CSA practices. In the selection of demonstration plots in AICCRA intervention communities, partners engaged men, women and youth to discuss which plots were suitable to host demonstrations (Plate 3). In communities where FBOs exist, these discussions were held with them while in communities where FBOs are absent, partners together with collaborators mobilised farmers for such discussions. To encourage women's participation in demonstration activities, the discussions particularly considered their views on appropriate locations for demonstration plots.



Plate 3 engaging with men, women and youth in plot selection for demonstration

Evidence from our situational analysis indicate that in many of our intervention communities, culturally women are generally not considered as farmers who can have productive farms. To demystify such community norms about productivity of women's plots, AICCRA Ghana intentionally selected plots belonging to women to host demonstration on behalf of farmer groups (plate 4) and to work with these women as champion farmers. While the integration of these women has become key for changing social norms, these women have also become very strategic in mobilising other women to join demonstration activities and field days.



Plate 4 Plot belonging to a woman selected for demonstration

Further discussions on appropriate days and time of the day to conduct activities suitable for women and youth was also considered. Considering women and youth voices on appropriate day and time for field demonstration is a strategy to mainstream GSI into CSA dissemination. To enhance further the participation of women in demonstration and field days, these days have been customised to align with village savings and loans association (VSLA) activities and meetings. VSLAs for which majority of members are women have been integrated into field days and this has encouraged more women to attend AICCRA field days (Plate 5).



Plate 5: field days in Yidongo and Dompase

So far, AICCRA Ghana has conducted 21 field days¹ with 1113 participants. Four hundred and fifty-nine (459) participants, constituting 41% of participants are women. Vignette 2 highlights one of AICCRA Ghana's success stories on women's participation in field days from Doggoh community, in Upper West region.

¹ see link for more pictures of farmer field days in Ghana.

<https://www.flickr.com/photos/195348268@N02/albums/72177720302057351/with/52387699766/>

Doggoh, is a farming community in the Jirapa Municipality of the Upper West Region of Ghana. In Doggoh, AICCRA is promoting not only improved stress (drought, pest and disease) tolerant maize varieties but also improved varieties of cowpea, which is a 'women's crop'. In Doggoh, more women cultivate cowpea than men. Cowpea is an important cheap source of protein for rural and urban families. However, farmers are producing 300 kilograms per hectare, out of a potential yield of 1.5 tonnes per hectare. This low yield could be attributed to insect pests infestation, disease infection, drought, and low soil fertility. AICCRA is promoting using bio-pesticide to manage cowpea and maize pests and disease, and application of organic soil amendments to manage soil borne pathogens. AICCRA is also introducing cowpea and maize intercropping for improving soil health and dual-purpose cowpea for grain and fodder.

One field day has been organized in this community. On this day, farmers gathered to observe progress on the maize and cowpea varieties they planted with the AICCRA officials a few weeks ago and compare with their local varieties. Majority of farmers (54%) who attended this field day are women. These women in their colourful attire (see picture below) are members of the Doggoh-Tamparizie Mother-to-Mother Support Group, a village savings association.



Cecilia Bellingtaa (arrowed in picture 2) is an AICCRA lead farmer and a member of the Doggoh-Tamparizie Mother-to-Mother Support Group. With her strategic position as an AICCRA lead farmer and her membership in the Women's VSLA, she was key in mobilising other women in her VSLA many of who are cowpea farmers to attend the AICCRA field day. She has been growing cowpea for fifteen years. As a champion farmer, Cecilia is one of the early adopters of the bundled CSA-One Health innovations AICCRA is promoting in Doggoh. She encourages members of her VSLA group to take up innovation and improve their productivity.

Vignette 2: Customising AICCRA Ghana field days to women's needs

Sustainable and inclusive financing mechanism is key to enhance women and youth's access to capital needed to access CSA technologies such as improved seeds and bio-pesticides. From our situational analysis, access to formal credit is almost absent in intervention communities and in places where such exist, women are usually not members of sub-groups formed to access such loans. Insights from the situational analysis however, revealed that VSLAs are crucial source of capital for women and can serve as a low hanging fruit to offer inclusive financing for AICCRA Ghana innovations. However, due to the limited amount of moneys mobilised, loans and or share-outs are inadequate to finance CSA in addition to other expenses VSLA monies are used for. As a necessary starting point, AICCRA has gathered information on the capital base of VSLAs in intervention communities and requirements to formalise these associations. Data

on micro credit organisations in these geographical areas have also been collected. Discussions are currently ongoing on capacitation of VSLAs, and to connect them with micro credit organisations and formalise arrangements that can boost the capital base of VSLAs to grant women access to relatively bigger loans/capital. This capacitation is to also include connection with private sector seed and bio-pesticide distributors. CABI, AICCRA Ghana's partner who already has a relationship with these players will facilitate this capacitation.

Transformational dialogues to improve women's decision-making

From our needs assessment, it became evident that gender and youth responsive capacitation will have to move in tandem with transformational dialogues in communities since observed inequalities are rooted in the customs and norms of these communities. Thus, we piloted transformational dialogues in one of our intervention communities with the aim to improve women's decision-making and also gather learnings for implementation in other intervention communities. We found that not only does working with women's group improve their access to capacitation on CSA/CIS/One-health innovations and potential access to sustainable finance, these groups are also important starting points for initiating dialogues to improve women's decision-making status in their communities and FBOs. Below we share AICCRA Ghana's success story from the Tuba Community in greater Accra where we piloted the transformational dialogue.

Tuba is one of AICCRA Ghana's intervention community where farmers use a government irrigation facility to cultivate vegetables. These farmers are organised into an FBO for which 13% of the members are women. AICCRA's engagement with the community showed that women were not active in FBO meetings nor occupied leadership positions in the FBO. To improve women's access to the innovations to be promoted at the site and also improve their involvement and decision making in the FBO, AICCRA Ghana sub-convened women in this FBO (Plate 6) and engaged them in transformative dialogues.



Plate 6: Meeting with Women in Tuba FBO

After series of dialogues with these women, they decided to form a women's sub-group within the larger FBO where they will meet and discuss challenges peculiar to women and highlight opportunities available to them. They for instance discussed how to improve their negotiating skills for the vegetables they produce and aggregate for the nearby markets. With capital identified as a major constraint they face, the women also discussed the possibility of accessing a group loan from micro finance institutions. To formalise their group, the women selected from among them, persons to lead as executives and to initiate processes of

registering their sub-group. They also charged these selected executives to appoint one person to serve as a women's representative in the FBO executive meetings and relay information between the larger FBO and the women's sub-group.

To prevent tensions in the FBO, AICCRA officials also engaged in transformative dialogues with men and leaders of the FBOs. The women's sub-group then effectively negotiated with leadership of the FBO and management of the irrigation site to have representation in FBO executive meeting. To these women, this role of representation was a necessary starting point to have a voice in decision-making while gradually working towards cultural transformation of the FBO leadership. After the sub-group formation, women in Tuba became active in engaging with AICCRA officials in demonstration activities. They for instance, also actively participated in the World Bank Mission in March 2022 and engaged openly in discussions, a situation which hitherto was seemingly impossible for women in Tuba (Plate 7). One of the leaders from this women's sub group also attended COP27 in Egypt where she joined a couple of panel discussions on making climate actions inclusive and tailored to the needs of rural women (Plate 8).



Plate 7: Women in Tuba FBO in attendance at World Bank field visit and engaging in discussions



Plate 8: Women's leader from Tuba FBO in attendance at COP27

Ag-Data Hub: decision support tool

The implementation of the Ag-Data Hub ensured that data and information being presented is inclusive of and sensitive to the needs of diverse groups of people. One way this has been achieved is by using gender and socially-inclusive language and labels in the design of visualizations and data portal interfaces. This will build trust and reliability for the data presented, and increase the chances that the information will be acted upon. Making the data and information more inclusive and accessible will help to ensure that it is used to inform decision-making and drive positive change, which can ultimately lead to more effective and equitable outcomes.

Additionally, the Ag-Data Hub ensures that the data received and used in the dashboards and visualizations is structured to be representative of diverse groups of people with the objective of promoting inclusion (see plate 9). This is being done by actively working to include data from underrepresented groups in the data accumulation process and by stratifying data by relevant demographic variables (such as gender or race/ethnicity) in order to ensure that the data is reflective of a diverse population. By ensuring that the data being collected and used in the dashboards and visualizations is representative of diverse groups of people, the information presented is more likely to be relevant and useful to a wider range of users.

Additionally, we have deliberately kept the design of the dashboards and visualizations simple and easy to understand for all users, avoiding use of language, acronym or terminology that might be unfamiliar or exclusive. This way, the dashboards and visualizations are more likely to be understood and used by a wider range of people. This can increase the usability of the data and information being presented, and make it more accessible to diverse groups of users.



Plate 9: Snapshots of AICCRA Ghana’s Ag-Data Hub

Key Learnings and Reflections

Reflecting on this implementation year, it is evident that working with women’s groups such as existing VSLAs is a strategic approach to customise dissemination of CSA/CIS/One-health innovations to farmers and also initiate transformative dialogues. VSLAs which are currently a crucial source of capital for many women can be a strategic leverage for additional activities that can target the needs of women and youth. They can be capacitated to work with financial institutions to improve their capital flow; they can be connected to input dealers to improve access to technologies or work as sub-distributors; they can be capacitated as radio listening clubs for CIS; and they can be entry points for more transformative dialogues with men in households and communities. This capacitation or what we will term as a “VSLA+” is strategic, and extends to include working with other women’s groups that are not necessarily VSLAs.

In summary, AICCRA Ghana’s activities is gender and youth responsive through mainstreaming GSI and further customising knowledge products, dissemination approaches and financing mechanisms to the needs of women and youth. AICCRA Ghana identified and prioritised crops and CSA practices that are women and youth friendly. AICCRA also disseminated CSA/CIS/One-health technologies to reach women and youth in formats and mediums that are accessible to their respective needs and ensured that about 40% of beneficiaries in capacitation activities are women. With women and youth also constrained in access to sustainable source of finance for the uptake of these technologies, AICCRA Ghana specifically intends to

target their needs through capacitation of VSLAs which are a crucial source of financing for women especially. In addition to targeting the needs of women and youth with GSI sensitive approaches, AICCRA-Ghana also opened space for transformational dialogues in some communities around gender and generational norms that create inequalities in access to productive resources. These dialogues confront underlying structures of women's and youth's persistent vulnerability in building resilient production systems and improving their livelihoods. Overall, AICCRA Ghana's activities on gender and social inclusion enhanced women and youth access to CSA and CIS while reducing the workload of women and improve their decision making for instance in the Tuba FBO. AICCRA Ghana therefore, not only promote climate-smart agriculture, it also works towards gender smart innovations.

Appendix 1.

Training title	Training content (short summary)	Partner(s) who facilitated the training	Main participants	Total number of participants	% women
Capacity building event	Capacitation on One-health 2.0, EWRR for pests and diseases management, AICCRA Ghana's innovations CSA/CIS/One-health innovations, GSI strategy.	IITA, CSIR (CRI&INSTI), GMET, UDS, BNARI,	AICCRA Ghana partners, Extension officers, CCAFS Science policy platform, Researchers from NARS, PhD Candidates	46	37%
Media training	Capacitation on AICCRA Ghana's innovations, CIS communication, and AICCRA Ghana GSI strategy.	IITA, CRI, GMET, UDS	Presenters from FM stations and community radios in AICCRA intervention communities.	71	14%
Capacitation on resilient food systems	Capacitated on AICCRA Ghana's prioritised technologies, and sustainable finance models for building resilient food systems	CRI, UDS, GMET, ESOKO, CABI, CIAT	Extension officers and lead farmers	219	31%
Capacitation on CSA for end-users.	Capacitation of on CSA practices through demonstration activities field days in intervention communities	CRI,	Lead farmers and farmers in intervention communities.	1113	41%

Additional Reading

CCAFS (2021). Gender profile for climate-smart agriculture uptake in Ghana. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), West Africa Program, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), International Livestock Research Institute (ILRI), 24p.

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