Evaluating Gender Equality, Youth Empowerment, and Social Inclusion in Climate-Smart Agriculture: A Multi-Country Assessment of Climate Resilient Agribusiness for Tomorrow Project (CRAFT) Initiatives

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List of Acronyms

3DE	Three Domains of Empowerment
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CRAFT	Climate Change Resilient Agribusiness for Tomorrow
FGD	Focus Group Discussion
GALS	Gender Action Learning Systems
GBV	Gender Based Violence
GPI	Gender Parity Index
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICT	Information and Communication Technology
IPV	Intimate Partner Violence
PIP	Integrated Farm Planning
Pro WEAI	Project Level Women Empowerment in Agriculture Index
PWD	Persons with Disabilities
SDG	Sustainable Development Goal
UDHR	Universal Declaration on Human Rights
UNDP	United Nations Development Programme
WEE	Women Economic Empowerment

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Executive Summary

1.1 Background

The Climate Resilient Agribusiness for Tomorrow (CRAFT) project placed a strategic emphasis on integrating gender equality, youth empowerment, and social inclusion (GESI) across its interventions in Kenya, Tanzania, and Uganda. As part of its inclusive business approach, the project aimed to ensure that Climate Smart Agriculture (CSA) practices and technologies are responsive to the specific needs and constraints of women, youth, and other marginalized groups.

This evaluation focused on the effectiveness and impact of the Climate Resilient Agribusiness for Tomorrow (CRAFT) project's Gender Equality and Social Inclusion (GESI) interventions across Kenya, Uganda, and Tanzania. The evaluation responds directly to the Terms of Reference; identifying effective interventions, exploring unintended outcomes, and offering strategic insights for future programming. Specifically, it assesses how GESI-oriented activities contributed to improved access to agricultural inputs and services, reductions in women's labor burdens, increased decision-making autonomy, enhanced livelihoods, and strengthened climate resilience for women, youth, female-headed, and youth-headed farming households.

1.2 The methodology

The methodology for the GESI analysis of the CRAFT project integrates multiple research approaches and analytical frameworks. A mixed-methods research design was employed, combining quantitative surveys, qualitative focus group discussions (FGDs), key informant interviews (KIIs), and institutional assessments across Kenya, Tanzania, and Uganda.

Quantitative Surveys: The quantitative component utilized a household survey instrument administered to 1,893 households (1,518 male-headed households [MHH] and 375 female-headed households [FHH]) across 13 business cases purposively selected from CRAFT's total of 56 enterprises. Selection criteria included geographic representation, diversity in value chains, gender leadership, and baseline participation. Respondents were categorized into five mutually exclusive groups: senior men, senior women in MHH, senior women in FHH, young men, and young women. This segmentation facilitated targeted analysis of gender, age, and household type disparities. The Project-level Women's Empowerment in Agriculture Index (Pro-WEAI) guided the quantitative analysis, measuring empowerment through ten indicators across three domains (intrinsic agency, instrumental agency, and collective agency).

Qualitative Methods: The qualitative component consisted of 79 FGDs (20 in Kenya, 27 in Tanzania, and 32 in Uganda), each averaging 7 participants. FGDs were organized into demographic categories: Persons with Disabilities (PWDs), FHH, youth (mixed-gender, aged 18-34), senior women, and senior men (both aged 35 and above). Discussions captured nuanced insights into perceptions, empowerment dynamics, and the adoption and impact of Climate-Smart Agriculture (CSA) technologies, innovations, and management practices (TIMPs). FGDs were facilitated by Trainers of Trainers (ToTs) in Uganda and Tanzania, and SNV/CRAFT staff in Kenya, ensuring contextual sensitivity and informed moderation.

Institutional Assessments: Institutional analyses of business champions (SMEs and cooperatives) were conducted via surveys and structured KIIs with representatives and CEOs. This included assessments of organizational vision, strategy, internal policies, systems, resource allocation, and capacity building

regarding GESI. Businesses selected for institutional assessment represented various value chains (green grams, sorghum, common beans, potatoes, soybeans, sesame, sunflower) and featured both women-led and youth-focused enterprises.

Analytical Frameworks: Multiple analytical frameworks were applied:

- Pro-WEAI Framework: Assessed empowerment across household and community levels, disaggregated by gender, age, and household type.
- GESI Institutionalization Framework: Evaluated the integration of GESI policies, structures, budgeting, and capacity-building within partner enterprises.
- Value Chain Participation Framework: Examined roles and benefits of women and youth in CSA value chains, identifying barriers to equitable participation.

Data Analysis and Validation: Data were analyzed using STATA and Excel, with descriptive statistics, t-tests, Pearson chi-squared tests, and Pro-WEAI scores computed to identify gender and age disparities. Qualitative data underwent thematic analysis to uncover underlying trends, enabling triangulation with quantitative findings. Results were validated through stakeholder consultations, enhancing reliability and applicability of insights.

This comprehensive methodology allowed for robust assessment of GESI impacts, documenting successes, unintended outcomes, and providing strategic recommendations for future gender-inclusive programming in CSA contexts.

1.3 Synthesis of results

CRAFT's interventions demonstrated notable positive outcomes. The inclusive Climate Resilient Agribusiness Farmer Field School (CRAFFS) approach effectively trained over 265,000 farmers (53% women), significantly boosting the adoption of climate-smart agriculture (CSA) practices, strengthening women's leadership, confidence, and community respect. Examples include women becoming facilitators and role models within their communities, notably improving their household income and yields. The project's flexible CSA "bundled choice of options" model significantly improved accessibility for marginalized groups, including persons with disabilities (PWDs), youth, and elderly farmers, promoting uptake of affordable and ergonomic technologies such as quality-declared seeds and minimum tillage.

Effective interventions included decentralized financing models such as SACCOs, village savings and loan associations (VSLAs), deferred payment schemes, and formal financial service linkages, which notably reduced financial barriers for women and youth. For example, women accessed formal credit for the first time, significantly increasing their production and incomes through improved seeds and fertilizers. Institutional reforms, including leadership quotas and inclusive governance policies within cooperatives, notably increased women's participation in leadership roles and enhanced the institutional legitimacy of cooperatives.

However, several unintended outcomes emerged. Positive ripple effects included the greater visibility and inclusion of PWDs and elderly participants, enhanced intergenerational knowledge exchange improving community resilience, and strengthened household financial literacy, especially among women. Conversely, unintended negatives included increased reliance on child labor in some contexts, persistent gender disparities in entrepreneurial roles, and instances of men reasserting control over women's financial

and productive gains post-intervention. COVID-19 disruptions significantly hindered the planned coaching and implementation support for GESI action plans, resulting in sub-optimal integration of gender-responsive practices within business cases.

Key success factors identified include the comprehensive integration of GESI across project components, participatory and adaptive methodologies (e.g., GALS, CRAFFS), flexible CSA technology choices, and institutional policy reforms. Retrospectively, deeper integration of gender and climate analyses, stronger sustained capacity-building support, robust safeguards against unintended negative impacts, and broader cultural norm transformation interventions are recommended to further strengthen future programming.

The report concludes with strategic recommendations emphasizing comprehensive gender and climate-risk integration, strengthened implementation capacity, proactive risk mitigation strategies, and intensified efforts to transform deep-rooted social norms to ensure sustained and equitable climate resilience outcomes. The sections below provide a summary of each chapter

1.3.1 Inventory of GESI interventions and knowledge products

The study conducted an inventory of GESI-related interventions and knowledge products generated throughout the project lifecycle, analyzing their scope, reach, and institutional embedding within agribusiness systems.

CRAFT implemented a wide range of GESI interventions across its 56 business cases, covering 7 value chains. These included establishment of women- and youth-only groups, gender-sensitive farmer field schools, promotion of women's and youth leadership in cooperatives, subsidized CSA technologies for marginalized groups, the integration of the Gender Action Learning System (GALS), and capacity building on gender-responsive agribusiness. Furthermore, efforts were made to mainstream gender into business plans and technical assistance packages, and to develop institutional policies in select enterprises. Knowledge products generated include business case GESI action plans, baseline GESI reports, GESI-sensitive training modules, and case studies designed to influence value chain actors, governments, and development stakeholders. Overall, CRAFT had a wide knowledge base, however, opportunities to integrate a GESI perspective were often missed due to limited use of gender disaggregated data in analysis and low capacities in gender-responsive communication.

The inventory revealed considerable progress in operationalizing GESI principles at the activity level. However, uptake across businesses was uneven. In several cases, GESI interventions were perceived as externally imposed or limited to peripheral activities rather than central business strategies. Engagement with youth and persons with disabilities was particularly fragmented, with few tailored initiatives beyond group inclusion. Moreover, while tools like GALS were widely adopted and well-received, sustainability beyond project facilitation remains uncertain due to a lack of institutional anchoring, human resource allocation, and follow-up mechanisms.

1.3.2 Women and youth participation in CRAFT commodity value chains

The study also evaluates how inclusive service delivery models, participation structures, and CSA interventions have influenced women's and youth's roles as both beneficiaries and active contributors in agricultural systems.

CRAFT significantly expanded access to climate-smart services, particularly training, aggregation, and input distribution through business case (BC) partners employing varied delivery models, including embedded services, brokered and signposted access, and farmer-led (ToT) extension. Women and youth were better represented in services delivered through embedded and subsidized models, with extension and aggregation registering the highest levels of participation. However, systemic barriers constrained access to capital-intensive services such as crop insurance, mechanization, and financing, particularly among women in male-headed households and young farmers with limited collateral.

Although women and youth remained underrepresented as formal employees within value chains, the project catalyzed promising growth in independent service roles; notably as trainers (ToTs), seed multipliers, and village agents. This evolution from passive service users to active agro-entrepreneurs marks a shift in empowerment dynamics and holds potential for long-term inclusion if coupled with stronger support systems. However, these gains remain uneven and fragile, requiring institutional investment to achieve scalability and sustainability.

Key gaps persist, particularly in the formalization of inclusive financing pathways, institutional linkages to local government support, and visibility of successful peer-led service delivery models. Furthermore, while gender and youth targets were often embedded in project activities, structural inequalities in land access, time use, literacy, and gender norms continue to limit meaningful participation and decision-making power.

1.3.3 Gender and youth empowerment in CRAFT value chains

Using the Project-level Women's Empowerment in Agriculture Index (pro-WEAI), the analysis evaluates empowerment across twelve indicators disaggregated by sex, age group, and household type. The aim is to understand both the extent of empowerment and the persistence of inequalities among women and youth across diverse value chains and agribusiness models.

The pro-WEAI findings show modest but meaningful gains in several empowerment domains, particularly for women and youth in female-headed (FHH) and youth-headed households (YHH), who consistently reported higher scores in autonomy and participation compared to their counterparts in male-headed households (MHH). However, structural gender inequalities remain deeply entrenched, particularly among senior women and young women in MHHs across multiple indicators, including access to credit, control over income, and decision-making in productive resources.

Input in productive decisions saw significant improvement among women and youth in FHHs and YHHs, where intra-household bargaining power was less contested. However, senior women in MHHs remained underrepresented in agricultural decision-making, often deferring to male heads. Autonomy in income use showed limited progress overall, with persistent gender gaps, especially in Tanzania and among older women in MHHs. Youth in YHHs fared better in income control due to increased exposure to training and market opportunities.

Access to and decisions on credit remained one of the most unequal domains. Women across all typologies, but especially in MHHs, reported significant barriers in accessing formal finance, often relying on spouses or group-based lending. Similarly, work balance revealed increased labor burdens for women, particularly where CSA adoption added responsibilities without a commensurate redistribution of tasks.

Gains were most notable in group membership and leadership, where targeted interventions such as women- and youth-only groups and cooperative reforms facilitated increased participation. However, real influence within these structures remains skewed; youth and women are often members without holding decision-making positions. Speaking in public improved for young women in FHHs and YHHs, though cultural norms continued to restrict senior women's voice in MHHs.

Across the index, empowerment was highest among youth and women in FHHs and YHHs, due in part to targeted CSA interventions, fewer intra-household constraints, and stronger engagement with group-based platforms. However, these same groups often faced economic exclusion, low capital, limited market access, and weak infrastructure, indicating that empowerment in voice and autonomy does not always equate to economic power or resilience.

1.3.4 Understanding the extent and key contributors to men's and women's (dis)empowerment

The pro-WEAI analysis of the CRAFT project across Kenya, Uganda, and Tanzania presents a generally high empowerment environment, with notable variation by gender, country, age group, and value chain. Women achieved an average 3DE score of 0.88 and an overall empowerment rate of 71%, compared to 0.90 and 74% for men. The Gender Parity Index (0.97) suggests narrow intra-household inequality overall, yet disaggregated analysis reveals persistent structural gaps, particularly among senior women in male-headed households and young women in resource-poor contexts.

Country-Level Insights:

- Uganda demonstrated the most equitable empowerment outcomes, with 73% of women and 76% of men empowered and the highest GPI (0.97). However, young women still experienced significant disempowerment in control over income, respect, and land ownership.
- Kenya showed comparable 3DE scores between women (0.88) and men (0.91), but a larger gender gap in empowerment rates (69% vs. 78%), driven by lower decision-making authority and restricted mobility among senior and young women in male-headed households.
- Tanzania had the lowest female empowerment rate (69%) and lower 3DE scores, particularly among women in male-headed households. Here, acceptance of intimate partner violence and low financial decision-making agency emerged as key disempowerment factors.

Value Chain-Specific Findings:

- In Kenya, potato (Starlight) and sorghum (SOPA Millers) value chains recorded the highest empowerment levels, attributed to stronger cooperative structures and CSA exposure. In contrast, green grams (IMCOS) lagged significantly, especially for women, due to weaker institutional support and income control.
- In Tanzania, beans (VIBINJO) presented the most empowering environment for women (78% empowered), whereas sorghum (KIBAIGWA) showed persistent disempowerment, particularly in financial access and autonomy in income.
- In Uganda, the sunflower value chain showed strong empowerment gains for women, aided by extension services, access to finance and group-based platforms. However, empowerment gaps persisted in asset ownership and income control among young women.

Demographic and Gender Group Disparities:

- Senior women in male-headed households (MHHs) were consistently the most disempowered, especially in decision-making, respect within the household, and mobility. Despite higher group membership in Kenya, these gains did not translate into economic or instrumental agency.
- Female-headed households (FHHs) showed more autonomy and voice, but faced structural limitations in asset ownership and income control, highlighting a trade-off between decision space and economic capacity.
- Youth-headed households (YHHs), particularly young women, experienced relative gains in collective agency (group participation), especially in Tanzania and Uganda, but continued to struggle with access to finance and decision-making power within households.
- Young men, while often empowered in productive roles, reported deficits in work balance and group participation, especially in Tanzania, indicating that youth-specific barriers also affect males, particularly in low-income settings.

1.3.5 Synthesis of Youth-specific outcomes

CRAFT's gender and youth lens revealed nuanced empowerment trends for youth, shaped by both gender and household structure. Young women in MHHs faced double marginalization, lacking both intra-household power and external financial or institutional access. In contrast, young women in YHHs showed stronger outcomes in group membership and voice but were still economically vulnerable due to limited access to land and credit.

Country-specific youth trends showed Uganda as the most promising environment for youth empowerment, especially in soybean and sesame value chains with targeted group support. In Kenya, young women had lower mobility and autonomy, while young men suffered from work-life imbalance and limited access to influential groups. In Tanzania, youth empowerment was more balanced across genders, although group participation gaps remained wide for young men.

Across countries, collective agency (group membership) was a consistent strength for young women, yet did not always translate into income control or leadership influence. Youth-specific interventions, particularly when CSA exposure, training, and group dynamics were aligned showed the greatest promise in improving both instrumental and intrinsic agency.

1.3.6 Shifting roles, shared gains: gender and youth perspectives on climate-smart agriculture in CRAFT communities

This report explores the differentiated experiences of women, men, and youth in adopting and benefiting from Climate Smart Agriculture (CSA) practices under the CRAFT project in Kenya, Tanzania, and Uganda. Through a gender and social inclusion lens, the study assesses how CSA interventions have influenced labor distribution, decision-making, access to services and technologies, and household welfare across diverse household typologies. Using focus group discussions and household survey data disaggregated by gender, age, and household structure, the report captures both the enablers and constraints to inclusive CSA adoption.

CRAFT's CSA interventions yielded notable welfare improvements, with participating communities reporting better food security, resilience to climate variability, and increased household income. CSA

practices such as improved seed varieties, irrigation technologies, water harvesting, and weather advisories were broadly adopted and appreciated. However, access to CSA remained uneven, with male-headed households (MHHs) and men within those households more likely to adopt capital-intensive or knowledge-driven CSA innovations, such as mechanized farming or market-linked climate services.

Female-headed households (FHHs) and youth-headed households (YHHs) engaged with CSA innovations more actively when support mechanisms—like group-based extension, input subsidies, or women- and youth-focused demonstrations—were in place. These groups favored CSA technologies that were low-cost, labor-saving, or climate risk-mitigating, including composting, drought-tolerant crops, and soil conservation practices. However, women in MHHs remained disproportionately constrained, often lacking decision-making authority, mobility, or financial autonomy to adopt CSA, especially where gender norms rigidly assigned agricultural authority to men.

Across all contexts, perceived benefits of CSA included income diversification, reduced vulnerability to drought, and improved household nutrition. Nevertheless, gendered divisions of labor shifted unevenly. While some women experienced a reduction in drudgery due to labor-saving CSA practices, others faced increased time burdens, especially in cases where male migration led to feminization of agriculture without redistribution of responsibilities. The empowerment of youth and women was also hindered by exclusion from extension messaging, low digital literacy, and skepticism from male household heads or older community members.

1.3.7 Business Champion's agency

This study explores the leadership agency, governance structures, access to training, and business development strategies among agribusiness SMEs and cooperatives supported by the SNV CRAFT project in Kenya, Uganda, and Tanzania. It assesses the institutional and perceptual foundations influencing inclusive business leadership, with particular attention to the capacities of business champions, their perceptions of gender and youth inclusion, and structural enablers or constraints to growth and transformation.

Across the sampled cooperatives, governance was largely committee-based with functioning structures in place. However, satisfaction with decision-making varied depending on board responsiveness, technical knowledge, and strategic foresight. While external support, such as that from Agriterra, had strengthened governance in some institutions, challenges remained, including slow decision-making, weak capacity in newer board members, and risk aversion. Leadership training access was inconsistent: some cooperatives had formal training plans while others relied on informal or ad hoc capacity building. Key training needs included financial management, proposal writing, and market research.

Regarding access to finance, results were mixed. While a few cooperatives like Starlight Cooperative reported improved credit availability and affordability, others faced persistent constraints, particularly inadequate collateral, complex loan processes, and limited confidence among members to take on collective debt. Business development goals varied, from expansion into certified seed production to value addition and diversification of supported commodities. However, ambitions were constrained by infrastructural gaps, unreliable seed systems, and limited irrigation access.

Market research and intelligence were underdeveloped across most enterprises. Only a handful of cooperatives conducted structured market analysis to inform strategic positioning. Those that did, such as

Starlight, showed stronger alignment with local demand and clearer identification of diversification opportunities.

Importantly, the study also highlights evolving perceptions around women in leadership. Most business champions now reject the belief that men are inherently better business leaders, though some remain neutral or unconvinced, especially around the compatibility of women's business participation with child welfare. These findings reflect a broader pattern of incremental normative change, with shifts in perception not yet fully matched by structural transformation in leadership representation or inclusion policies.

1.3.8 Institutionalizing inclusion: GESI commitments in the strategies and structures of craft supported business cases

As gender equality, youth empowerment, and social inclusion (GESI) gain strategic relevance in sustainable agribusiness, the institutionalization of these principles within agribusinesses is essential for long-term impact. This assessment investigates the extent to which CRAFT-supported business cases across Kenya, Uganda, and Tanzania have integrated GESI into their internal strategies, governance structures, and operational systems. The analysis evaluates six core domains: vision and strategy, internal policies, organizational structures, systems and procedures, budgeting and resource allocation, and capacity building for GESI integration.

The findings show varying levels of institutional maturity across the assessed enterprises. Businesses such as Starlight Cooperative (Kenya) and JAKMA (Tanzania) demonstrated relatively high levels of integration, particularly in aligning strategic documents with GESI goals, ensuring gender-diverse boards, implementing inclusive recruitment practices, and establishing informal learning and support structures. Others, like Sebei SACCO (Uganda) and Kibaigwa (Tanzania), while demonstrating commitment to GESI, had limited institutionalization, evident in the absence of dedicated policies, formal structures, or budget tracking.

Where GESI structures were present, their effectiveness was linked to leadership commitment, mentorship by inclusion-oriented partners (e.g., Agriterra), and informal peer networks such as youth and women's councils. Yet across most enterprises, gaps persist in translating policy into action. Budget lines for GESI were either merged into general categories or missing altogether. Capacity building for GESI was ad hoc or absent in three out of four businesses, and safeguarding policies, flexible work arrangements, and harassment prevention systems were inconsistently applied. Without structured training, accountability frameworks, or dedicated personnel, inclusion efforts risk remaining tokenistic or unsustainable.

Despite these challenges, the report also reveals emerging opportunities. Businesses expressed a genuine interest in technical support to mainstream GESI, signaling a window of readiness. Tools like simplified policy templates, focused leadership coaching, and peer-led learning exchanges could be leveraged to consolidate and scale inclusion practices in the final project phase and beyond.

1.4 Lessons learnt

The CRAFT program's gender and youth integration efforts yielded critical lessons across implementation contexts. Empowerment outcomes were most pronounced where interventions combined targeted capacity building, institutional support, and inclusive service delivery. Businesses that embedded gender-sensitive leadership and facilitated CSA adoption through accessible financing and technology recorded

stronger gender equity gains. However, systemic constraints persist, particularly in women's land ownership, youth access to financial services, and time poverty among senior women, highlighting the continued influence of deep-seated social norms. Localized approaches, intentional engagement of male allies, and cross-sectoral partnerships emerged as pivotal in shifting attitudes and expanding the voice, agency, and economic participation of women and youth in climate-resilient value chains.

1.5 Overarching recommendations

To consolidate and scale CRAFT's gains, a multi-actor, systemic approach is essential. Policymakers should prioritize reforms that enhance women and youth access to land, credit, and CSA extension services, backed by robust safeguards and monitoring. Development partners are urged to invest in long-term capacity development, especially around business incubation for young women, and to strengthen accountability systems for gender inclusion. Extension departments must mainstream gender-responsive curricula and work-life balance considerations into training models, while agribusinesses should institutionalize inclusive procurement, leadership, and benefit-sharing mechanisms. Deliberate targeting of marginalized groups, including persons with disabilities and female-headed households, must be embedded in all programming to ensure equitable climate resilience outcomes.

2. Introduction

2.1 Background

SNV Netherlands Development Organisation is the lead implementing party for the Climate Resilient Agribusiness for Tomorrow (CRAFT) Project in Kenya, Tanzania, and Uganda (SNV/CRAFT). This six and a half-year project including extension period, with funding from the Netherlands Ministry of Foreign Affairs, is implemented in partnership with Wageningen University and Research, Agriterra (also part of the extension), and Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) and Rabo Partnerships. The consortium offers a strong platform to not only manage and coordinate a robust climate smart agriculture project, but also provide targeted technical assistance, business facilitation, as well as research and knowledge management support.

The programme is implemented around three main pillars:

- Adoption of CSA practices & technologies in arable crop production farming systems
- Acceleration of investments and business growth in selected value chains
- Improved enabling environment for scaling out of CSA.

Climate change has resulted in very poor yields and low return to farmers in East Africa, and other actors (e.g. buyers, processors) in the target value chains (common beans, green grams, potato, sesame, sorghum, soybeans and sunflower). CRAFT's inclusive business approach supports international and national efforts to address the effects of climate change and to promote sustainable production in the target arable crop value chains. The project works with and through the private sector (SMEs) and supports public sector partners to create an institutional environment for large-scale adoption of climate smart practices and technologies. CRAFT's strategic approach is to invest in the interests of private sector partners including guaranteed buyers of food crops, service providers, and cooperatives to integrate climate smart practices into respective supply chains. It is anticipated that CRAFT's economic incentives will form the basis for large-scale adoption of climate smart agricultural (CSA) practices and technologies.

A wide range of climate smart practices and technologies already exists and have been developed in past years by agricultural research institutes and private sector partners. At the level of the farming system, they include technology, innovation and management practices on improved soil and water management, crop production/post-harvest handling, (agro-) forestry and energy management, among others. Also, for SMEs a range of options exist to climate-proof their value chains.

CRAFT seeks to ensure that the Climate Smart practices and technologies are gender responsive and that the technologies are based on the needs and interests of both female and male farmers. This will ensure equal grounds among men, women, and youth in relation to adaptation to climate change. This study assesses what has been achieved over the past 6 ½ years of project implementation in terms of GESI-related planned and unintended results including the key challenges and benefits encountered in promoting the adoption of CSA practices and technologies from a gender and youth inclusive perspective, their application including accessibility and affordability, and benefits and costs realized. This study also identifies the main barriers for a more inclusive gender and youth integration in the operations of CRAFT-supported businesses and their value chains and proposes recommendations and approaches toward overcoming these barriers.

2.2 Objectives and focus of the assignment

This evaluation of the integration of gender equality and social inclusion of the CRAFT project focused on assessing effectiveness of the interventions (both planned and unintended impact).

The study's specific objectives were:

1. Conduct an inventory of all GESI-related activities undertaken, and knowledge products produced by the CRAFT teams in the three countries.
2. Evaluate the gender/youth implications of each of the crops in the three CRAFT countries
3. Assess the extent of gender and youth integration in CRAFT businesses' longer-term vision and strategy, internal policies, structures, systems, procedures, and resource allocation.
4. Evaluate the CRAFT promoted climate smart agriculture (CSA) practices, technologies, and service provision and how they have affected youth and gender roles and responsibilities within farming communities, with a specific focus on youth- and female-headed farming households. The assessment also encompasses the key challenges and benefits encountered in promoting the adoption of CSA practices and technologies from a gender and youth inclusive perspective, their application including accessibility and affordability, and benefits and costs realized.
5. Assess the impact (effectiveness) of GESI integration in CRAFT's business cases and their specific crops as well as at farming household level. The focus should be on changes observed with regard to participation in the value chains, shifts in attitudes and perceptions, voice in community leadership, and changes in inter-household power balances (e.g. in decision-making). The report should contain both common observations and conclusions across the three countries and value chains, and country and crop/value chain specific differences.
6. Synthesize the lessons learnt and recommendations for policy makers, development partners, extension departments, and agribusinesses. The main focus of the evaluation will be gender and youth, but the consultant will add elements of social inclusion (e.g., disability inclusion, ethnic/religious minorities, and other vulnerable groups) as relevant.

2.3 Organization of the report

The rest of the report is organized as follows. Chapter three describes the survey respondents in the dataset. The follow on chapters then cover one of the six objectives outlined above. Chapter four provides an inventory of the GESI interventions of the project across countries and value chains and the related knowledge products. Chapter five uses a pro-WEAI household survey dataset and the results of interviews with business case CEOs or their representatives to assess the gender/youth implications of each of the crops in the three CRAFT countries. In particular, this chapter focuses on gender and age parity in value chain participation. It also assesses the gender gaps that have closed and those that have persisted over the course of project implementation compared to baseline (where baseline data exists) across country and value chain. Chapter six zeroes in on the key drivers of (dis)empowerment. Chapter seven looks at reported levels of CSA TIMPS adoption and then the perceptions farmers have on the enablers and barriers to uptake. The chapter also reviews the challenges and opportunities encountered by men and women in the context of adoption, in addition to the benefits and costs realized. Chapter eight looks at business champion's agency overtime. Chapter nine focuses on the extent of the institutionalization of a gender equality and social inclusion perspective in select CRAFT supported businesses long-term strategy and vision. Chapter ten then provides a synthesis of lessons learnt and recommendations.

3. Description of the dataset

3.1 Survey respondents

3.1.1 Sampling and selection of Business Cases for the GESI end-line assessment

A total of 13 business cases were purposively selected from the broader pool of 56 enterprises supported under the CRAFT program to participate in the end-line Gender Equality and Social Inclusion (GESI) assessment. These businesses were chosen to ensure representation across multiple dimensions including value chain diversity, geographic spread, organizational scale, gender leadership, and baseline participation.

The selection process was informed by both methodological and practical considerations. Geographical diversity was prioritized to capture variations in socio-cultural norms and institutional capacities across regions. Additionally, scale of operations defined by number of smallholder farmers (SHFs) reached was considered to include both high-reach and lower-reach enterprises. Furthermore, businesses engaging in multiple stages of the value chain, such as input supply, production, aggregation, processing, and marketing were preferred to allow for a more holistic understanding of gender dynamics within agribusiness.

An explicit objective was to include at least one women-led or women-owned business per country, recognizing their strategic value in advancing gender-transformative practices. These included Vibinjo Cooperative (Tanzania), Starlight Farmers' Cooperative (Kenya), and Byeffe Foods Ltd. (Uganda). These businesses provided critical insights on how women in leadership influence internal policy direction, organizational culture, and gender-responsive service delivery.

To ensure continuity and allow for a comparative perspective, the sample also incorporated several enterprises that had previously participated in the baseline gender analysis survey:

- IMCOS Ltd. (Kenya)
- Nyekorac Cooperative, Sebei SACCO, and OKEBA Uganda Ltd. (Uganda)
- Jackma Enterprises Ltd. and EAFFC (EA Foods Ltd.) (Tanzania)

The selection was also guided by SNV/CRAFT teams across the three countries who identified enterprises demonstrating either notable progress or promising innovations in integrating GESI into climate-smart agriculture (CSA) interventions. These businesses held potential for scaling lessons, especially around inclusive CSA technology promotion, gender-sensitive service provision, and engagement of youth and marginalized groups such as persons with disabilities (PWDs) and female-headed households.

The selected enterprises cut across CRAFT's major value chains, including green grams, sorghum, common beans, potatoes, soybeans, sesame, and sunflower. Each was subjected to mixed-methods assessment involving quantitative household surveys, focus group discussions (FGDs) disaggregated by gender and age, and institutional gender scans of the business champions themselves. The full list of selected enterprises and their profiles is presented in Table 1.

Table 1: The 13 (out of 56 business cases) that participated in the survey to varying degrees

1. IMCOS Ltd. **Location:** Igambang'ombe, Kenya **Focus Crop:** Green grams **Highlights:** • Supports over 700 smallholder farmers through CSA practices. • Offers input financing via savings and credit services. • Engaged in drying, threshing, packaging, bulking, and marketing. • Partners include WFP, FAO, Bayer, Twiga Chemicals, and others.	2. SOPA Supplies Ltd. **Location:** Western Kenya **Focus Crop:** Sorghum **Highlights:** • Works with **4,000 farmers**, engages in contract farming. • Offers inputs, mechanization, and market linkage. • Target buyers include **EABL, EAML**, and local markets. • Promotes CSA practices including **minimum tillage**.
3. Starlight Farmers' Cooperative **Location:** Kuresoi North, Nakuru County **Focus Crop:** Potato **Highlights:** • Supports **1,500 farmers** through CSA and postharvest handling. • Activities include seed multiplication, irrigation, financing, marketing, and storage. Partners: **KEPHIS, Fresh Crop, Twiga Foods, Sereni Fries**.	4. Kaplomboi Cooperative Society **Location:** Kaplomboi, Kenya **Focus Crop:** Common beans **Highlights:** • Works with **over 1,200 members**, integrating **cereals and livestock**. • Key activities include **training, climate-resilient common beans production**, and **milk bulking**. **Partnering with organizations for climate resilience, market access, and value addition.**

5. EAFFC – EA Foods Ltd. **Location:** Dar es Salaam, Tanzania **Focus Crop:** Potato **Highlights:** • Works with **3,500 farmers**, providing CSA tools and market linkage. • Invests in **cold storage, drip irrigation, insurance**, and training. • Clients include hotels, restaurants, and informal vendors.	6. Kibaigwa Flour Supplies **Location:** Dodoma, Tanzania **Focus Crop:** Sorghum **Highlights:** • Works with **6,000 farmers** under a contract farming model. • Promotes **improved seeds, fertilizers, conservation practices**. • Main buyers: **TBL, regional wholesalers**, local consumers. • Significant market expansion and **PHL reduction** strategy.
7. Vibinjo Cooperative (Tanzania – Common Beans) **Location:** Njombe Town, Tanzania **Focus Crop:** Common Beans **Highlights:** • Serving **811+ farmers**, aiming to scale to 1,000. • Promotes **dual cropping**, improved seeds, and PHH. • Partners: **SNV, TAR-Uyole, G2L**, and **Raphael Group**.	8. Jackma Enterprises Limited **Location:** Dodoma region, Tanzania **Focus crop:** Sunflower – processing and climate-smart agribusiness. **Highlights:** • Sources sunflower from ~**6,000 farmers** • Operates significant processing infrastructure in Dodoma: daily crush capacity of **29 tons**, with ~3,480 tons seed crush and ~974 tons of oil extraction per season. • Engaged in post-harvest handling, climate-smart production, and supply to local and regional markets.
9. Kisoro District Potato Growers Cooperative Union Ltd. (KDPGCUL) **Location:** Kisoro District, Uganda **Focus Crop:** Potato **Highlights:** • Supports **3,000 farmers** in 12 cooperatives. • Aggregates potato using ambient storage before sale. • Targets high-value markets: **Kampala, Rwanda, SUMZ, Café Javas**.	10. OKEBA Uganda Ltd (Uganda – Soybean) **Location:** Mubende, Uganda **Focus Crop:** Soybean **Highlights:** • Works with **8,000 farmers**, uses quality assurance and CSA. • Focus on **crop rotation, Maksoy seed, soil testing, weather data**. • Key buyers include **WFP, Ugachick, SN Sekubuga, MMACKS**.
11. Sebei Farmers SACCO (Uganda – Sunflower) **Location:** Bulambuli and Kween, Uganda **Focus Crop:** Sunflower **Highlights:** • Engages **5,000 farmers** through contract farming and training. • Key partners: **Mukwano, Ngetta Holdings**, insurance firms. • Strong focus on financing, **post-harvest handling, marketing, and CSA**.	12. Byeffe Foods Ltd. **Location:** Mbale, Uganda **Focus Crop:** Soybeans **Highlights:** • Focuses on **food security, agro-processing, and women empowerment.** • Engages in partnerships for **nutrition education, CSA adoption**, and youth employment. • Prominent in **high-quality packaging**.

13. Nyekorac Cooperative **Location:** Lango Sub-region, Uganda **Focus Crop:** Sesame **Highlights:** • Serves **3,100 farmers**, mainly youth-led. • Strong market ties with **OLAM, Agri Exim**. • Focus on **postharvest management, drying tools, and storage**.	•

3.1.2 Focus group discussions and their distribution

A total of 79 focus group discussions (FGDs) were conducted across three countries: Kenya (20 FGDs), Tanzania (27 FGDs), and Uganda (32 FGDs). Each group engaged an average of 7 participants, with discussions organized in 3 to 5 demographic categories per locate, adapted to local context and mobilization realities, to ensure inclusive representation.

Participants groups included:

- Persons with Disabilities (PWDs)
- Female-headed households (FHHs)
- Youth (18–34 years, mixed gender)
- Senior women (35 years and above)
- Senior men (35 years and above)

To maximize inclusion and logistical efficiency, discussions were facilitated simultaneously across groups by Trainers of Trainers (ToTs) in Uganda and Tanzania, and SNV/CRAFT staff in Kenya.

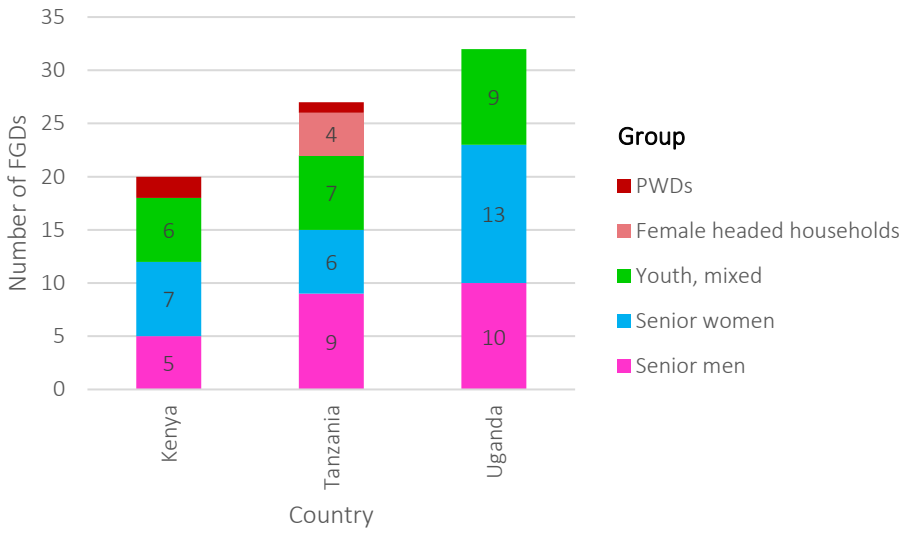

Figure 1: Number of FGDs by gender group and country

Figure 1 illustrates the distribution of FGDs by gender and country, providing a regional comparison of engagement across demographic groups. Figure 2 highlights how FGDs were distributed across CSA

technologies, innovations, and management practices (TIMPs), analyzed further by commodity value chains.

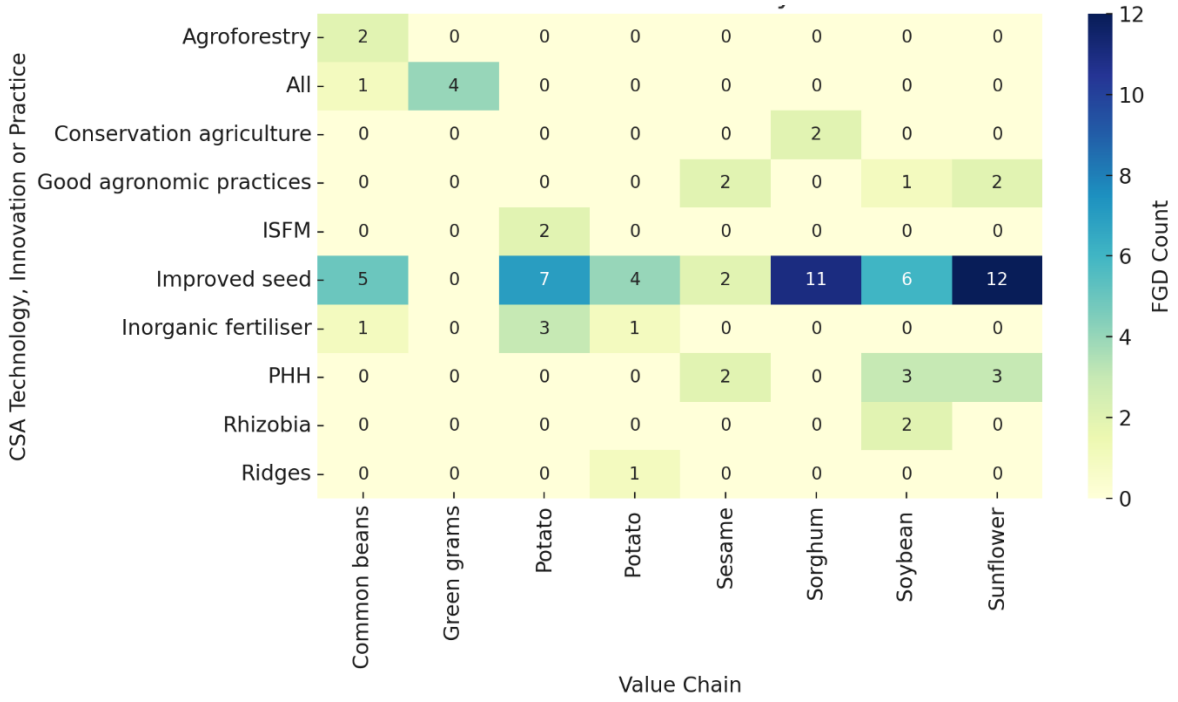

Figure 2:Number of FGDs held by CSA technology, innovation or management practice (TIMPS) across commodity value chains

3.1.3 Household survey respondents

Demographic and socio-economic characteristics of survey respondents by country and by respondent and household type

Two types of households were defined for the descriptive gender analysis, following Malapit et al. (2020): (1) *male-headed households* (MHH), which include both a male and a female aged 18 or older, and (2) *female adult-only households* (FHH), where only women aged 18 and over are present, with no adult males. The household survey dataset includes responses from 1,893 households (1,518 male headed households and 375 females headed households). Table 2 shows the spread by country and gender group while a detailed breakdown of the respondents by country, commodity value chain, and respondent group is provided in Annex Tables 2A–2C.

Table 2: Number of respondent surveys by country, gender-age group, and household type

Respondent group	Kenya	Tanzania	Uganda	Total
Senior Men	211	117	260	**588**
Senior Women in Male-Headed Households (MHH)/marital homes	178	102	222	**502**
Senior Women in Female-Headed Households (FHH)	100	54	163	**318**
Young Men	69	25	77	**171**
Young Women	104	56	154	**314**
Total	**662**	**354**	**876**	**1,893**

To enable gender analysis without overlapping the samples, we defined five mutually exclusive respondent groups (see Table 2). Comparisons were then structured as follows:

- Senior men vs. senior women in MHH – to explore gender gaps within "older marital" households.
- Senior men vs. senior women in FHH – to assess the position of women in female-headed settings, which could include potential disparities in autonomy, workload, or access to resources, etc.
- Young men vs young women to assess the youth-specific gender gaps and vulnerabilities.

Youth (aged 18–34) were analyzed as a single category, regardless of household type, due to limited sample sizes in disaggregated youth groups across household types.

This descriptive analysis of the household survey respondents is conducted for both the entire dataset and by country and value chain using either STATA or Excel. The significance of these differences is tested using t-tests or the Pearson chi-squared test. The results are presented in tables or figures as summary statistics (means and percentages).

Age and spousal age gap of respondents

Understanding the intersections of age, spousal age gap, and marital dynamics enables development programs like CRAFT to better address the nuanced realities of household decision-making, resource allocation, and gender relations to foster more inclusive and equitable outcomes. The analysis of age across the dataset reveals notable trends with significant implications for gender relations and project design (Table 3). In male headed households (MHH), men are consistently older than women, a disparity that remains statistically significant by age category and across all three countries, Kenya, Tanzania and Uganda although the gender age gap is less pronounced in Tanzania. The average age of senior men in the overall dataset is 51.98 years compared to 47.5 years for senior women ($t = 6.7491$, $p < 0.0000$). The gender age gap in the male headed households of youth is lower, averaging 2.38 years, however, the difference remains statistically significant across all three countries.

In contrast, women in female-headed households (FHH) tend to be older than their counterparts in MHH, underscoring the demographic and life-course differences within women by household type. There is however, no statistically significant difference in the average age for this group of women when compared to senior men in all three countries (Table 4).

The spousal age gap (the mean average of the difference in age between men and women who are actually married to each other) further underscores variations in marital dynamics. On average, the gap is 6.3 years across the dataset, with a notable range of -9 to 45 years. This gap is larger in Kenya (6.73), followed by Uganda (6.5 years) and is lowest in Tanzania (4.9 years).

A t-test of difference across the three countries shows that the spousal age gap is lower in Tanzania for both households in the 35 plus age category and for youth. This difference is statistically significant from that of the other two countries ($t = 3.5715$, $p = 0.0002$) for seniors and ($t = 1.8592$, $p = 0.0324$) for youth respectively. This may imply better execution of safeguarding policies in relation to child marriage in Tanzania. The data also reveals instances of younger husbands in both countries, albeit in small proportions. In Kenya, 6 of 279 couples, in Tanzania, 10 of 142 couples and in Uganda 5 of 337 couples reported younger husbands, with an average age gap of -9, -4 and -5 years respectively.

Table 3: Age of respondents by country

Respondent group	Kenya	Tanzania	Uganda	All
All respondents	45.32	46.12	43.58	**44.67**
Senior Men	53.24	52.05	50.92	**51.98**
Senior Women in Male-Headed Households (MHH)/marital homes	48.42	49.42	45.88	**47.50**
Senior Women in Female-Headed Households (FHH)	53.32	53.76	49.79	**51.62**
Young Men	29.57	29.52	30.25	**29.87**
Young Women	26.71	27.75	27.93	**27.49**

Table 4: Testing the significance of the gender age gap by household type and country

Respondent group	Kenya	Tanzania	Uganda	Total
Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes	4.82 4.1769 (0.0000)	2.63 1.7901 (0.0374)	5.04 5.2657 (0.0000)	**4.48** **6.7491** **(0.0000)**
Senior Men vs Senior Women in Female-Headed Households (FHH)	-0.08 -0.0559 (0.4777)	-1.71 -0.9790 (0.1645)	1.13 0.9992 (0.1591)	**0.36** **0.4524** **(0.3255)**
Young Men vs Young Women	2.87 4.8349 (0.0000)	1.77 1.9485 (0.0275)	2.32 4.9099 (0.0000)	**2.38** **6.8946** **(0.0000)**

Each table cell contains the gender age gap for the group, the t-test statistic, and the p-value in parentheses

Source: Household survey dataset

Implications for Future Programming

1. Relevance of Spousal Age Dynamics: The spousal age gap has implications for power dynamics within households, particularly as larger age gaps are often associated with unequal decision-making and resource control. Programs should explore how such dynamics may influence women's agency and inclusion, particularly in Kenya and Uganda, where the age gap is larger.
2. Tailored Interventions for FHHs: The older demographic profile of women in FHHs suggests distinct vulnerabilities, such as limited labor market participation or social support networks. Programs could focus on livelihood diversification, social protection, and health-related interventions tailored to the needs of older women, particularly widows or separated individuals.
3. Challenging Age-Related Norms: The presence of younger husbands among the target farming community in all three countries, though rare, challenges traditional norms around spousal age dynamics. These cases may present opportunities to study and leverage evolving attitudes toward marriage and gender roles to design transformative interventions that promote equitable partnerships.
4. Empowerment Beyond Age: Correlation coefficients indicate a very weak association between respondents' ages or the spousal age gap with the various indicators of empowerment used in this study. The weak correlation between age, spousal age dynamics and empowerment indicators suggests that other factors—such as socio-economic conditions, cultural norms, and programmatic interventions—are more critical. This reinforces the importance of a holistic approach in addressing gender inequality, focusing on structural and contextual enablers of empowerment.

Marital status

The data from male headed households (MHH) confirms that all men and women sampled in this group were married, effectively eliminating marital status as a differentiating factor within this household type. However, the marital status of women in female-headed households (FHH) reveals significant variability, particularly when comparing across countries.

The Pearson chi-square test for women in FHH across these three countries ($\chi^2 = 47.7050$, $p = 0.000$) indicates a statistically significant difference in marital status profiles. This reflects country-specific socio-cultural dynamics shaping women's marital experiences and transitions into FHH status and suggesting differing pathways leading to female household headship. Overall, the most prevalent across countries is widowhood, with the average ranging from 71% in Kenya to 50% in Tanzania. Kenyan and Tanzanian FHHs report a higher prevalence of never-married women (11% and 9.26%) respectively compared to Uganda (4.91%). In contrast, divorce and separation dominate in Tanzania and Uganda, where 37.04% and 41% of FHH women fall into these categories respectively, compared to 16% in Kenya. By focusing on the nuanced differences in marital status within FHHs across Kenya, Tanzania and Uganda, development initiatives can better address the unique vulnerabilities and opportunities faced by these households, fostering greater equity and inclusion.

Implications for Future Programming

- The significant differences between Kenya, Tanzania and Uganda emphasize the need for localized strategies that address the specific challenges associated with FHH. For example, in addition to widowhood, programs in Kenya and Tanzania may focus on economic empowerment for never-married young women transitioning into independent household management, while Ugandan interventions could prioritize support for divorced and separated women facing financial and social vulnerabilities.

- The diversity in marital status among FHH women also underscores the necessity of inclusive programming. Efforts should recognize and address the distinct needs of widows, separated women, and never-married individuals, providing tailored assistance in areas such as legal rights, psychosocial support, and livelihood enhancement.

Table 5: Marital status of respondents' from female headed households by country (%)

Respondent group	Kenya	Tanzania	Uganda	All
Senior Women in Female-Headed Households (FHH)				
Never married	11.00	9.26	4.91	7.55
Married	2.00	3.70	0.61	1.57
Widow/widower	71.00	50.00	53.37	58.49
Divorced	3.00	9.26	19.02	12.26
Separated/Deserted	13.00	27.78	22.09	20.13
Young Women in Female-Headed Households (FHH)				
Never married	50.00	68.75	17.95	33.33
Married	-	-	-	-
Widow/widower	-	12.50	5.13	7.02
Divorced	-	6.25	35.90	26.32
Separated/Deserted	50.00	12.50	41.03	33.33

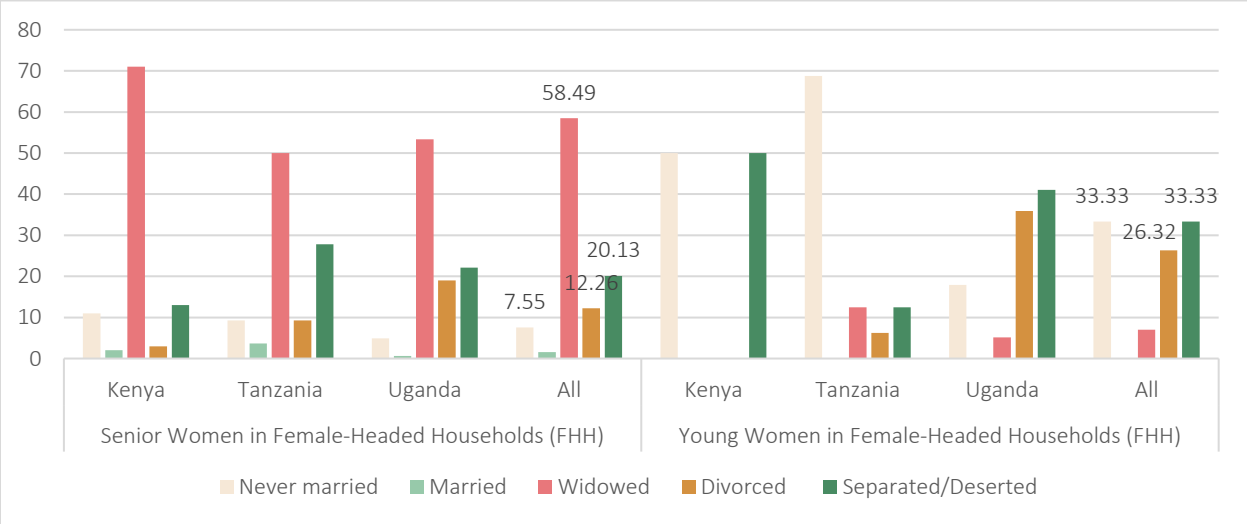

Figure 3:Marital status of respondents from female headed households by country (%)

Occupation: Gender differences in occupational patterns

Tables 6, 7, and 8 together offer a nuanced view of occupational dynamics across gender, household type, and country, revealing critical insights for promoting gender equality and economic inclusion.

High Reliance on Farming and Limited Diversification

The high reliance on agriculture and exposure to its vulnerabilities persists. Across all countries, farming remains the predominant livelihood, especially in **Tanzania**, where **over 96% of all women**—regardless of household type or age—report farming as their main occupation. In Kenya and Uganda, while farming still dominates, there is slightly greater diversification. For instance, **81% of Kenyan women in FHH** and **88% in MHH** rely on farming, suggesting marginally broader income sources among FHHs. The overwhelming reliance on farming as the main occupation among men and women, especially in Tanzania and female-headed households (FHH), underscores a significant vulnerability to agriculture-related shocks including climate change.

However, when comparing across groups and countries, **senior women in male-headed households (MHHs)** emerge as the most occupationally constrained group. They exhibit:

- The **highest dependence on farming** (100% in Tanzania, 94% in Uganda, 88% in Kenya),
- **Minimal engagement in wage or salaried labor**, and
- **Very low presence in self-employment**, including both skilled and informal trading activities.

In contrast, **women in female-headed households (FHHs)**—particularly in Kenya—have higher participation in wage labor (10%) and self-employment, including small-scale trading and professional services. **Young women**, meanwhile, show slightly more diversity in livelihoods but still face high farming dependency and **higher non-earning rates**, indicating barriers to entry into paid work.

These findings challenge the common assumption that women in FHHs are necessarily the most disadvantaged. While FHHs may face structural vulnerabilities, **women in MHHs often experience greater occupational exclusion**, likely due to restrictive intra-household gender norms and limited control over household resources.

Gendered Patterns in Non-Farming Occupations

Non-farming economic activities remain heavily segmented by gender. As Table 6 shows:

- **Ugandan women** pursue a wider range of non-farm roles such as teaching, tailoring, and small-scale trade, but remain excluded from male-dominated skilled trades like carpentry and vehicle mechanics.
- **Kenyan women** show similar trends, with limited access to skilled professions but moderate presence in primary school teaching, tailoring, and petty trade.
- **Tanzanian women** are the most excluded, with only four women (1.9%) in any non-farm work, primarily food processing and casual labor.

Men in all countries are more present in skilled and semi-skilled vocations such as transport, mechanics, and civil service, as well as medium- and large-scale trading, pointing to persistent gendered barriers in skill acquisition and employment opportunities.

Statistical Evidence of Disparities

Statistical tests in Table 8 reinforce these patterns:

- No significant differences emerge between men and women overall ($p = 0.170$).
- However, **country-specific and household-level comparisons reveal sharp differences:**
    - Occupational diversification is significantly greater among men and women in **Uganda** than in Tanzania ($p < 0.001$ and $p = 0.003$, respectively).
    - Women in **MHHs and FHHs** show significant differences in occupation patterns overall ($p = 0.011$), though the difference is especially pronounced in Kenya ($p = 0.044$).
    - Among **young people**, gender-based disparities are statistically significant ($p = 0.027$ in Kenya and $p = 0.019$ overall), highlighting early and persistent labor market exclusion for young women.

Implications for Future Transformative Programming

A gender-transformative approach must be tailored to the **specific constraints faced by different groups of women**. Based on the findings:

- **Interventions should prioritize senior women in male-headed households**, who are often the most excluded from non-farming work. This requires not just economic support, but also programs that **challenge intra-household gender roles**, strengthen bargaining power, and expand access to off-farm employment.
- **Targeted youth employment and training initiatives for young women** are essential. Despite moderate occupational diversification, they face **high non-earning rates** and limited access to skilled or salaried employment. Interventions should include life skills, vocational training, and early entrepreneurship programs.
- For **women in FHHs**, continued support for diversification is needed. Their higher involvement in wage labor and self-employment shows potential that can be built upon with improved access to credit, markets, and social protection.
- Country-level differences demand **localized strategies**:
    - In **Tanzania**, low economic diversification across all groups—especially women—calls for systemic investment in off-farm employment opportunities.
    - In **Uganda and Kenya**, more varied employment exists, particularly in self-employment and civil service, but women still face **entrenched gender barriers** to skilled and higher-paying work.
- Across all contexts, promoting **women's entry into male-dominated trades**, improving **access to vocational training**, and fostering **gender-equitable household decision-making** are essential steps toward meaningful economic inclusion.

Table 6: Numbers in non-farm vocations as a main occupation by sex and country

Men from Kenya:	Men from Tanzania:	Men from Uganda:
2 agricultural day laborers, 2 transporters, 4 in construction; 1 cleaner; 3 in other wage labor; 7 civil servants; 5 employees in private business, 6 primary school teachers; 3 high school teachers; 1 NGO worker; 3 boda boda	6 agricultural day laborers, 1 civil servant, 1 high	2 agricultural day laborers, 1 factory worker, 1 transport worker, 3 civil servants, 2 in private enterprise, 4 primary school teachers, 5 high school teachers, 4 boda boda riders, 2 drivers, 1 tailor, 1 cobbler, 1

riders; 3 drivers; 2 tailors; 1 restaurer; 2 saloonists; 1 repairer; 1 electrician; 1 mason; 2 milk vendors; 1 paravet, 1 in small scale processing; 1 in handicarfts; 4 roadside traders; 6 shop keepers; 1 wholesaler; 1 fish trader; 1 poultry keeper; 1 livestock keeper; and 2 dairy farmers. **(69 men or 25%)**	school teacher **(8 men or 5.6%)**	saloonist, 2 vehicle mechanics, 3 carpenters, 1 mid wife, 2 small traders, 7 medium traders, 1 large trader, 2 fish traders **(45 men or 13.4%)**
Women from Kenya: 12 agricultural day laborers, 1 employee in private business; 10 primary school teachers; 1 high school teacher; 6 tailors; 3 saloonists; 4 religious leaders; 1 milk collector; 5 roadside traders; 3 shop keepers; 3 poultry keepers; and 2 dairy farmers **(51 women or 13%)**	**Women from Tanzania:** 3 agricultural day laborers, 1 in food processing **(4 women or 1.9%)**	**Women from Uganda:** 4 agricultural day laborers, 2 civil servants, 6 in private enterprise, 8 primary school teachers, 1 college lecturer, 4 tailors, 2 restaurers/chefs, 1 cobbler, 6 saloonists, 2 midwives, 2 in food processing, 5 small traders, 5 medium traders **(40 women or 7.4%)**

Table 7: Respondents' main occupation by country and gender group (%)

Respondent group	Kenya	Tanzania	Uganda	All
All respondents				
Wage labour	3.47	2.54	0.91	**2.11**
Salaried worker	5.29	0.56	3.31	**3.49**
Self-employed (professional)	4.08	-	3.65	**3.12**
Self-employed (livestock and poultry services)	0.60	-	-	**0.21**
Self-employed (production)	0.30	0.85	0.23	**0.37**
Self-employed (trader)	3.02	-	2.51	**2.22**
Self-employed (farmer)	79.91	96.05	88.47	**86.90**
Non-earning occupation	3.32	-	0.91	**1.58**
Senior Men				
Wage labour	3.32	4.27	0.77	**2.38**
Salaried worker	8.53	1.71	3.85	**5.1**
Self-employed (professional)	3.79	-	3.46	**2.89**
Self-employed (livestock and poultry services)	0.47	-	-	**0.17**
Self-employed (production)	0.95	0.85	-	**0.51**
Self-employed (trader)	2.37	-	4.23	**2.72**
Self-employed (farmer)	76.30	93.16	86.15	**84.01**
Non-earning occupation	4.27	-	1.54	**2.21**
Senior Women in Male-Headed Households (MHH)/marital homes				
Wage labour	0.56	-	0.9	**0.6**
Salaried worker	3.93	-	3.15	**2.79**
Self-employed (professional)	2.81	-	1.35	**1.59**
Self-employed (livestock and poultry services)	-	-	-	**-**
Self-employed (production)	-	-	-	**-**
Self-employed (trader)	1.69	-	0.45	**0.8**
Self-employed (farmer)	88.2	100.00	94.14	**93.23**
Non-earning occupation	2.81	-	-	**1.00**
Senior Women in Female-Headed Households (FHH)				

Wage labour	10.00	1.85	0.61	**3.77**
Salaried worker	1.00	-	2.45	**1.57**
Self-employed (professional)	4.00	-	3.07	**2.83**
Self-employed (livestock and poultry services)	-	-		**-**
Self-employed (production)	-	1.85	0.61	**0.63**
Self-employed (trader)	1.00	-	3.68	**2.20**
Self-employed (farmer)	81.00	96.3	88.34	**87.42**
Non-earning occupation	3.00	-	1.23	**1.57**
Young Men				
Wage labour	5.8	4.00	2.6	**4.09**
Salaried worker	7.25	-	3.9	**4.68**
Self-employed (professional)	8.7	-	9.09	**7.6**
Self-employed (livestock and poultry services)	2.9	-	-	**1.17**
Self-employed (production)	-	4.00	-	**0.58**
Self-employed (trader)	10.14	-	1.3	**4.68**
Self-employed (farmer)	65.22	92.00	83.12	**77.19**
Non-earning occupation	-	-	-	**-**
Young Women				
Wage labour	0.96	3.57	0.65	**1.27**
Salaried worker	3.85	-	3.25	**2.87**
Self-employed (professional)	3.85	-	5.19	**3.82**
Self-employed (livestock and poultry services)	0.96	-	-	**0.32**
Self-employed (production)	-	-	0.65	**0.32**
Self-employed (trader)	3.85	-	1.95	**2.23**
Self-employed (farmer)	81.73	96.43	87.01	**86.94**
Non-earning occupation	4.81	-	1.3	**2.23**

Table 8: Testing the significance of gender differences in occupation by household type and country

Respondent group	Kenya	Tanzania	Uganda	Total
Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes	12.0124 (0.100)	7.2388 (0.065)	13.4702 (0.019)	**25.0044 (0.001)**
Senior Men vs Senior Women in Female-Headed Households (FHH)	14.4037 (0.044)	1.8932 (0.595)	2.4622 (0.873)	**9.5715 (0.214)**
Young Men vs Young Women	14.2736 (0.027)	2.2842 (0.319)	4.4784 (0.612)	**16.6943 (0.019)**

Each table cell contains the Pearson chi2 statistic and the p-value in parentheses

Source: Household survey dataset

Incidence of disability

The SNV CRAFT project has the opportunity to advance **gender equality and social inclusion** by strengthening its disability inclusion strategies. While the project's initial design focused on women and youth, attention to disability emerged more clearly in SNV's 2030 strategy. As a result, the disability data reported here reflect evolving priorities and are not fully representative of national disability statistics. Nonetheless, the dataset offers key insights into where inclusion efforts should be intensified—especially for women in **female-headed households (FHHs)** and individuals with **psychosocial, intellectual disabilities,** whose experiences are often stigmatized and underreported.

Reported Incidence of Disability

According to Table 9, physical disabilities are the most commonly reported, while psychosocial, intellectual and combined (physical and psychosocial, intellectual) disabilities are rare. Key findings include:

- **Overall prevalence of physical disability** across all principal adults is **3.49%,** with the highest rates in **Tanzania (6.5%),** followed by **Uganda (2.97%)** and **Kenya (2.57%).**
- **Senior women in FHHs** report the **highest prevalence** of physical disability at **5.66%,** peaking at **9.26% in Tanzania**—a reflection of both age and structural disadvantage.
- **Young women** report the **lowest rates** of physical disability (1.27%) and the **lowest rates overall** for any type of disability.
- Psychosocial, intellectual **and combined disabilities** are rare, with just **0.11%** and **0.21%** incidence, respectively. No cases were reported among women in any category for psychosocial, intellectual disability, raising concerns about **invisibility due to stigma or reporting bias**.

These figures contrast with national disability prevalence rates, which are significantly higher:

Country	National Disability Prevalence	Source
Kenya	2.2% (2019 census), but 4.6% (2014 DHS)	Kenya National Bureau of Statistics (KNBS), UNICEF
Tanzania	7.9% (2018 Disability Survey)	Tanzania National Bureau of Statistics
Uganda	12.4% (2014 census), up to 14% in some estimates	Uganda Bureau of Statistics, UNPRPD

The **underrepresentation of persons with disabilities (PWDs)** in the SNV CRAFT data, particularly those with **psychosocial disabilities**, underscores the importance of **intentional inclusion strategies** and improved data systems. Many disabilities, especially psychosocial, intellectual conditions, remain hidden due to stigma, fear of discrimination, and limited diagnosis.

Implications for Programming and Strategic Inclusion

To enhance disability inclusion in line with SNV's 2030 ambitions and the CRAFT project's goals, several strategic shifts are recommended:

1. Prioritize Disability-Gender Intersections

- Senior women in FHHs, particularly in Tanzania, experience a dual vulnerability of age and disability. Programs must offer tailored support—including mobility aids, accessible venues, and household-level income generation—to enable meaningful participation.
- Intersectionality should guide targeting and monitoring, ensuring that gender, age, and disability are considered together.

2. Expand Disability Inclusion Across All Programs

- Beyond climate-resilient value chains, disability inclusion should be mainstreamed into vocational training, enterprise development, climate-smart agriculture, and youth employment.
- Investment in adaptive tools, assistive technologies, and inclusive design (e.g., for agro-processing or trading infrastructure) will expand access for persons with physical and sensory disabilities.

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3. Address the Stigma and Invisibility of Psychosocial Disabilities

- The near-total absence of reported mental disabilities in the dataset likely reflects low inclusion in the farmer groups at the outset, underreporting and social stigma. Programming must actively challenge stigma and normalize mental health conversations.
- Introduce mental health sensitization campaigns, integrate psychosocial support into community-based activities, and train local facilitators on inclusive communication and trauma-informed practices.

4. Improve Disability Identification and Data Systems

- Collaborate with national disability organizations and health actors to adopt standardized disability screening tools (e.g., the Washington Group Questions).
- Collect disaggregated data on the type, severity, and impact of disability to inform targeted interventions and track progress over time.

5. Strengthen Partnerships with DPOs and Caregivers

- Engage disabled persons' organizations (DPOs), caregivers, and mental health advocates in the co-design of project components to ensure relevance and sustainability.
- Include caregivers of persons with high support needs, especially women, in livelihood interventions to improve household resilience.

Disability inclusion in CRAFT must go beyond access to participation and address the **systemic barriers** that perpetuate exclusion—especially for **senior women in FHHs** and those with **mental or psychosocial disabilities**. While the reported incidence of disability is lower than national averages, this likely reflects **historical under-prioritization especially when establishing the farmer groups which form the entry points for programming**, not a lack of need. As new projects emerge and evolve under the SNV 2030 strategy, it must place disability inclusion at the **core of its social equity agenda**, integrating inclusive design, data, partnerships, and anti-stigma approaches to leave no one behind.

Table 9: Incidence of disability among principal adults by country and respondent group (%)

Respondent group	Kenya	Tanzania	Uganda	All
All respondents				
Physical	2.57	6.50	2.97	3.49
Psychosocial, intellectual	0.00	0.00	0.23	0.11
Both	0.15	0.00	0.34	0.21
None	97.28	93.50	96.46	96.20
Senior Men				
Physical	3.79	8.55	2.31	4.08
Psychosocial, intellectual	0.00	0.00	0.38	0.17
Both	0.00	0.00	0.38	0.17
None	96.21	91.45	96.92	95.58
Senior Women in Male-Headed Households (MHH)/marital homes				
Physical	2.25	5.88	3.60	3.59

Psychosocial, intellectual	0.00	0.00	0.00	0.00
Both	0.00	0.00	0.45	0.20
None	97.75	94.12	95.95	96.22
Senior Women in Female-Headed Households (FHH)				
Physical	4.00	9.26	5.52	5.66
Psychosocial, intellectual	0.00	0.00	0.00	0.00
Both	0.00	0.00	0.61	0.31
None	96.00	90.74	93.87	94.03
Young Men				
Physical	1.45	4.00	0.00	1.17
Psychosocial, intellectual	0.00	0.00	1.30	0.58
Both	0.00	0.00	0.00	0.00
None	98.55	96.00	98.70	98.25
Young Women				
Physical	0.00	1.79	1.95	1.27
Psychosocial, intellectual	0.00	0.00	0.00	0.00
Both	0.96	0.00	0.00	0.32
None	99.04	98.21	98.05	98.41

Source: Household survey dataset

Education and literacy levels

Preliminary data from the SNV CRAFT project highlights a persistent and statistically significant gender gap in literacy and educational attainment across Kenya, Tanzania, and Uganda. While the majority of men in male-headed households (MHHs) are literate (83.30%), only 69.31% of women in MHHs and 63.60% of women in female-headed households (FHHs) can read and write. The literacy gap is most pronounced in Uganda, where 82.20% of men in MHHs are literate compared to only 66.17% of women in the same household type—and just 58.42% of women in FHHs. In contrast, Tanzania shows relatively higher female literacy, with 76.76% of women in MHHs and 72.22% in FHHs able to read and write.

Educational attainment patterns mirror the literacy gap. Men in MHHs are more likely to have completed primary education (36.12%) compared to women in MHHs (32.36%) and women in FHHs (27.57%). Country-specific trends reveal that Uganda has the lowest female educational outcomes: only 16.34% of women in FHHs have completed primary school. By comparison, 60.00% of women in FHHs in Tanzania have completed primary school, suggesting country-specific progress that could inform programming elsewhere.

Advanced education remains rare, particularly for women. Across the dataset, representation at the certificate/diploma or BA/BSc level is minimal for women, especially in Uganda. Only 0.63% of women in FHHs across all countries have a university degree, compared to 4.09% of young men.

Statistical analysis confirms that gender differences in literacy and education are significant across the dataset ($p < 0.000$). Uganda displays stark and highly significant gender disparities in both literacy and education ($p < 0.000$), while in Tanzania, gender disparities in literacy are significant ($p = 0.014$), but differences in education attainment are not ($p = 0.237$). Notably, Ugandan women—particularly those in FHHs—face compounded disadvantages that limit their access to education and literacy, underscoring critical regional inequities.

Implications for Future Programming

The observed disparities in literacy and education have direct implications for the design and targeting of climate-smart agriculture (CSA) interventions. Specifically:

- **Prioritize Literacy for Women in FHHs**: Women in female-headed households, particularly in Uganda, have the lowest literacy rates. Tailored literacy programs—especially those focusing on functional and applied literacy—are essential to enable their participation in CSA and value chain activities.
- **Expand Access to Primary Education:** In Uganda, efforts should focus on increasing access to and completion of primary education for women. Community outreach, adult education classes, and flexible learning opportunities can help close the education gap, especially for older women who missed formal schooling.
- **Adapt CSA Training Materials:** Given varying literacy levels, training and extension materials should be simplified and designed with visual and interactive elements. Gender-sensitive pedagogical approaches will enhance learning and empower women with limited formal education.
- **Differentiate Programming by Country Context**: In Uganda, foundational education and literacy efforts should be prioritized. In Tanzania—where baseline literacy and education rates are relatively higher—interventions can focus more on post-primary education, vocational skills, and entrepreneurship training.
- **Policy Advocacy and Systems Strengthening**: Advocacy is needed to promote inclusive education policies that address the needs of women in rural and low-income households. Partnerships with local governments, civil society organizations, and education providers can support sustainable change and long-term capacity building.

Supporting Evidence

Table 10 and **Figure 2** provide detailed disaggregated data by country, gender, and household type, reinforcing the patterns discussed above. **Table 11** shows statistically significant gender gaps in both literacy and education levels across all respondent groups, with particularly wide disparities among senior adults and in Uganda.

For instance:

- Gender differences in literacy and education among senior men and women in MHHs are highly significant across all countries ($p < 0.000$ overall).
- Among young people, Uganda shows significant gender gaps in both literacy ($p = 0.004$) and education ($p < 0.000$), while differences in Kenya and Tanzania are less pronounced.

These findings emphasize the urgent need for gender-responsive educational investments tailored to different demographic and geographic contexts.

Table 10: Literacy and education level of the principal adults by country and household type (%)

Respondent group	Kenya	Tanzania	Uganda	All
All respondents				
Literacy level (%)				

Cannot read and write	12.39	16.38	22.26	17.70
Can sign only	5.44	2.82	7.19	5.76
Can read only	2.27	0.00	0.00	0.79
Can read and write	79.91	80.79	70.55	75.75
Highest education level (%)				
Attended but didn't complete primary school	17.22	3.67	14.5	13.47
Completed primary school	28.4	59.04	22.15	31.22
Didn't complete O level	6.19	2.54	8.11	6.39
Completed O level	20.69	7.63	19.63	17.75
Completed A level	2.11	0.00	0.00	0.74
Certificate/diploma	9.21	1.98	7.88	7.24
BA/BSC	1.81	0.28	0.46	0.90
MA/MSC and above	1.21	0.00	5.25	2.43
Currently attending primary school	0.91	7.06	1.26	2.32
Currently attending secondary school	0.15	1.13	0.11	0.58
Never attended school	12.08	16.67	20.66	16.90
Senior men				
Literacy level (%)				
Cannot read and write	10.43	10.26	18.46	13.95
Can sign only	5.21	4.27	4.23	4.59
Can read only	2.84	0.00	0.00	1.02
Can read and write	81.52	85.47	77.31	80.44
Highest education level (%)				
Attended but didn't complete primary school	15.17	3.42	11.15	11.05
Completed primary school	28.44	64.96	26.92	35.03
Didn't complete O level	8.53	2.56	8.46	7.31
Completed O level	20.85	3.42	20.00	17.01
Completed A level	2.84	0.00	0.00	1.02
Certificate/diploma	9.48	3.42	5.38	6.46
BA/BSC	2.37	0.00	0.38	1.02
MA/MSC and above	0.00	0.00	7.69	3.4
Currently attending primary school	1.42	9.4	2.69	3.57
Currently attending secondary school	0.47	1.71	0.38	0.68
Never attended school	9.95	11.11	16.92	13.27
Senior women in male-headed households (MHH)				
Literacy level (%)				
Cannot read and write	17.98	22.55	31.53	24.9
Can sign only	9.55	0.98	11.71	8.76
Can read only	3.37	0.00	0.00	1.2
Can read and write	69.1	76.47	56.76	65.14
Highest education level (%)				
Attended but didn't complete primary school	23.6	2.94	19.82	17.73
Completed primary school	31.46	63.73	20.27	33.07
Didn't complete O level	3.37	0.00	5.41	3.59
Completed O level	11.8	3.92	15.77	11.95
Completed A level	2.25	0.00	0.00	0.8
Certificate/diploma	6.18	0.98	7.21	5.58
BA/BSC	0.56	0.00	0.00	0.2
MA/MSC and above	0.00	0.00	1.35	0.6
Currently attending primary school	0.56	5.88	0.45	1.59

Currently attending secondary school	0.56	0.98	0.00	0.4
Never attended school	19.66	21.57	29.73	24.5
Senior women in female-headed households (FHH)				
Literacy level (%)				
Cannot read and write	24.00	22.22	33.13	28.3
Can sign only	7.00	5.56	11.66	9.12
Can read only	2.00	0.00	0.00	0.63
Can read and write	67.00	72.22	72.22	61.95
Highest education level (%)				
Attended but didn't complete primary school	28.00	5.56	19.63	20.13
Completed primary school	24.00	62.96	16.56	26.73
Didn't complete O level	3.00	0.00	9.2	5.66
Completed O level	19.00	1.85	12.88	12.89
Completed A level	0.00	0.00	0.00	
Certificate/diploma	2.00	0.00	4.29	2.83
BA/BSC	0.00	0.00	1.23	0.63
MA/MSC and above	0.00	0.00	4.29	2.2
Currently attending primary school	0.00	0.00	0.61	2.2
Currently attending secondary school	1.00	9.26	0.00	0.00
Never attended school	23.00	20.37	31.29	26.73
Young men				
Literacy level (%)				
Cannot read and write	1.45	8.00	2.60	2.92
Can sign only	1.45	4.00	0.00	0.58
Can read only	0.00	0.00	0.00	0.58
Can read and write	97.1	88.00	97.40	95.91
Highest education level (%)				
Attended but didn't complete primary school	2.9	4.00	2.60	2.92
Completed primary school	26.09	40.00	22.08	26.32
Didn't complete O level	5.8	0.00	11.69	7.6
Completed O level	28.99	28.00	23.38	26.32
Completed A level	2.9	0.00	0.00	1.17
Certificate/diploma	23.19	4.00	22.08	19.88
BA/BSC	7.25	4.00	1.30	4.09
MA/MSC and above	0.00	0.00	14.29	6.43
Currently attending primary school	1.45	8.00	0.00	2.34
Currently attending secondary school	1.45	0.00	1.3	0.58
Never attended school	0.00	12.00	1.3	2.34
Young women				
Literacy level (%)				
Cannot read and write	2.88	16.07	13.64	10.51
Can sign only	0.96	0.00	4.55	2.55
Can read only	0.00	0.00	0.00	0.00
Can read and write	96.15	83.93	81.82	86.94
Highest education level (%)				
Attended but didn't complete primary school	9.62	3.57	12.99	10.19
Completed primary school	28.85	42.86	22.73	28.34
Didn't complete O level	9.62	10.71	8.44	9.24
Completed O level	31.73	19.64	29.87	28.66
Completed A level	1.92	0.00	0.00	0.64

Certificate/diploma	11.54	1.79	9.74	8.92
BA/BSC	0.96	0.00	0.00	0.32
MA/MSC and above	0.00	0.00	3.25	1.59
Currently attending primary school	1.92	1.79	0.00	1.27
Currently attending secondary school	2.88	1.79	0.65	1.27
Never attended school	0.96	17.86	12.34	9.55

Source: Household survey dataset

Table 11: Testing the significance of gender differences in literacy and education level by household type and country

	Literacy level				Highest education level			
Respondent group	**Kenya**	**Tanzania**	**Uganda**	**Total**	**Kenya**	**Tanzania**	**Uganda**	**Total**
Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes	8.5385 (0.036)	7.8524 (0.020)	24.5413 (0.000)	**33.0683 (0.000)**	24.1819 (0.007)	8.9337 (0.257)	35.6040 (0.000)	**57.4804 (0.000)**
Senior Men vs Senior Women in Female-Headed Households (FHH)	10.8733 (0.012)	4.6968 (0.096)	23.8364 (0.000)	**39.1527 (0.000)**	29.2581 (0.001)	7.1568 (0.413)	27.8614 (0.001)	**54.0440 (0.000)**
Young Men vs Young Women	2.5442 (0.467)	3.7194 (0.156)	11.2154 (0.004)	**13.2529 (0.004)**	13.1210 (0.157)	8.4652 (0.389)	31.3241 (0.000)	**46.1038 (0.000)**

Each table cell contains the Pearson chi2 statistic and the p-value in parentheses

Source: Household survey dataset

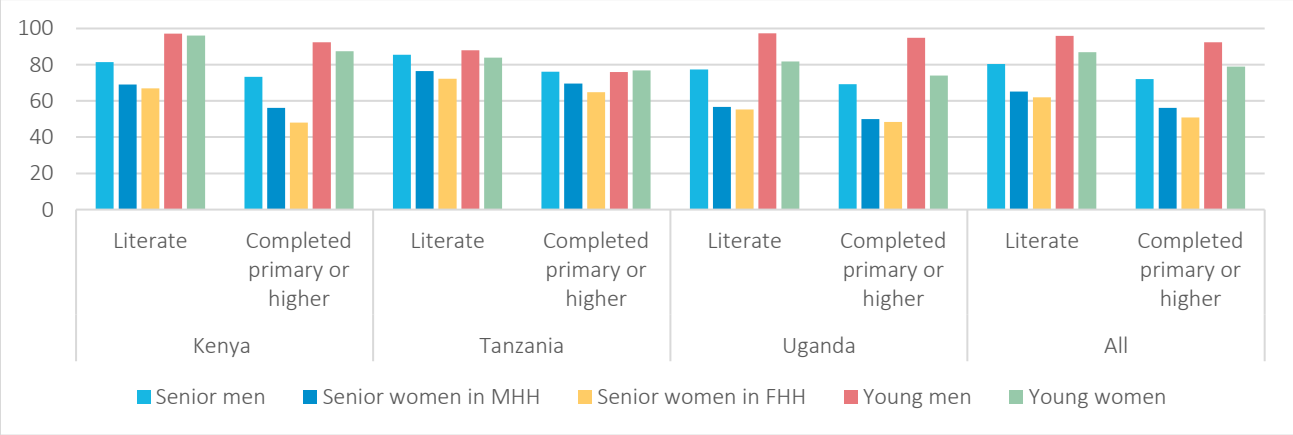

Figure 4: Literacy and education level of the principal adults by country and household type (%)

3.1.4 Surveys of the business champions

The study interviewed eight (IMCOS, Starlight, Kaplamboi; Sebei SACCO, KDPGCUL, Nyekorac; and JAKMA and Kibaigwa) of the selected 13 business champions (62% response rate). The champions survey was initially designed to be self-administered online.

4. Inventory of GESI-related activities undertaken, and knowledge products produced by the CRAFT partnership ecosystem in the three countries.

4.1 Inventory of GESI knowledge products of SNV/CRAFT

4.1.1 Document review and classification approach

To develop the GESI knowledge product inventory, the process begun by assessing the integration of gender equality and social inclusion (GESI) within the SNV/CRAFT project knowledge products, using a two-stage methodology. First, a comprehensive document collation was conducted, drawing from multiple sources including internal files shared by SNV/CRAFT project staff, publicly available materials on the CRAFT project website (https://www.crafteastafrica.org/), and broader searches on Google Scholar. The online search strategy applied predefined terms: "SNV," "CRAFT," "Uganda," "Kenya," and "Tanzania" to ensure inclusivity of business cases and ecosystem actors not directly involved in primary interviews or sampling.

In the second stage, documents were screened for GESI relevance. All materials lacking any reference to gender, youth, or other inclusion-related terms were excluded (Tier 0). The remaining documents were assessed using the Reach–Benefit–Empower (RBE) framework developed by Johnson et al. (2018), a well-established model for identifying gender-responsive outcomes in agricultural development (Figure 3). This framework distinguishes interventions by the extent to which they (i) reach women and youth participants, (ii) deliver tangible benefits such as increased income or productivity, and (iii) contribute to structural changes in agency, norms, or decision-making power.

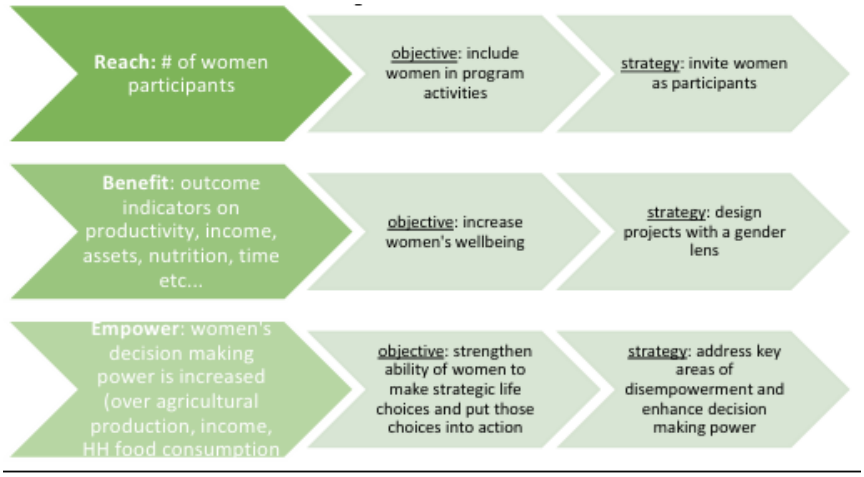

Figure 5: A Framework to clarify how projects like SNV/CRAFT empower women across a spectrum of outcomes

Source: Adapted from Johnson et al. 2018.

To operationalize the RBE framework in practice, all reviewed documents were classified into five tiers (0–4), based on their depth of GESI integration and evidence of transformative outcomes (Figure 4). Only documents classified as Tier 4, those demonstrating robust engagement with gender-transformative change, were retained in the final synthesis. These include narratives of how interventions fostered

empowerment through increased access to resources, leadership, capacity building, and shifts in institutional or household gender norms.

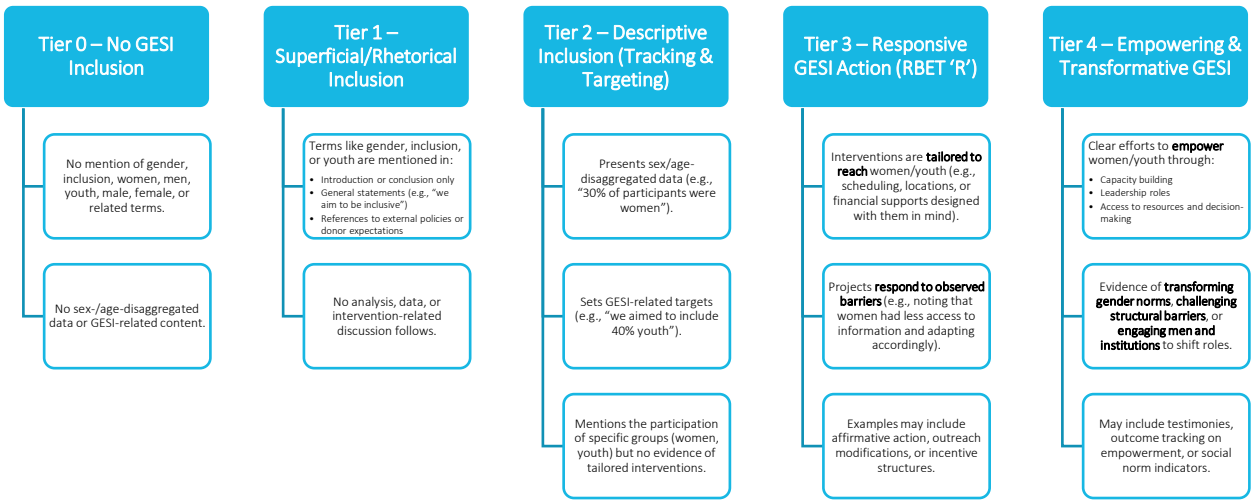

Figure 6:GESI tier classification of CRAFT documents

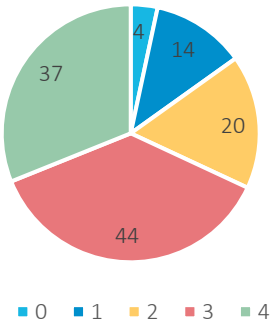

Figure 7:Number of SNV/CRAFT documents by tier classification

Among the 120 reviewed publications, only four were excluded as Tier 0 (Figure 5). A total of 37 documents were classified as Tier 4, reflecting a high degree of GESI integration. This subset spanned diverse document types, including CRAFT annual reports, technical resources, training manuals, impact stories, and case studies. When business case snapshot profiles are excluded, 26 documents remain in Tier 4, offering strong

evidence of the project's commitment to inclusion (see Table 12). Foundational resources such as gender audit reports and the CRAFT GESI strategy were excluded from tiering and listed separately. The CRAFT GESI knowledge product inventory hence includes 26 CRAFT documents with a high (tier 4) level of GESI integration and 55 foundational documents.

Table 12: List of SNV/CRAFT documents classified as Tier 4

1. SNV 2022 Annual report
2. SNV 2021 Annual report
3. SNV Tanzania. (2023). CRAFT Tanzania Annual Review Report. Climate Resilient Agribusiness for Tomorrow Project.
4. SNV. (2023). Climate adaptation and mitigation: Solutions for a climate-resilient future. SNV Netherlands Development Organisation. https://snv.org
5. CRAFT Project. (2023). Women's Day Story – Grace Sanga. Tanzania: SNV.
6. CRAFT Project. (2022). Significant Change Story – Joyce Malua Msengi. Tanzania: SNV.
7. CRAFT Project. (2022). Significant Change Story – Aziza Ramadhani Solo. Tanzania: SNV.
8. SNV. (2023). Enhancing Improved Sunflower Seed Availability through Quality Declared Seeds. CRAFT Tanzania Case Study.
9. CRAFT Project. (2023). Women's Day Profile – Aziza Ramadhani Solo. Tanzania: SNV.
10. CRAFT Project. (2023). Women's Day Profile – Mwajuma Salumu Lugomba. Tanzania: SNV.
11. Sebei Farmers' SACCO (2023). Grantee Completion Report. SNV/CRAFT.
12. Vibinjo Cooperative (2023). Final Project Report. SNV/CRAFT.
13. Shilomboleni, H., & Solomon, D. (2021). Scaling Climate Resilient Seeds Through Inclusive Agri-businesses in East Africa. CCAFS Info Note.
14. SNV. (2023). Info Note – Transforming Farmer Field Schools.
15. SNV. (2023). Sustainability of Farmer Field Schools. SNV Learning Paper.
16. SNV. (2024). The Climate Resilient Agribusiness for Tomorrow (CRAFT) Project: Regional Learning Event Summary Report. SNV Netherlands Development Organisation.
17. SNV. (2023). Transforming Extension through Farmer Field Schools.
18. SNV. (2023). CRAFT program book: Climate Resilient Agribusiness for Tomorrow. SNV Netherlands Development Organisation.
19. SNV. (2023). Uganda success stories: Youth and women lead climate-smart agriculture transformation. SNV Netherlands Development Organisation.
20. Kyotalimye, M. (2022, June). *CRAFT business case gender equality and social inclusion (GESI) action plans: Case studies on progress made with their implementation in Uganda* (Consultancy report).
21. Ministry of Agriculture, Livestock, Fisheries and Cooperatives. (2020). The Climate Smart Sorghum Production Training Aid (Kenya, 2020). Nairobi, Kenya.
22. Ministry of Agriculture, Livestock, Fisheries and Cooperatives & SNV. (2020). The Climate Smart Sorghum Production Training and Resource Guide (Kenya, 2020). Nairobi, Kenya.
23. FAO & CCAFS. (2020). Climate Resilient Farmer Field Schools Handbook. Food and Agriculture Organization of the United Nations and CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).
24. SNV. (2020). Climate Resilient Farmer Field Schools Training Handbook.
25. Osumba, J. & Recha, J. (2022). Scaling CSA through Multi-Stakeholder Platform Engagement - Uganda. AICCRA Workshop Report.
26. Ngunjiri, S., Masinde, G., & Wambu, C. (2022, December). *Technical report on risk and diversification, cost-benefit and return on labor analyses of gender-responsive climate smart agriculture (CSA) practices and technologies in potato, common beans, green grams and sorghum value chains in Meru, Tharaka Nithi, Machakos, Kitui, Nyandarua, Narok, Bomet, Elgeyo-Marakwet, Nandi and Nakuru counties, Kenya* (Consultancy report). SNV/CRAFT.

List of foundational GESI resources

1. Kyotalimye, M. (2022, April). *CRAFT staff training: Are you gender aware? Uganda CRA workshop held 29th April 2022* [PowerPoint presentation].
2. Kyotalimye, M. (2021, March). *Women and youth inclusion: ALITO business case* (SNV/CRAFT gender mapping brief). SNV.
3. Kyotalimye, M. (2021, March). *Women and youth inclusion* (SNV/CRAFT programme gender mapping brief). SNV.
4. Kyotalimye, M. (2021, March). *Women and youth inclusion: EAFFC business case* (SNV/CRAFT gender mapping brief). SNV.
5. Kyotalimye, M. (2021, March). *Women and youth inclusion: MASCO business case* (SNV/CRAFT gender mapping brief). SNV.
6. Kyotalimye, M. (2021, March). *Women and youth inclusion: MFCL business case* (SNV/CRAFT gender mapping brief). SNV.
7. Kyotalimye, M. (2021, March). *Women and youth inclusion: NYEKORAC business case* (SNV/CRAFT gender mapping brief). SNV.
8. Kyotalimye, M. (2021, March). *Women and youth inclusion: OKEBA business case* (SNV/CRAFT gender mapping brief). SNV.
9. Kyotalimye, M. (2021, March). *Women and youth inclusion: RECO business case* (SNV/CRAFT gender mapping brief). SNV.
10. Kyotalimye, M. (2021, March). *Women and youth inclusion: RWOGIMWA business case* (SNV/CRAFT gender mapping brief). SNV.
11. Kyotalimye, M. (2021, March). *Women and youth inclusion: SEBEI SACCO business case* (SNV/CRAFT gender mapping brief). SNV.
12. Kyotalimye, M. (2021, March). *Women and youth inclusion: Sereni Fries business case* (SNV/CRAFT gender mapping brief). SNV.
13. Kyotalimye, M. (2021, March). *Women and youth inclusion: SESACO business case* (SNV/CRAFT gender mapping brief). SNV.
14. Kyotalimye, M. (2021, March). *Women and youth inclusion: TRAFORD business case* (SNV/CRAFT gender mapping brief). SNV.
15. Kyotalimye, M. (2021). *Gender mapping of women and youth inclusion in the SNV/CRAFT program: The Sebei SACCO business case* [PowerPoint presentation]. SNV.
16. Kyotalimye, M. (2019). *Brief and report of the gender mapping of the three sisters' business case.* SNV/CRAFT
17. Kyotalimye, M. (2019). *Brief and report of the gender mapping of the ACILA Enterprises business case.* SNV/CRAFT.
18. Kyotalimye, M. (2019). *Brief and report of the gender mapping of the ESL business case.* SNV/CRAFT.
19. Kyotalimye, M. (2019). *Brief and report of the gender mapping of the IMCOS business case.* SNV/CRAFT
20. Kyotalimye, M. (2019). *Brief and report of the gender mapping of the JAKMA business case.* SNV/CRAFT
21. Kyotalimye, M. (2019). *Brief and report of the gender mapping of the KADERES business case.* SNV/CRAFT.
22. Kyotalimye, M. (2019). *Brief and report of the gender mapping of the NCS business case.* SNV/CRAFT.
23. Kyotalimye, M. (2019). *Brief and report of the gender mapping of the SPA business case.* SNV/CRAFT
24. Kyotalimye, M. (2019). *Empowerment of women and young farmers in the soy bean value chain of* ACILA *Enterprises Ltd.* (Consultancy report). SNV/CRAFT.
25. Kyotalimye, M. (2019). *Empowerment of women and young farmers in the sesame value chain of* ESL. (Consultancy report). SNV/CRAFT.
26. Kyotalimye, M. (2019). *Empowerment of women and young farmers in the green grams' value chain of* IMCOS. (Consultancy report). SNV/CRAFT.
27. Kyotalimye, M. (2019). *Empowerment of women and young farmers in the value chains of SNV/CRAFT Tanzania.* (Consultancy report). SNV/CRAFT.
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4.2 Inventory of GESI interventions by SNV/CRAFT

The inventorying of GESI (Gender Equality and Social Inclusion) interventions by the SNV/CRAFT project involved reviewing and systematically extracting from each Tier 4 document a summary of the most impactful GESI strategies used across value chains and business cases. In addition, the verbatim transcripts of GESI panel discussions and interviews of a select team of business case leaders[1] were also added to the review. Tier 4 classification reflects documentation of empowering and transformative GESI approaches.
The generated summaries were then grouped into two levels -: supply level (farmer-facing inclusive service delivery interventions) and workplace level (Internal GESI change within organizations. This effort contributes to supporting cross-learning and potential scale-up.

4.2.1 Supply-level interventions

Supply-level interventions reflect activities directly engaging smallholder farmers—especially women, youth and or other marginalized groups in capacity building, decision-making, and resource access leading to empowerment and behavioral shifts. A total of eleven GESI interventions in addition to 'other interventions' that were not as well-documented or discussed in interviews and panel discussions as the first eleven. The eleven interventions are highlighted below:

[1] An online survey was also shared with business case leaders to inform the inventory but is not included here due to a low quality of and response rate.

Supplier Level GESI Intervention 1

1. CRAFT's Inclusive Climate Resilient Agribusiness Farmer Field School (CRAFFS) Approach

CRAFT developed a farmer field school based approach to training and extension service delivery to farmers that was tailored to both CSA and gender inclusion (Osumba et al., 2021). The Climate Resilient Agribusiness Farmer Field School (CRAFFS)[2] model represents a novel, bottom-up approach to delivering training and extension services in climate-smart agriculture (CSA). Its curricular integrated sustainable production practices with climate information services (CIS) and indigenous technical knowledge (ITK) to enhance climate resilience among farmers (Osumba et al., 2021; Osumba et al., 2020). Over 265,000 farmers, 53% of whom were women and a significant number of youth, were trained using this approach, with deliberate efforts to mainstream gender and social inclusion throughout. Below are the gender-responsive interventions that were integrated in this model to make it inclusive:

a) Building Women and Youth Leadership in Extension Delivery

Farmer facilitators (agricultural extension officers and lead farmers) participated in week long training of trainers (ToT) workshops on CSA, later followed by refresher trainings across all three countries, with a portion of these receiving additional training as master trainers to provide technical support to peers during implementation[3]. Available gender disaggregated data for the first cohort indicates that 32% were women and 54% were youth, highlighting a strong gender and generational inclusion strategy (SNV, 2023; Sebei SACCO, 2023; Postema, 2022)[4]. These facilitators, many of them women and youth, played leading roles in cascading CSA knowledge. The project prioritized institutional reforms within CRAFFS, embedding gender-sensitive modules, using inclusive criteria[5] for facilitator selection, promoting female facilitators as role models, positioning women and youth as technical leaders within their communities, integrating decision making modules, and the use of experiential learning visits between business cases. Women facilitators reported not just gaining agronomic skills but also self-confidence and leadership in their groups and wider community; overcoming the invisibility, non-recognition and cultural expectations about a woman's role in farming. Women were intentionally highlighted as change agents and role models (e.g. during women's day celebrations), which was a transformative tactic to shift social norms at the community level.

b) Leveraging intergenerational knowledge

The CRAFFS model drew upon an age-diverse cohort of ToTs (20 to 72 years) to integrate indigenous technical knowledge (ITK) into CSA practices, especially for understanding long-term weather patterns and traditional forecasting techniques. This intergenerational collaboration enriched training content and strengthened community trust in CSA innovations (Osumba et al., 2021).

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[2] In 2022, CRAFT established 1,785 climate resilient agribusiness farmer field schools across its operational area. By 2022 CRAFT had cumulatively trained 248,883 smallholder farmers in CSA practices, with 54% women and 36% youth participation across the three countries (SNV, AR22).

[3] The **Training of Trainers (ToT) model** is preferred by farmers for its personalized, community-based approach and practical delivery through demonstration farms and Farmer Field Days (SNV, Annual Report 2022).

[4] CRAFT's training approach promotes gender equality by initially training women and men separately to ensure open participation, then integrating groups to reinforce equal speaking rights and social cohesion. This method avoids framing women as a separate beneficiary group and instead positions them as equal contributors; women participants have expressed preference for this inclusive approach (Postema, 2022).

[5] Criteria used included being based in the BC's operational villages, ability to read and write, volunteerism, acceptance by the community, and being a team player.

c) Institutionalization and scaling by agribusiness champions

Agribusiness partners actively adopted and scaled the CRAFFS approach by incorporating its methodologies into their matching grant proposals and leveraging complementary funding for implementation. This commitment contributed to the institutionalization and sustainability of gender-inclusive CSA practices within the private sector.

d) Inclusive Design of Training Set-Up and Tools

The FFS methodology was adapted to accommodate women's and youth's time constraints and literacy levels. This included flexible venue selection, time scheduling aligned with domestic responsibilities, and simplified training materials sensitive to varying literacy levels. These design elements enabled broader and more equitable participation and retention of women and youth in field schools (SNV. 2022: *Transforming FFS Info Note*).

e) Embedding Gender Equality and Social Inclusion (GESI) in the CSA Training Curriculum

The CRAFFS handbook institutionalized FFS platforms as vehicles for empowerment, particularly targeting women and youth in leadership and peer-learning roles (Ocircan et al., 2020). Gender-focused modules were integrated into value chain-specific training guides, including two developed for the sorghum sector in Kenya, addressing themes such as equitable labor distribution and farming as a family business (MOALD & SNV, 2020; MoALD, 2020). The curriculum emphasized participatory, adult-learning methodologies, scenario-based learning, and gender norms transformation. Gender-inclusive practices such as peer-to-peer training by women, creation of women- and youth-only learning groups, positioning some women-dominated groups as demonstration plot hosts, and female-led facilitation enhanced relatability and uptake of CSA practices (SNV, 2024).

f) Monitoring Outcomes Using Participatory Storytelling

CRAFT applied a "Most Significant Change" (MSC) approach to tracking outcomes, particularly for women and youth. This qualitative method, notably used in Tanzania[6], allowed for real-time feedback and learning during the training process (Msangi, 2022). Storytelling also served as a pedagogical tool during trainings and was used to document changes in confidence, leadership, and productivity among participants' especially women, overtime.

Participant Reflections:

- *"…I'm now confident that I can sell any amount of sunflower grains… due to quality and high demand for the variety I grow (Hysun) on the market."* — Aziza Ramadhani Solo- senior woman sunflower value chain, Mwenge Oil Millers Ltd. BC
- *"Being a female FFS facilitator gave me respect in my community and inspired others to join."* — FFS Lead, Kenya
- *"We were taught how to farm using new practices, and this has increased our harvest. I now teach other women in my group."* — Mwajuma, CRAFFS Beneficiary (Sunflower VC)

[6] We also found one documented MSC story for a farmer working with Fresh Crop, Kenya among the Tier 4 documents

Bizimungu's study highlights that training women in Climate-Smart Agriculture (CSA) has greater positive impacts than training men—particularly in individually managed plots. Women's training led to higher adoption of CSA practices, improved household nutrition, increased farmer investment in CSA and the involvement of children. However, men often increased their control over women-managed outputs post-training. Jointly managed plots showed less pronounced benefits from training women, suggesting male dominance still limits outcomes. Overall, empowering women directly yields stronger gains in productivity, resilience, and equity. – *Emmanuel Bizimungu was a PhD student under CRAFT. This conclusion was drawn from a presentation he made at the CRAFT regional learning event in September 2024.*

Supplier Level GESI Intervention 2

2. Prioritization of Gender-Responsive Value Chains and CSA Technologies

The CRAFT project applied inclusion criteria to prioritize seven target value chains, selecting those with high levels of participation by women and youth (Osumba et al., 2020; CRAFT Annual Report, 2019). This gender-responsive approach ensured that investments and technical interventions were relevant to the actual roles and interests of diverse farmer groups. Country-specific processes further refined this focus by identifying and validating climate-smart agriculture (CSA) technologies and practices tailored to men, women, and youth (see Ngunjiri et al., 2022 and Table 1). These were documented as "validated CSA packages per value chain," ensuring that CSA promotion reflected lived realities and preferences.

In Kenya, the Sorghum Training Guide included modules specifically designed for women and youth, focusing on accessible and relevant practices such as crop rotation, use of organic manure, traditional pest deterrents (e.g., scarecrows), and SMS-based weather information. Feedback from training implementation noted that "*youth liked technologies with low capital needs, while women preferred food-security-oriented practices*" (MoALD and SNV, 2020).

Table 13: Priority technologies and practices for the sorghum value chain in Kenya for women, men and youth by impact area

Impact area	Women	Men	Youth
Diversification	• *seasonal weather forecasts* • *CSA and circular agriculture practices* • *contour farming* • *soil water drainage*	• *blended scientific + Indigenous Technical Knowledge (ITK) climate info* • *spray programs* • *mechanized threshing & grain cleaning* • *IPM* • *inorganic inputs*	*low-capital, labor-saving practices* such as *hermetic bags*, *scarecrows*, *drought-tolerant varieties*, *crop rotation*, *intercropping*, and *spray programs*
Profitability	• *inorganic fertilizers* • *mechanized threshing* • *tarpaulins* • *tractor hire*		
Return on labour			*tractor hire* and *access to extension* services

Source: Ngunjiri et al., 2022

Supplier Level GESI Intervention 3

3. Formation and Strengthening of Farmer Groups including establishing youth-only and women-only groups

To improve inclusion in collective action, farmer groups were either newly formed or strengthened with a specific emphasis on enhancing women's participation and leadership. Agribusiness champions embedded group strengthening within their extension strategies to improve the negotiation power of women and youth, strengthen group-based marketing, and support access to formal markets. In some cases, youth-only groups were formed supported by an older farmer for mentorship purposes (Starlight Cooperative). In the case of RECO Industries in Uganda, at least 29 of the 300 farmer groups they registered to work with under CRAFT for their soybean value chain were women-only groups while about 210 posted a high participation of women and youth in their leadership (Kyotalimye, 2022).

Supplier Level GESI Intervention 4

4. Promoting Leadership and Agency through Gender Action Learning Systems (GALS)

The Gender Action Learning System (GALS) methodology was introduced in Uganda and Tanzania as a transformative tool to build agency among women and youth. GALS combines visual tools and participatory processes to foster critical reflection and planning. It enabled participants to develop personal and household vision roadmaps to address economic, gender, and social barriers.

Women and youth used GALS tools to articulate life goals, track progress, and foster equitable decision-making within households and enterprises. This process contributed to improved self-confidence and visibility of female leadership in farming communities.

"*I used the GALS tree to map how I could expand my vegetable sales. Now I contribute equally to decisions at home.*" — Woman Farmer, Uganda (Sunflower Value Chain)

"*Sometimes our husbands mistreat us when we try to stand up for ourselves. But the trainings on women's empowerment, gender equality, and inclusiveness have helped a lot. Now, our men are more accepting of us. They no longer accuse us of trying to challenge or expose them in the household. The trainings have been effective — they've balanced the power dynamics and reduced misunderstandings at home.*" — Norah Asio Ebakulin, Chairperson, P'KWI (Sunflower Value Chain, Uganda).

As part of group dynamics training at Starlight, farmers participated in a time-use exercise where husbands and wives independently recorded their daily activities over a 24-hour period. Comparison of time logs revealed significant gender disparities, with women consistently bearing a heavier workload. This facilitated critical discussions on equitable task sharing, leading many men to recognize the imbalance and commit to providing more support in household responsibilities. – Synthesized narrative from interview with Lorraine Njuguna, General Manager, Starlight Farmers' Cooperative Society, Ltd.

Supplier Level GESI Intervention 5

5. Facilitating Inclusive Farmer Organization Membership through CRAFT Support

One of the key enablers of successful project implementation was the targeted support provided for mobilizing farmers into structured groups. This approach was deliberately designed to integrate clear gender and youth inclusion goals, creating the necessary impetus to actively involve women and youth in farmer-based organizations (FBOs), the main entry points for CSA interventions. This deliberate strategy

ensured that these often-marginalized groups were not left behind but instead became active participants and beneficiaries in the project.

Example: Vibinjo Cooperative's Transformation

Vibinjo offers a compelling example of the impact of this approach. To mobilize common bean farmers, Vibinjo organized two sensitization meetings in each of 25 target villages. These sessions facilitated farmer awareness and group formation. Subsequently, participating farmers were involved in a baseline survey and registered using the project's digital profiling tool, the Kenga app.

When Vibinjo was established, it had 750 members—380 males and 370 females. Over the following three years, without CRAFT support, the cooperative grew modestly, adding only 61 members (an 8% increase), reaching 811 members (416 males and 395 females). However, after signing a grant agreement with SNV under the CRAFT project on 3rd May 2021, Vibinjo experienced remarkable growth. Within just 20 months, it attracted an additional 383 members, bringing total membership to 1,194—comprising 633 males and 561 females. This represents a 51% increase in membership, demonstrating how targeted support and inclusion strategies can significantly accelerate growth and gender equity in farmer organizations (Vibinjo EOP Report, 2022).

Supplier Level GESI Intervention 6

6. Digitalization of services and delivery systems

The SNV/CRAFT project integrated digitalization into its climate-smart agriculture (CSA) interventions to enhance inclusivity, particularly for women and youth, by enabling more timely and equitable access to critical services such as weather forecasts, market information, agri-advisories, and digital financial services. While project reports indicate a wide application of mobile platforms, weather information was the most consistently delivered service, primarily via bulk SMS, due to low smartphone penetration and language or literacy barriers among farmers. Disaggregated phone ownership data were not systematically available; however, cooperative-level insights revealed wide variation in access—from 90% reach in Kenya's Starlight Cooperative to only 40% in Tanzania's Vibinjo Cooperative. To bridge the digital divide, complementary outreach through radio, local training sessions, and village-based ToTs was employed to ensure that non-phone-owning or less digitally literate farmers—often women, older adults, and low-income individuals—were not excluded. As digital service delivery enhances agency, reduces time poverty, and supports decision-making among marginalized groups, future interventions should emphasize user-centered content design, integrate indigenous knowledge systems, broader application across services and improve infrastructure to ensure digital equity and sustainability.

These quotes and the detailed example from Starlight Farmers' Cooperative Society Kenya highlight how well digital weather information in particular worked for women.

"*CRAFT helped us access market and weather information via mobile phones; it reduced losses and improved confidence in farming decisions*." — Grace Sanga, Sunflower value chain, Mwenge BC, Tanzania.

"*I have received weather forecasts via SMS from Mwenge. The SMS reminds me about the planting time, then I always use that message in my farming activities including time to start planting*." - Aziza Ramadhani Solo, Sunflower value chain, Mwenge BC, Tanzania.

"*I get weather messages on my phone in Kiswahili. It helps me plan when to plant.*" – Youth farmer, Kenya (Kaplomboi BC)

''*I normally get SMS on weather information through my mobile phone. This has been helpful not only to sunflower value chain implemented by CRAFT project, but also, I have been using this information to decide on other crops I plant.*'' – Mwajuma Salumu Lugomba, CRFFS beneficiary, senior woman farmer, sunflower value chain, TEMNAR BC, Tanzania

Starlight Cooperative's Weather Advisory Service Model: A Gender-Responsive, Tech-Enabled Approach

Model Summary

Starlight Farmers' Cooperative sources weather data from multiple digital platforms (e.g., the KALRO KAOP Weather app), which are reviewed and validated by the agronomist. This information is then simplified into actionable advisories—linking forecasts to practical guidance on farm planning—and disseminated via SMS to farmers in both English and Swahili.

Delivery Channels

- Bulk SMS reaches approximately 90% of farmers, with a focus on SMS due to 40% of users owning non-smartphones.
- For the 10% without phones, weather updates are delivered through monthly regional trainings and informal channels via village-based ToTs.

ToT Role in Extension

- While not the primary source of weather information, ToTs play a critical role in interpretation and last-mile dissemination, particularly for offline farmers.
- ToTs also encourage farmers to check and act on SMS alerts, increasing the practical use of forecasts.

Gender and Youth Considerations

- The use of Swahili translations was a direct response to women farmers' feedback, enhancing inclusivity and comprehension.
- Female agronomist leadership in managing the advisory system is an encouraging step toward gender parity in technical roles.
- The system supports youth engagement through digital familiarity and creates relevance for both male and female ToTs, enhancing peer trust and accessibility at community level.

Impact

The integration of weather advisories with crop planning has led to significant gains in farm productivity. Average potato yields have doubled—from 4 to 8 tonnes per acre—among farmers who actively use the service in combination with other advisory and input support.

Implications

Starlight's weather advisory model illustrates how digitally-enabled, localized advisory systems—when combined with gender-sensitive messaging and youth-led extension networks—can dramatically improve farmer decision-making, resilience, and productivity, even in resource-limited rural settings.

Supplier Level GESI Intervention 7

7. GESI-Inclusive Intervention: Promoting workload reducing CSA TIMPS

SNV/CRAFT promoted a range of climate-smart agriculture technologies, innovations, and management practices (CSA TIMPs) with the potential to reduce women's labor burden across different stages of the value chain. Mechanized solutions such as motorized threshers, planters, potato harvesters, and tractor services were introduced in collaboration with Business Champions (BCs), alongside decentralized models like spray service hubs and mechanization hire schemes. Notably, BCs such as Starlight Cooperative, Fresh Crop, and Nyekorac supported the operationalization of these services through Training of Trainers (ToT) systems and targeted outreach.

Several of these technologies led to gender-responsive labor shifts. For example, the use of herbicides, typically applied by men, reduced weeding workloads traditionally borne by women. Mechanized threshers and de-stoners decreased time spent on post-harvest processing, while changes in field practices such as moving from furrow to surface planting in potato cultivation lowered the physical intensity of land preparation and planting, often carried out by women. These transitions contributed not only to productivity gains but also to a reduction in time poverty and physical strain among women farmers. Table 14 provides a summary of the aggregated CSA TIMPS package (across countries and value chains) and their labour contributing effect.

Table 14: CRAFT promoted CSA TIMPS and their labour effect

Labor-reducing practices and technologies:	Labor-neutral or mixed effects (depending on context):	Labor-increasing practices:
• Minimum soil disturbance/direct seeding • Mechanization for production (ox-drawn/tractor implements, rippers, sprayers, carts, etc.) • Herbicide use for weed control • Use of tarpaulins for drying (reduced sorting) • Mechanized threshing, grain cleaning/sorting and milling (solar driers, threshers, sorters) • Storage innovations (e.g., diffuse light stores, weather-proof stores, hermetic bags, silos; reduce repetitive drying, pest control work) • Climate information services (facilitate activity scheduling, timely decision-making, reduce wasted labor)	• Improved varieties (the trait of early maturity reduces season length but not labor intensity per se) • Pest and disease management (IPM (cultural, biological, chemical) may require careful monitoring, but reduce future losses) • Water for production (e.g., irrigation structures may be labor-intensive to install but save time later) • Crop diversification (can increase management complexity) • Institutional innovations (organizational, not directly affecting labor at farm level) • Crop rotation •	• Agroforestry (planting and managing trees adds tasks) • Permanent soil cover (cover crop management requires additional work) • Soil and water conservation structures (ridges, terraces—high initial labor demand) • Contour farming • Compost manure application

• Timely planting (linked with mechanization) • Row planting (although reported as strenuous, reduces weeding time) • Recommended plant density (reduces excess thinning/weeding later).		

Despite their potential, the adoption of mechanization services remains relatively low. Preliminary evidence suggests a persistent gender gap in access to cooperative-managed mechanization, with men more likely to benefit. This disparity reflects broader structural barriers, including limited access to finance among women, preferential service allocation to larger-scale farmers, and the uneven application of gender-equity guidelines in BC operations.

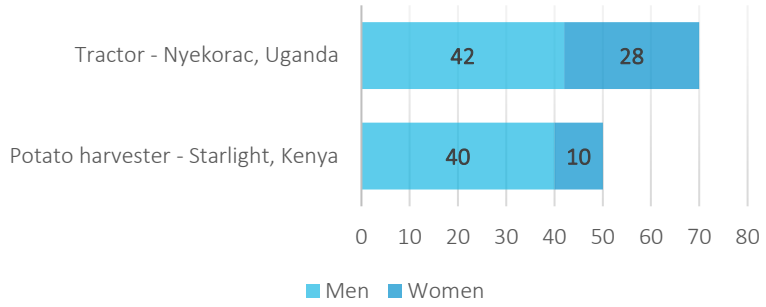

Figure 8:Number of farmers utilizing cooperative-managed mechanization hire services by sex per season

Supplier Level GESI Intervention 8

8. Inclusive Value Chain Development:

Gender-responsive value chain assessments informed the redesign of service delivery models to address systemic exclusion of women and youth from owning businesses in critical input markets, such as high-quality seed and participation in male-dominated value chain nodes. As a result, targeted interventions facilitated the functional upgrading of women and youth into higher-value segments of the chain, enhancing both their income potential and agency.

Specifically, women and youth were integrated as:

- **Contracted out-growers** for Quality Declared Seed (QDS) production (several BCs in Tanzania and Uganda including Mwenge Sunflower Oil Mill, Tanzania and Nyekorac, Uganda).
- **Contracted out-growers (FreshCrop, Kenya) or Shareholders in cooperative-managed certified seed enterprises (**Starlight Cooperative, Kenya);
- **Spray service providers**, following certification and technical training (e.g., through Starlight Cooperative);
- **Commissioned input distributors and produce aggregators (e.g.** Sebei SACCO, Uganda; East Africa Foods Ltd., Tanzania).

Comprehensive business incubation support accompanied these interventions, including technical training, provision of starter kits (e.g., foundation seed, spray kits), and facilitation of certification processes through relevant regulatory authorities.

Snapshot: Nyekorac – Creating Space for women and youth in the sesame QDS business

Nyekorac Community Farmers' Cooperative Society Ltd, based in Northern Uganda, transformed its sesame seed enterprise to become more gender-inclusive under the CRAFT project. Initially, seed production opportunities—linked to higher income—were taken up almost exclusively by men due to restrictive selection criteria (e.g., minimum 3 acres, upfront payment for foundation seed, paid certification costs, and prior training).

In response, Nyekorac revised its approach to improve access for women and youth:

- Reduced land and input thresholds, allowing participation with as little as 1 kg of foundation seed;
- Provided foundation seed on credit, with recovery post-harvest;
- Covered certification costs and decentralized training via Farmer Field Schools;
- Expanded to new locations to reach excluded groups;
- Improved seed buyback price and ensured market linkages.

Further support included:

- Access to mechanized threshers and tractor hire services to reduce labor burden on women;
- Group-based delivery of agro-inputs to overcome mobility constraints;
- Financial literacy training, especially targeting women-led groups;
- Internal reforms, including hiring a female extension worker and implementing gender-sensitive workplace policies.

As a result, women now comprise over 45% of seed growers and have increased access to assets, income, and decision-making spaces within the cooperative.

"Before, seed growing was for men. Now I have land under seed and sell to the cooperative every season." – Woman seed grower, Lira

Source: Kyotalimye (2022)

Supplier Level GESI Intervention 9

9. Market Access Models for Women and Youth in the CRAFT Programme

Improving market access for women and youth is central to SNV/CRAFT's inclusive, climate-smart agricultural transformation. Across East Africa, Business Cases (BCs) have implemented diverse yet complementary strategies that reduce structural barriers and promote equitable participation in input and output markets. These strategies fall into four core models:

a) Aggregation & Collective Marketing Models

These models focus on organizing smallholder farmers (SHFs) into groups or clusters to facilitate bulking, reduce transaction costs, enhance market visibility, and secure better pricing.

Key BCs:

- Quinam Ltd (Kenya) and MFCL (Tanzania): Organized sorghum producers in clusters, leading to premium pricing.
- Sereni Fries, Shalem Investment, FreshCrop Ltd and Starlight Cooperative (Kenya)[7]: Developed Trainers of Trainers (TOTs) into micro-enterprises supporting local aggregation.
- P'KWI (Uganda): Organized mostly women-led groups to bulk sunflower grain and sell collectively to their cooperative oil processing factory. The groups access seed on a post-harvest repayment basis and receive seed cake for animal feed—creating circular value and incentives.
- Sebei SACCO (Uganda) developed a centralized warehouse model supported by a hybrid extension system, combining SACCO-employed staff for input distribution and grain aggregation with community-based village agents—recruited from ToTs and local networks—who facilitate farmer-to-farmer bulking and coordinated delivery to the facility.
- CRAFT-wide: Aggregation centres were developed as employment hubs for youth and women.

GESI-Responsive Features:

- Builds collective power for women and youth, traditionally marginalized in market negotiations.
- Reduces capital and transport constraints, disproportionately affecting women.
- Creates dual benefits (e.g., seed cake for animal feed) that align with women's caregiving and income diversification roles.

b) Contract Farming & Structured Buy-Back Models

These models enhance market certainty and fairness through formal agreements between farmers and buyers, often including premium pricing linked to quality.

Key BCs:

- Isowelu (Tanzania): Transitioned potato farmers to sell by weight, increasing transparency and income.
- Kibaigwa (Tanzania): Contract with brewery increased sorghum price from TZS 350 to 550/kg.
- Kisoro District Potato Growers Cooperative Union (Uganda): Linked SHFs to Psalms Food Industries Uganda Ltd. (SUMZ), where potatoes are purchased by weight—a shift that specifically benefits women, who were previously disadvantaged by arbitrary sack-based pricing. RECO Industries entered into supply contract agreements with its registered farmer groups for supply of soybean and other cereals.

GESI-Responsive Features:

[7] Sebei SACCO, Uganda used a similar model

- **Reduces informal middlemen dependency**, which often disadvantages women.
- **Promotes price transparency**, a critical barrier for women in informal markets.
- Encourages **increased production and reinvestment**, including by small-scale female producers.

c) Decentralized Hub and Kiosk Models

Hubs and mobile kiosks deliver bundled services—inputs, training, and market links—closer to remote farming communities, reducing logistical barriers.

Key BCs:

- OKEBA (Uganda): Installed mobile kiosks providing CSA information, inputs, and support; reduced farmer travel distance from 15 km to 0.5 km.
- FreshCrop Ltd (Kenya): Established four hub sites offering CSA training, mechanization, input credit, and output aggregation; engaged TOTs as ambassadors earning commissions.

GESI-Responsive Features:

- Enhances service access for women facing time and mobility constraints.
- Provides entrepreneurial roles for youth and women as local service providers.
- De-risks adoption of technologies through proximity and affordability.

d) Mobile Aggregation Centre (MAC) Model

MACs bring aggregation and quality control infrastructure directly to the community, lowering costs and enabling timely post-harvest handling.

Key BCs:

- Smart Logistics (SLS, Kenya): Operated mobile aggregation points for bagging, drying, and threshing. MACs also provided farmers with access to buy-back and financial services.

GESI-Responsive Features:

- Makes quality control infrastructure accessible to women with limited transport options.
- Creates casual income opportunities for rural youth in MAC operations.
- Reduces losses and labor—factors that disproportionately burden women.

Table 15: Cross-Cutting Features of CRAFT's Market Access Strategies

Feature	GESI Relevance
Use of TOTs as local service agents	Provides income-generating roles to women and youth
Bundled CSA services at access points	Supports sustained participation by marginalized farmers
Input access on credit/post-harvest pay	Removes capital constraints, particularly for women
Transparent, weight-based pricing	Addresses exploitation in informal markets; benefits women

Proximity of service delivery (hubs, kiosks, MACs)	Reduces time/mobility barriers for women; supports local youth employment

Conclusion: What Makes These Interventions GESI-Responsive?

CRAFT's interventions go beyond improving market efficiency—they intentionally disrupt gender and age-based inequalities by:

- Decentralizing services to reach under-served women and youth;
- Reducing capital and transport barriers through flexible access models;
- Promoting fair, formalized pricing systems that empower women;
- Creating inclusive income opportunities in value-addition and aggregation roles.

In doing so, CRAFT helps reposition women and youth not just as producers, but as active economic agents across climate-smart value chains.

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10. GESI Intervention: Bundling Inclusive Financing and Input Service Packages

Limited access to finance and affordable inputs remains a key barrier to the adoption of climate-smart agriculture (CSA) among smallholder farmers, particularly women and youth. TEMNAR BC (Tanzania) in its reports, highlights women like Mwajuma who despite having access to 20 acres were only putting two to use, showing the need for scaled credit solutions. To address this, SNV/CRAFT supported Business Cases (BCs) in deploying multiple models that bundled financial services with inputs and training. These models aimed to lower entry barriers, enhance productivity, and support equitable access to technologies and markets. The discussion below looks at how the various models were deployed and their GESI-responsive features.

a) Cooperative-Led SACCO and Bundled Services Model

In this model, cooperatives established their own financial institutions (SACCOs) and bundled agricultural services: including inputs, extension, and weather forecasts to improve CSA adoption.

Key BCs:

- Starlight Cooperative (Kenya): Established and operated its own SACCO offering credit, input access, weather forecasts, and soil testing. Also trained its ToTs as spray service providers (33.3% women and 83% youth).

GESI Features:

- Female and youth-friendly loan terms and deferred payment systems.
- Gender-responsive financial literacy programs and capacity building.
- Village agents (many women/youth) supported aggregation and service outreach.
- Bundling reduced women's time, cash, and mobility constraints.

b) VSLA Integration and Grassroots Finance Model

This model embedded Village Savings and Loan Associations (VSLAs) into farmer organizations or profiled and recapitalized existing ones to improve women's and youth's access to finance (informal in the former case and formal financing in the latter case).

Key BCs:

- P'KWI (Uganda): Integrated VSLAs in its farmer network, increasing access to quality inputs and promoting joint financial decision-making in households.
- Sebei SACCO (Uganda): Profiled and financed existing VSLAs using tailored products and peer guaranteeing rather than traditional collateral. The SACCO offered agricultural loans (on retailored terms for women in VSLAS bundled with drought-tolerant seeds, tarpaulins, extension, aggregation, and insurance. Women/youth represented over 60% of beneficiaries.

GESI Features:

- Promoted household harmony and accountability by engaging both men and women in savings.
- Enabled first-time formal financing access and own accounts for many rural women.
- Linked VSLAs to more formal services, increasing financial security and 'capitalization'.

c) Input Credit and Deferred Payment Model

Farmers received climate-smart inputs on a "pay-after-harvest" basis, increasing adoption by removing upfront capital requirements.

Key BCs:

- Sebei SACCO (Uganda): Delivered seed and tarpaulins to over 5,000 farmers on repayment after harvest terms.
- Multiple BCs (cross-cutting): Distributed QDS and fertilizer through deferred repayment models.

GESI Features:

- Reduced capital entry barriers for women and youth.
- Increased timely planting and productivity.
- Allowed women and youth to expand land under cultivation and increase yield by over 500% in some reported cases.

d) Commission-Based Input Delivery & Decentralized QDS Models

QDS (Quality Declared Seed) systems were decentralized and scaled to reach marginalized farmers.

Key BCs:

- BCs (regional): Supported community-based seed multipliers to produce and deliver seeds for on-ward marketing by BCs using community-based agents (often women/youth). For instance, Mwenge (Tanzania), trained women and youth to produce and distribute QDS, reaching 14.2 MT/year in 2021.

GESI Features:

- Localized access to inputs reduced mobility and cost barriers.
- Created employment and leadership roles for women and youth in seed systems.
- Lower QDS costs increased equity in seed adoption.

e) Linking farmers to formal financing institutions through group and individual accounts

Under this model, Business Champions (BCs) facilitated access to formal financial services by linking registered farmers—both as individuals and groups—to commercial banks under negotiated terms. This approach enabled farmers to access loans for investing in climate-smart agriculture (CSA) practices while also strengthening their financial inclusion.

Key BCS:

- East African Foods supported 395 farmers (214 men, 181 women) to open Chap Chap accounts with NMB Bank. These accounts enabled farmers to receive payments from produce sales directly into their bank accounts, gradually building a transaction history that qualified them for future loans.
- Kibaigwa BC scaled this model by supporting the formal registration of farmer groups and linking them to NMB Bank. The groups were then able to access seasonal input loans, invest in CSA technologies, aggregate their produce for collective sale back to Kibaigwa, and repay loans collectively.

GESI features:

- Bank account-based payments created a clear, traceable income stream for both women and men farmers, which improved their creditworthiness and eligibility for formal loans.
- Group-based lending structures allowed farmers—especially those without individual collateral—to access credit using peer guarantees and social accountability within the group.
- Reduced gender barriers by normalizing women's financial independence and visibility in financial systems, often for the first time.
- Encouraged youth inclusion, as the model relied on digital tools and financial accounts that appealed to younger farmers familiar with mobile banking.

Amani Farmers' Group was established in 2017 in Visumi Village, Kongwa District, with 50 smallholder farmers (13 men, 37 women) coming together to jointly engage in maize, sunflower, and sorghum farming.

In 2020, with the introduction of the CRAFT project in their area through implementing partner Kibaigwa Flour Supplies Ltd. (KFS), the group was assisted in officially registering with both the municipal authority and BRELA (Business Registrations and Licensing Agency), enabling them to operate formally. This move was motivated by the group's desire to access bank loans to expand their farming operations after receiving training in climate-smart agriculture (CSA), crop insurance, and practical Farmer Field School (FFS) techniques, along with the assurance of a sustainable sorghum market through KFS.

Through CRAFT, KFS facilitated the group's access to a TZS 10 million loan from NMB Bank during the 2020–2021 farming season. Each member received TZS 200,000, which was used to expand their plots by at least one acre. By applying improved seeds, proper spacing, crop rotation, fertilizers, and pesticides—skills learned through FFS—their sorghum yields increased from 625 kg to 1,000 kg per member (approximately 5–8 sacks). They sold their produce to KFS at TZS 550 per kilogram and successfully repaid the loan with a 10% interest.

Following this success, the group secured a second loan of TZS 25 million for the 2021–2022 season, which they also repaid after completing their harvest sales.

Source: Kibaigwa Flour Supplies Limited (MFCL) Grantee Final Report

Cross-Cutting GESI-Responsive Elements

Intervention Element	GESI Contribution
Bundling services (inputs + finance + training)	Reduces complexity and cost for women and youth to adopt CSA

Deferred payment terms	Overcomes capital and liquidity barriers
VSLAs and gender-tailored financial literacy	Builds long-term financial resilience and household harmony
Recruitment of local agents from ToTs	Enables youth and women to become service providers
Access to bank accounts and digital finance	Increases financial autonomy for women
Linking farmers to formal banks via group arrangements	Enables access to larger loans through peer guarantees and collective bargaining power, especially for those without collateral
Direct payments to bank accounts for produce sales	Builds credit history and formal financial identity for women and youth, enhancing future loan access

Conclusion: A GESI-Responsive, Multi-Model Approach

CRAFT's financing and input delivery interventions adopted multiple, locally tailored models to address entrenched barriers to CSA adoption. These models:

- Reduced upfront financial risk through pay-later and low-interest mechanisms;
- Decentralized service access through female/youth village agents;
- Promoted agency via financial literacy, entrepreneurship training, and formal account access;
- Improved productivity, profitability, and inclusion in climate-smart value chains.

By bundling inclusive financing with CSA inputs and services, these interventions made climate-smart farming not only accessible—but viable—for women and youth.

Bundled inclusive financing input service packages

GESI interventions to enhance investment capacity in CSA technologies

Cooperative-led SACCO and bundled input service model

Starlight Cooperative, Kenya

Key GESI features:

- Female- and youth-friendly loan terms, deferred payment
- ToTs supporting extension

VSLA integration and grassroots finance model

P'KWI (Uganda)
Sebei SACCO (Uganda)
TEMNAR BC (Tanzania)

Key GESI features:

- Reduced financing constraint
- Timely planting and productivity
- Women expanded cultivated areas

Commissioned based input delivery and decentralized QDS

Mwenge Oil Millers Ltd. Tanzania

Key GESI features:

- Addresses women's mobility constraints and costs
- Employment for women and youth

Input credit and deferred payment model

Sebei SACCO, Fresh Crop Ltd., Starlight Coop, others

Key GESI features:

- Reduced capital barriers
- Timely planting and productivity

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11. GESI Intervention: Social Inclusion of PWDs, Elderly, and Widows in Climate-Smart Agriculture (CSA)

To ensure equity in access to climate-smart agriculture (CSA), SNV/CRAFT supported the **adaptation of service delivery models** to include **persons with disabilities (PWDs), elderly farmers, and widows.** These groups often face intersecting forms of exclusion—social, physical, and economic—limiting their participation in agricultural innovation and markets. Specific BCs[8], mostly in Kenya, redesigned CSA tools, training, and cooperative linkages to ensure PWDs and the elderly were not left behind.

Model: Adapted CSA Delivery for PWDs and Elderly Farmers

Design Features:

- Tailored CSA training and demo plots (e.g. in close proximity, involving caregivers, etc.).
- Cooperative-supported access to inputs (improved seed, soil testing, weather info)
- Promotion of less labor-intensive CSA practices (minimum tillage, early planting)
- Peer-led extension and role model development (ToTs with disabilities)
- Support to establishment of PWD dominated groups

Key Business Cases & Contexts

a) Kisoro District Potato Growers Cooperative (Uganda)

David Semakuba – Blind farmer and CSA trainer

David, a visually impaired potato farmer, adopted climate-smart practices (crop rotation, improved spacing, Taurus seed). Received a PDM grant and scaled production and became a ToT.

"My wife and I do everything in farming together. We harvest together. We sell together."
"We PWDs got a grant from the Parish Development Model. It changed my life."
– David Semakula

b) SOPA Millers, Kenya

Janet Ogar and Immaculate Oduori – Elderly, widowed PWDs

"We are now part of our farming communities and participate in activities… people are taking note that we exist!"
– Janet Ogar

[8] The original design focused on women and youth, but the SNV strategy to 2030 provided impetus to move from just gender and youth to GESI, ensuring alignment with the SDGs and the principle to leave no one behind. BC's capacity to embrace this new direction varied depending on their access to training, tools and resources.

c) Kaplomboi Cooperative Society, Kenya

Wesley Korir – Visually and hearing-impaired bean farmer
Accessed CSA through a local ToT and demo plot established by the Kaplomboi Cooperative, Kenya. Improved productivity (60 kg to 180 kg beans), sold produce, and paid school fees.

"Having harvested 2 bags, I sold each at 12,000 KES. I used this money to pay school fees."
– Wesley Korir

Table 16: Key GESI Features of PWD and other marginalized groups inclusive intervention models

Feature	Inclusion Value
Tailored CSA training and demo plots	Improves learning for farmers with physical or sensory impairments
Minimum tillage and early planting	Reduces labor burden for elderly, widows, and PWDs
Cooperative linkage for inputs and markets	Enables marginalized farmers to access improved seeds, extension, and sell produce
Targeted grant and financial access	Enables asset acquisition (e.g., seed, piggery inputs) by PWDs
Recognition and visibility	Enhances dignity and reduces social exclusion

Reported Outcomes

- Increased crop productivity (e.g., +500% in potato yields; 3× increase in bean harvests)
- Improved household food security and incomes
- Increased self-reliance and reduction of aid dependency
- Participation in community decision-making and cooperative governance
- Role modeling and peer influence (PWDs as ToTs)

Conclusion: Inclusion Beyond Participation

This intervention went beyond basic access—it created affirmative inclusion for persons who are often invisible in agricultural systems. By combining technical adaptation, community recognition, and peer-led delivery, CRAFT enabled elderly farmers, widows, and PWDs to become visible and productive contributors to climate-resilient agriculture. Their stories reveal that CSA adoption is possible when service models are human-centered and inclusive by design.

Social inclusion of PWDs, elderly and widows in climate smart agriculture (CSA)

To promote equitable access to climate-smart agriculture (CSA), the SNV/CRAFT project adapted its service delivery models to better include persons with disabilities (PWDs), elderly farmers, and widows—groups often marginalized by overlapping social, physical, and economic barriers.

Model: Adapted CSA delivery for PWDs and elderly farmers

Design Features:

- Tailored CSA training and demo plots (e.g. in close proximity, involving caregivers, etc.).
- Cooperative-supported access to inputs and services (improved seed, soil testing, weather info)
- Promotion of less labor-intensive CSA practices (minimum tillage, early planting)
- Peer-led extension and role model development (ToTs with disabilities)
- Support to establishment of PWD dominated groups

Key business cases and contexts

Kisoro District Potato Growers Cooperative (Uganda)

David Semakuba – *Blind farmer and CSA trainer*

Adopted climate-smart practices (crop rotation, recommended spacing, Taurus seed). Received a PDM grant and scaled production and became a ToT and role model.

SOPA Millers, Kenya

Janet Ogar and Immaculate Oduori – *Elderly, widowed PWDs*

"We are now part of our farming communities and participate in activities… people are taking note that we exist!"
– Janet Ogar

Kaplomboi, Kenya

Wesley Korir - *Visually and hearing-impaired bean farmer*

Accessed CSA through a local ToT and demo plot
Improved productivity (60 kg to 180 kg beans), sold produce, and paid school fees

Key GESI features

- Tailored CSA training and demo plots
- Minimum tillage and early planting
- Cooperative linkage for inputs and markets
- Targeted grant and financial access
- Recognition and visibility

Reported outcomes

- Increased crop productivity (e.g., +500% in potato yields)
- Improved household food security and incomes
- Increased self-reliance and reduction of aid dependency
- Participation in community decision-making and cooperative governance
- Role modeling and peer influence (PWDs as ToTs).

Conclusion: CRAFT's approach moved beyond access to **affirmative inclusion**, enabling elderly farmers, widows, and PWDs to become **visible, empowered actors** in climate-smart agriculture through **adapted, inclusive, and community-led models**.

12. Additional GESI interventions

CRAFT-supported Business Cases piloted complementary GESI-responsive models that addressed land, risk, and livelihood barriers for marginalized groups. For example, Starlight Cooperative (Kenya) promoted collective land leasing by women farmers, enabling landless women to jointly invest and farm. Cooperatives like Isowelu AMCOS (Tanzania) used gender-sensitive risk mitigation strategies, including collective input procurement and storage, reducing post-harvest losses that disproportionately affect women. Interventions such as CSA-integrated livelihood diversification (e.g., biogas, dairy, rabbit farming) offered women and youth multiple income streams, enhancing resilience, agency, and reinvestment in secondary enterprises. Additionally, value addition efforts—such as those by OKEBA, AgriNet, and IMCOS—and small processors like Irene Ishimwe (Uganda) created new economic opportunities, especially for women, by

transforming raw produce into higher-value products like potato crisps, thus linking GESI to agro-entrepreneurship and local employment.

4.2.2 GESI Interventions at workplace and institutional level

To foster gender equality, youth empowerment, and social inclusion across agricultural value chains, SNV/CRAFT supported business champions (BCs), cooperatives, and SMEs to adopt a range of internal reforms. These aimed to mainstream and institutionalize GESI principles in workplace culture, leadership, policies, and operations. The review and interviews identified 7 GESI intervention areas applied variously in the workplace.

a) GESI Mainstreaming in Organizational Policy

A key intervention was the institutionalization of gender- and youth-responsive workplace policies. 44 business cases adopted GESI-related policies, ranging from anti-harassment procedures and equal pay frameworks to family-friendly provisions such as the childcare facility introduced by OKEBA (Uganda). Gender audits and the Inclusive Trade Scan Tool[9] helped BCs identify internal equity gaps and prioritize actions, while organizations like Sereni Fries, Sebei SACCO and Starlight Cooperative developed or revised harassment, HR, finance, and procurement policies to embed inclusion into governance structures. CRAFT's adaptation of co-investment criteria in its CIIF fund, from 50% to 30% for women/youth-led BCs, further institutionalized access to financing for marginalized enterprises.

Key GESI Features:

- Inclusive HR systems (e.g., equal opportunity, gender-balanced hiring)
- Revised grant criteria to accommodate systemic financing gaps for women and youth-led businesses
- GESI audits as catalysts for reform
- Organizational incentives aligned with inclusion metrics

b) Women, Youth, and PWD Leadership Development

CRAFT emphasized inclusive leadership pipelines through mentoring, leadership training, and the establishment of youth and women councils within cooperatives. For example, Sebei SACCO's bylaw reforms reserved one-third of board seats for women and youth, with positions filled from council ranks. Vibinjo Cooperative (Tanzania) trained board members on inclusive governance, while IMCOS achieved 41% female and 47% youth staff representation. This was bolstered by Agriterra-led female leadership training for cooperatives and the use of GALS (Gender Action Learning System) to challenge household and institutional power dynamics.

Laureen Njuguna, Starlight Cooperative General Manager described efforts to build institutional GESI infrastructure including gender-responsive hiring, regional gender-balanced board representation, and robust sexual harassment policies. She emphasized that "we discovered if we leave it open, we will have only men in leadership, so we have a resolution on at least a third of either gender". The cooperative

[9] Only used in Kenya

institutionalized regional representation and gender equity in elections and hiring. Provisions were also made for staff counseling and policy clarity in cases of harassment.

Key GESI Features:

- Reserved leadership quotas for women/youth
- Structured leadership development programs
- Peer learning and role model visibility
- Youth and women councils as governance feeders

Outcomes:

- Increased women and youth in decision-making roles
- Improved cooperative responsiveness and participation
- Strengthened institutional legitimacy and cohesion

"*We used to see men take leadership roles in our communities. With CRAFT, women in Milanzi village have awakened and believe they can also lead, teach, and supervise groups of women and men*," - Everada Katondwa, Ikuwo General Enterprises, Tanzania.

"Our women board members now challenge traditional perceptions in meetings." – Vibinjo Board Chair.

"*At first, getting the men to recognize my leadership was a challenge. But I insisted, worked hard, and proved I could lead*." — Biira Doreen, RECO Industries Ltd. Uganda.

"We're showing that women can lead in both farming and value addition." – William Nambafu, Uganda, inspired by the Byeffe Foods' model.

"*I support them step by step... Many PWDs feel like they are a burden, but I show them that they can be self-reliant.*" - Sophia Timaine, Kenya – Elderly Woman with Disability Leading CSA Advocacy

Promoting Gender and Youth Leadership: The Sebei SACCO Approach

Sebei SACCO has implemented deliberate strategies to increase women's and youth representation in leadership. Internally, the SACCO established a leadership development program and prioritizes qualified female candidates during recruitment. As a result, women now hold four out of seven top management positions.

To institutionalize inclusivity, the SACCO amended its bylaws to reserve one-third of board seats for women, with additional ring-fenced positions for a women's secretary and a youth secretary. These positions are filled through structured leadership pathways, drawing candidates from the women's and youth councils. Over time, this approach has fostered a pipeline of capable leaders. Women and youth now increasingly compete—and succeed—for open leadership roles beyond the reserved quotas.

This combination of policy reform, talent development, and intentional recruitment has contributed to a more diverse, competitive, and inclusive leadership structure.

c) Norms Transformation and Institutional Learning

CRAFT catalyzed behavior change within organizations by promoting narrative reflection, institutional storytelling, and the training of GESI champions. Leadership learning, action planning, and tools like GALS and the Inclusive Trade Scan enabled SMEs to reflect on internal power structures and navigate change processes. Cooperatives like Starlight and P'KWI reinforced norm change through institutional mentorship, participatory learning, and deliberate promotion of underrepresented groups into governance and extension roles.

Key GESI Features:

- Reflective and participatory learning (e.g., GALS)
- Storytelling and peer mentoring as behavioral triggers
- Embedded change agents within institutions

d) Policy Influence and Multi-Stakeholder Platforms (MSPs)

CRAFT promoted gender-responsive CSA policy by engaging stakeholders in MSPs and national forums. In Kenya and Uganda, these platforms influenced extension delivery, climate policy, and public-private dialogues. The CRAFT-KALRO Agro-Weather Advisory Platform also enhanced decision-making by tailoring information access for women and youth. In Uganda, MSPs ensured inclusive CSA scaling and created space for women and youth in policy co-creation and knowledge translation.

Key GESI Features:

- Local-national policy alignment
- Inclusion of women/youth in governance dialogues
- Gender-sensitive advisory tools (e.g., climate platforms)

e) Youth Engagement

Youth inclusion was operationalized through youth councils, leadership exchange visits, national youth conventions, and tailored financial services. Freshcrop supported the formation of four youth councils linked to cooperatives, and over 10 cooperatives created bottom-up youth representation structures. Youth were also integrated into CSA service roles (e.g., seed multiplication, agrovet operations), and inspired by success cases such as Zaitun Amuge, who saw increased youth participation through cooperative board inclusion and agribusiness promotion.

Key GESI Features:

- Youth councils as structured engagement channels
- Exposure visits and mentorship to build agribusiness skills
- Financial products tailored for youth (e.g., low/no collateral loans)

Outcomes:

- Greater youth membership and leadership uptake
- Increased access to markets, inputs, and CSA services
- Strengthened intergenerational continuity in cooperatives

f) Internship Programme

The internship model offered practical CSA experience for young professionals across Kenya, Uganda, and Tanzania. Interns were embedded in cooperatives, SNV offices, or MEL teams, where they gained technical, managerial, and communication skills. The program enhanced employability, with some interns transitioning into full-time advisory roles post-placement.

Key GESI Features:

- Equal opportunity access for youth
- Practical on-site learning
- Capacity development for future leadership

4.2.3 Implications and Lessons Learnt

The SNV/CRAFT partnership's comprehensive approach to Gender Equality and Social Inclusion (GESI) across its knowledge production, farmer-facing interventions, and institutional reforms presents a robust model for inclusive, climate-smart agribusiness transformation. The following cross-cutting implications and lessons emerge:

4.2.3.1 Strategic Implications for Policy, Programming, and Practice

1. **GESI integration is central to achieving CSA outcomes**: Evidence across documents and interventions confirms that when GESI is embedded in design and not added as an afterthought, there is improved adoption of climate-smart practices, increased yields, greater participation by marginalized groups, and enhanced resilience of farming households.
2. **Knowledge products catalyze learning and replication**: The tiered review of CRAFT's GESI-related knowledge products illustrates their strategic value in guiding practice and amplifying impact. High-quality, Tier 4 documents can support peer learning, inform policy dialogue, and shape internal reforms across countries, underlining the need for consistent documentation and knowledge curation in inclusive programming.
3. **Transformative change requires multi-level interventions**: CRAFT's dual-level approach, engaging both farmers (supply-level) and organizations (workplace-level), demonstrates that inclusive agricultural transformation must address both structural and relational inequalities, from household dynamics to institutional culture and governance.
4. **Inclusive value chains drive equitable growth**: Gender-responsive value chain assessments and interventions enabled women and youth to access high-value roles traditionally dominated by men. Inclusive contract farming, decentralized seed systems, and bundled service hubs helped reframe these groups not as beneficiaries but as active economic agents.
5. **Workplace GESI reforms sustain systemic change**: Institutionalizing GESI through policies (e.g., anti-harassment rules, reserved board seats, SACCO governance reforms) had clear ripple effects: shifting hiring practices, improving workplace culture, and legitimizing the leadership of women,

youth, and persons with disabilities (PWDs). These reforms enhanced organizational credibility and inclusivity.

4.2.3.2 Lessons Learnt for Future Implementation and Scale-Up

1. **Inclusivity must be intentional and systemic**: Transformative outcomes only materialize when inclusion is built into systems, from the selection of crops and technologies to the design of extension curricula and grant-making criteria. Projects should go beyond reach and benefits to foster empowerment and structural shifts.
2. **Localized and tailored models enable marginalized participation**: Adaptations such as gender-segregated learning groups, flexible training schedules, youth councils, disability-friendly demo plots, and mobile kiosks removed participation barriers. These models should be scaled and institutionalized in public extension and private service systems.
3. **Intersectional approaches yield deeper impact**: Interventions that acknowledged and responded to intersecting disadvantages: such as gender, age, disability, and widowhood, led to improved inclusion, dignity, and visibility for the most excluded farmers. Intersectionality should be a core design principle.
4. **Leadership pipelines require capacity and affirmative action:** Board quotas, structured: mentorship, and internal councils (women and youth) were essential in ensuring women and youth moved into decision-making spaces. Leadership reforms must be supported by capacity development, peer support, and enforcement mechanisms to avoid tokenism.
5. **Storytelling and reflective tools accelerate norm change**: Participatory tools like GALS, storytelling, and institutional reflection supported mindset shifts within households, cooperatives, and SMEs. These tools also enhanced learning and ownership among stakeholders and should be embedded in future organizational change strategies.
6. **Bundled services overcome structural barriers**: Service models that integrated input credit, training, finance, and market access reduced the complexity and risks that often deter marginalized groups from engaging with CSA. This bundling proved especially effective for women and youth with limited mobility, time, or capital.
7. **Evidence and disaggregated data drive adaptive programming**: CRAFT's use of gender-disaggregated data, GESI audit tools, and Most Significant Change stories enabled ongoing learning and adaptation. Institutionalizing such feedback systems across future programs and that the use of sex and age disaggregated data is applied cross all reporting is critical for scaling what works.
8. **Policy platforms amplify inclusive innovation**: Multi-stakeholder platforms facilitated uptake of inclusive models in public policy (e.g., climate advisory systems, CSA extension). Deliberate engagement of women and youth in these spaces created more legitimate and equitable CSA ecosystems.

4.2.3.3 Recommendations for Future GESI-Inclusive Agribusiness Programming

- **Institutionalize GESI principles** in all CSA policy, grant, and extension frameworks, with accountability mechanisms.
- **Invest in high-quality, action-oriented knowledge products** and create regional repositories for cross-learning coupled with training of teams on gender-sensitive communication.
- **Scale farmer-facing innovations** such as CRAFFS, decentralized input hubs, and mobile aggregation centres.

- **Embed organizational inclusion standards** (e.g., quotas, gender audits) into co-investment and partnership criteria.
- **Support peer-led change agents** through ToT networks, youth/women champions, and disability advocates.
- **Ensure intersectional inclusion** by intentionally targeting PWDs, widows, older farmers, and other marginalized groups based on the context.
- **Bundle inclusive finance and services** to reach capital-constrained but high-potential women and youth.
- **Align donor support and government policy** through platforms that center marginalized voices in decision-making.

4.3 Reflections on the gains and unintended outcomes of CRAFT's GESI interventions

This chapter synthesizes the gains and unintended outcomes of CRAFT's gender equality and social inclusion (GESI) interventions, reflecting on their impact across diverse contexts and populations. It highlights how CRAFT's multi-pronged, actor-driven approach contributed to improvements in women's and youth's access to training, leadership roles, entrepreneurship, and financial inclusion. The chapter also illustrates key success factors, such as participatory methodologies, flexible and inclusive service models, and institutional reforms. At the same time, it draws attention to unintended positive ripple effects, like increased inclusion of persons with disabilities and the elderly, and unintended negatives, including persistent gender gaps in entrepreneurial roles and potential reinforcement of inequalities among the most marginalized. These reflections offer insights for future program design, emphasizing the importance of embedding GESI in climate-smart agriculture initiatives while remaining responsive to context-specific challenges and opportunities.

4.4 Gender-sensitive CSA strategies developed

Planned interventions

- Gender analysis at baseline (Baseline WEAI, gender sensitive value chain and financial analysis indicating major gender implications of climate change.)
- Analysis available on gender sensitive climate smart and resilient strategies.
- Gender sensitive CSA technologies and practices for training identified.
- Analysis of barriers to adoption and scaling of CSA technologies and gender implications.
- Analyse and document gender implications of climate change technologies and business cases.

Intended outputs

CRAFT aimed to develop gender-sensitive CSA strategies by conducting baseline gender analysis, identifying gender-responsive CSA technologies and practices, and analyzing barriers to adoption and scaling. The program delivered a comprehensive baseline assessment, including a WEAI analysis, disaggregated data on CSA uptake, labor dynamics, and financial inclusion, and informed the development of gender-sensitive strategies and action plans for over 20 business cases, plus a regional plan and model GESI policy. CSA TIMPS were validated in all countries and for gender and age cohorts especially in Kenya. These outputs provided a strong foundation for integrating gender considerations into CSA programming, although the downside was that the analyses fell short in systematically linking gender barriers to climate change impacts and resilience frameworks.

Unintended positives

An unintended positive outcome was that SNV's 2030 strategy, emphasizing broader social inclusion, provided momentum to extend CRAFT's GESI focus beyond women and youth to include PWDs and the elderly, resulting in their targeted inclusion in select business cases in Kenya and Uganda. CSA technologies and practices addressing specific constraints or functions were framed as a "bundled set of options" rather than prescribing a single "optimal CSA package." This approach enhanced accessibility for vulnerable populations by allowing adaptation to diverse contexts and needs, enabling uptake of inclusive TIMPs such as affordable inputs (e.g., quality declared seed) and labor-saving practices (e.g., minimum tillage suitable for PWDs).

Unintended negatives

An unintended negative outcome was that COVID-19-related distancing requirements disrupted planned coaching support for business cases, weakening follow-through on GESI action plans and resulting in sub-optimal implementation of inclusion measures at the enterprise level.

4.5 Embed inclusive strategies in the CSA training in farmer field schools

CRAFT sought inclusive participation at all levels across gender and age.

Planned interventions and outputs

CRAFT's intention was to embed inclusive strategies within CSA training through its Climate Resilient Agribusiness Farmer Field Schools (CRAFFS) model. CRAFFS integrated gender and social inclusion by tailoring training content, delivery methods, and group structures to address the needs of women, youth, and marginalized groups. Key GESI features included flexible scheduling, simplified materials, gender-sensitive curricula, promotion of women and youth as facilitators – 39% and 52% respectively, creation of women- and youth-only groups, and incorporation of indigenous knowledge from diverse age groups. Over 265,000 farmers (53% women) were trained, with women facilitators emerging as respected leaders and role models. Gains included enhanced CSA adoption, improved women's confidence and leadership, and expanded participation of persons with disabilities (PWDs), elderly, and widows.

Unintended positives

The selection of persons with disabilities (PWDs) as ToTs, which provided visible role models, incentivized greater participation of PWDs in CSA, prompted further adaptation of training approaches to their needs and enhanced community respect for marginalized groups. The CRAFFS model also strengthened intergenerational knowledge exchange, enabling the incorporation of localized indigenous knowledge, which improved the accuracy and relevance of weather forecasts for farmers.

Unintended negatives

Unintended negative outcomes included increased involvement of children in agricultural labor following women's training, as noted in the Bizimungu study, and among households of PWDs where limited availability of tailored CSA technologies led to children assisting with physically demanding tasks. Additionally, some instances of men reasserting control over resources and decision-making post-training were observed. These findings underscore the need for investments in ergonomic, accessible CSA technologies and strict safeguarding measures to prevent child labor, alongside continued efforts to shift underlying gender norms.

4.6 Reduced women's workload

Strategy developed for reduced women's workload and increased women climate resilience.

Planned interventions

- Promote CSA technologies/workload-reducing practices
- Undertaking group and household sensitisation activities as an integral part of business case development, with respect to reducing women's workload while increasing their access to asset, income and decision-making power.
- Promote practices and technologies for workload reduction as well as CSA adoption enhancing strategies for women using specialized training, extension and matching grants.

Intended outputs

SNV/CRAFT promoted a suite of CSA technologies and practices (CSA TIMPs) with potential to reduce women's labor burden, including mechanized threshers, planters, harvesters, hire schemes, herbicide weed control, tarpaulins, minimum soil disturbance, and climate information services, all contributing to labor-saving gains in specific tasks and stages of production. Digital advisory services modestly reduced time poverty by improving women's ability to plan farm operations efficiently. However, persistent structural barriers, limited access to mechanization, finance, and land and enduring traditional norms on gender division of labor constrained widespread uptake and equitable benefit, with men often more likely to access and benefit from labor-saving CSA technologies. Furthermore, labor-intensive practices such as contour farming, agroforestry, composting, and water drainage structures continued to place high demands on women's time and effort. Going forward, careful selection and ergonomic design of CSA interventions, accompanied by stronger gender mainstreaming, social norm change, and equitable access strategies, will be critical to ensure labor burden reduction for women, youth, and marginalized groups.

Unintended positives

With increasing uptake, certain CSA TIMPS e.g. herbicide, QDS, mechanization use provided independent service delivery opportunities for youth especially those already engaged as ToTs or have become BC managed mechanization hire, seed multiplication schemes, etc.

Unintended negatives

Results indicate a significant increase in the labor burden on young men and in FHHs

4.7 Women and youth's entrepreneurship

The focus was on increased women's entrepreneurship along targeted commodity value chains and increased youth entrepreneurship in climate smart service provision (potentially with particular focus on women's workload reduction).

Planned interventions

- Improve women's access to climate change related information and financial services.
- Sensitize and build capacity for gender and youth sensitive service provision by local service providers and financial institutions.
- Expand youth roles in CSA service provision

Intended outputs

The CRAFT project sought to increase women's entrepreneurship by enhancing their participation along target value chains through improved access to climate-related information, financial services, and gender-responsive service provision. CRAFT interventions prioritized value chains with high women and youth engagement, redesigned service models to reduce their exclusion from key value chain nodes, and integrated them as seed producers, spray service providers, aggregators, and input distributors. Complementary business incubation support, such as training, starter kits, and certification facilitation, further promoted women and youth entry into entrepreneurship. Market access strategies (e.g., aggregation centers, contract farming, kiosks, mobile aggregation) reduced capital, transport, and price transparency barriers that disproportionately constrain women. Inclusive financing models, including SACCOs, VSLAs, deferred input credit, and group-based loans, improved women's financial autonomy and capacity to scale enterprises. While structural challenges remain, CRAFT's multi-model approach

repositioned women and youth as active economic agents across climate-smart value chains, contributing to entrepreneurship growth but with uneven uptake across contexts and value chains.

Unintended positives

- Shifts in cooperative governance and practices: For example, Nyekorac Cooperative not only reduced barriers for women and youth to participate in seed production but also implemented internal reforms (e.g., hiring a female extension worker, gender-sensitive workplace policies). These reforms may not have been originally planned but contributed to greater institutional gender responsiveness.
- Increased women's representation in formal financial systems: Initiatives like bank-linked group accounts resulted in women, many for the first time gaining formal financial identities, credit histories, and financial autonomy, effects likely beyond the original program scope.
- Creation of additional employment roles: Aggregation centers, mobile kiosks, and MACs emerged as employment hubs for women and youth, providing casual labor and service delivery roles that supplemented their income.
- Strong youth engagement but barriers to land and finance remain

Unintended negatives

- Persistence of gender imbalances in entrepreneurial roles: Despite efforts, most ToT and seed multiplier roles remained male-dominated outside specific contexts (e.g., Byeffe, Kaplomboi), suggesting limited shifts in underlying gender norms around "technical" or entrepreneurial work.
- Potential exclusion effects: Even as services decentralized, there may have been differential uptake depending on geography, cooperative leadership, or value chain, potentially reinforcing inequalities among women and youth in less-engaged communities or lower-value chains.

4.8 Women's leadership in cooperatives

Improved female leadership in cooperatives involved in business cases.

Planned interventions

- Advance leadership training and representation
- Advance female leadership by targeted training for cooperatives.
- Use best practices and role modelling for women and youth entrepreneurship and leadership.

Intended outputs

CRAFT's women-in-leadership interventions combined individual empowerment, institutional reform, and norms transformation. Through Gender Action Learning System (GALS) training, women built self-confidence, developed leadership plans, and promoted equitable decision-making at household and community levels. Cooperatives adopted governance reforms, including leadership quotas and establishment of women's councils, to institutionalize representation and create leadership pipelines. Capacity-building programs and mentoring advanced women into decision-making roles while promoting inclusive governance cultures. These efforts catalyzed attitudinal shifts within cooperatives and communities, challenging traditional gender norms and enhancing women's visibility and influence in cooperative leadership.

Unintended positives

- Spillover effects into household gender relations: Several testimonials suggest that GALS training not only prepared women for leadership but also improved household power dynamics, with men becoming more supportive of women's decision-making roles at home, a benefit beyond the original leadership objective.
- Increased legitimacy and competitiveness of cooperatives: As some cooperatives institutionalized inclusive governance (e.g., Sebei SACCO), they reported improved participation, cohesion, and legitimacy. This broader organizational strengthening was an indirect outcome of targeting women's leadership.
- Emergence of role models inspiring wider change: The visibility of women leaders began to challenge community norms more broadly, influencing perceptions of women's capacities in both farming and leadership.
- Parallel youth-focused structures led to increased youth engagement in governance and operations

Unintended negatives

- Resistance from men or existing leaders: Some narratives hint at initial resistance or skepticism from male leaders and members ("At first, getting the men to recognize my leadership was a challenge"), suggesting that efforts to promote women's leadership may have provoked backlash or discomfort that needed careful management.
- Dependence on quotas rather than deeper cultural shifts: While quotas and reserved seats improved representation, they may risk creating tokenism or limiting broader attitudinal change if not accompanied by sustained cultural transformation.

In summary, while CRAFT's interventions clearly had positive ripple effects that went beyond formal cooperative leadership, challenges around resistance and the sustainability of change remain important lessons for future programming.

4.9 Small grants for women/youth

Small grants mechanism specifically geared towards women and youth inclusion developed.

Planned interventions

Establish and reward criteria for women- and youth-led businesses in matching grant allocations.

Intended outputs

CRAFT's adapted the co-investment criteria in its CIIF fund, from 50% to 30% for women/youth-led BCs. This enhanced access to financing for marginalized enterprises. It led to an increase in women and youth-led businesses participation in CRAFT

4.10 Inclusive financial access

Planned interventions

- Gender/youth sensitive financial products
- Sensitize and build capacity for gender and youth sensitive service provision by local service providers and financial institutions.

Intended outputs

CRAFT aimed to improve inclusive financial access by promoting gender- and youth-sensitive financial products and building the capacity of financial service providers. The program catalyzed diverse financing

models at the Business Case (BC) level, including SACCO-led bundled services, VSLA integration, input credit with deferred repayment, decentralized seed systems, and linkages to formal banks. These models reduced entry barriers, improved women's financial autonomy, and enabled first-time formal financial access for many women and youth, while also bundling inputs and services to increase CSA adoption.

Unintended positives

Strengthened household financial decision-making and improved financial literacy among women.

Unintended negatives

- Continued reliance on peer guarantees and informal collateral that could exclude the most marginalized or reinforce intra-group inequalities.
- Broader access still uneven

4.11 Institutionalization of GESI

Formal policies, budgeting, structures

Planned interventions

No direct support but a model GESI policy and strategy was developed and shared.

Intended outputs

CRAFT aimed to institutionalize GESI by embedding gender- and youth-responsive policies, structures, and budgeting within partner organizations. Key interventions included supporting 44 business cases to adopt formal workplace policies such as anti-harassment frameworks, equal pay provisions, and family-friendly measures like childcare facilities, alongside tools like gender audits and the Inclusive Trade Scan to identify gaps and guide reforms. Governance structures were strengthened through gender-balanced hiring practices, reserved leadership quotas, and women's/youth councils. Adapted co-investment criteria in the CIIF fund improved access to financing for women- and youth-led businesses. Gains included improved organizational cultures, greater policy alignment with GESI principles, and increased women's representation in leadership and staffing. Unintended positives included enhanced organizational legitimacy and reputational benefits.

Unintended positives

Enhanced organizational legitimacy and reputational benefits.

Unintended negatives

Some business cases had limited implementation capacity, fragmented documentation, lack of formal budget tracking for GESI, and risks of superficial compliance without deep cultural change highlighting the need for sustained capacity building and monitoring.

4.12 Policy advocacy on inclusive CSA

Planned interventions

- Promote and support actor-driven advocacy for policy changes for reducing gender inequalities to climate change vulnerability.
- Use evidence and field-based experiences to influence policy makers and promote exchange learning where possible and appropriate.

Intended outputs

CRAFT supported actor-driven advocacy and policy engagement by convening multi-stakeholder platforms (MSPs) and national forums that promoted gender-responsive CSA policy dialogue and alignment. In Kenya and Uganda, these platforms influenced extension service design, climate policy discussions, and public-private partnerships, while the CRAFT-KALRO Agro-Weather Advisory Platform enhanced tailored information access for women and youth. Gains included increased inclusion of women and youth in policy discussions and greater sensitivity to their needs in CSA advisory services.

Unintended positives

- Empowerment of women and youth participants, who gained visibility and influence beyond project settings.
- Institutionalization of the Kenya platform

Unintended negatives

Project-facilitated spaces, pose a risk to continuity post-CRAFT.

Table 17: Summary of planned GESI interventions and outcomes

Thematic Area	Planned Outcome & Interventions	Key Gains	Unintended Positives	Unintended Negatives
Gender-sensitive CSA strategies	Baseline gender analysis; identify gender-responsive CSA strategies & practices; analyze adoption barriers	Comprehensive baseline, WEAI, GESI action plans; validated CSA TIMPs; strong gender analysis but weaker climate-gender integration	Inclusion expanded to PWDs/elderly; CSA framed as adaptable bundles enhancing accessibility	COVID-19 disrupted coaching support; weakened implementation
Inclusive CSA training (CRAFFS)	Embed inclusive strategies in FFS; promote women/youth facilitators	265,000 farmers trained (53% women); improved CSA adoption, women's leadership, confidence, PWD participation	PWDs as role models; stronger intergenerational knowledge exchange; enhanced trust	Increased child labor; men reasserting control; risks to women's gains
Reduced women's workload	Promote CSA TIMPs reducing labor; household sensitization; training & grants	Labor-saving CSA promoted (e.g., mechanization, herbicides, tarpaulins); digital advisory services reduced time poverty	New entrepreneurial roles for youth (mechanization hire, input services)	Increased burden on young men & female-headed households; persistent gender norms
Women & youth entrepreneurship	Expand roles in CSA service provision; improve financial access	Women/youth as seed producers, aggregators, service providers; improved financial autonomy	Cooperative reforms; women's formal financial inclusion; new employment opportunities	Entrepreneurial roles still male-dominated; uneven service uptake; some exclusion risks
Women's leadership in cooperatives	Leadership training; quotas; mentoring	More women/youth in decision-making; inclusive governance strengthened	Improved household gender relations; stronger cooperatives; women leaders as role models	Initial male resistance; reliance on quotas risking tokenism

Inclusive financial access	Gender/youth-sensitive financial products; build provider capacity	SACCOs, VSLAs, input credit & bank linkages reduced barriers; women's financial autonomy improved	Strengthened women's financial literacy and joint household decision-making	Peer guarantees may exclude marginalized; uneven access persists
Institutionalization of GESI	Embed GESI in policies, structures, budgets	44 BCs adopted GESI policies; gender-balanced hiring; governance reforms; improved organizational culture	Enhanced legitimacy and reputation of BCs	Limited capacity in some BCs; weak budget tracking; superficial compliance risks

4.13 Success factors of CRAFT's GESI interventions:

- Comprehensive design and mainstreaming: GESI was integrated across program components, baseline analysis, business cases, training curricula, and institutional policies ensuring that gender and inclusion considerations were not stand-alone but embedded in the program structure.
- Use of participatory and adaptive tools: Approaches like CRAFFS, GALS, and inclusive Farmer Field Schools emphasized participatory learning, role modeling, and context-specific adaptation, contributing to significant community-level gains in awareness, confidence, and leadership among women and marginalized groups.
- Flexible, context-driven solutions: Framing CSA technologies as a "bundle of options" allowed vulnerable populations, including PWDs, to choose technologies that fit their circumstances, enhancing accessibility.
- Strong focus on enabling structures: CRAFT helped institutionalize GESI in business case governance (e.g., women/youth quotas, councils, affirmative action through the CIIF), formalized gender-sensitive workplace policies, and linked women/youth entrepreneurs to formal financial systems, improving financial autonomy and inclusion.

4.14 What could have been done differently in program design (retrospective view):

- Deeper integration of climate-gender analysis: The baseline and subsequent analysis insufficiently linked gender dynamics with climate change risks and resilience pathways; an early explicit focus on gendered climate vulnerabilities would have strengthened strategy alignment.
- More robust support for implementation capacity: Some business cases lacked the institutional capacity to implement GESI measures fully. Design could have included stronger, longer-term mentoring/coaching, especially after the onset of COVID-19 disruptions.
- Safeguards for unintended consequences: The program could have anticipated and mitigated risks like increased child labor and male backlash following women's empowerment activities, e.g., by embedding safeguarding protocols and ongoing gender norm change interventions alongside technical trainings at scale instead of in limited pockets/BCs.
- Broader and deeper cultural transformation agenda: While governance quotas improved women's representation, greater emphasis on shifting deep-seated social norms would ensure changes were more sustainable and transformative rather than potentially tokenistic.

5. Inclusive participation in climate-smart agriculture: a value chain perspective from CRAFT business cases

The evaluation reviewed gender and youth participation across various business cases within the Climate Resilient Agribusiness for Tomorrow (CRAFT) project in Kenya, Uganda, and Tanzania. There is significant influence of leadership demographics, service delivery models, and financing structures on the inclusion of women and youth in climate-smart agriculture (CSA) services. Embedded service delivery models offered more predictable access but did not always ensure equitable participation, while structured financing models, especially those leveraging village savings and loan associations (VSLAs), facilitated greater inclusivity compared to informal methods. Despite positive examples like Byeffe, SEBEI SACCO, and Kaplomboi Ruto Cooperative, women and youth remain underrepresented as service providers and entrepreneurs, largely due to structural barriers including limited land ownership and resource control. Future programming should emphasize transforming women and youth from passive beneficiaries to active value chain actors through inclusive financing, bundled CSA service delivery, and integrated gender equality and social inclusion (GESI) strategies.

5.1 Conceptualizing value chain participation

In the baseline gender analysis (2019/2020), value chain participation was defined as the engagement of men, women, and youth across various roles in the agricultural value chain. These roles included:

- Micro-level actors: smallholders, seed multipliers, aggregators, processors, and marketers;
- Meso-level service providers: offering CSA-related services;
- Service users: beneficiaries of training, inputs, financial products, and market access.

At inception, most CRAFT business cases were offtake-oriented, focusing on services such as aggregation, basic processing, storage, transportation, and resale. Direct service provision to farmers, beyond produce purchasing was limited and often dependent on third-party actors working outside formal coordination mechanisms.

While the project aimed to develop structured service relationships and expand delivery capacity, the diversity of service providers remained narrow, with recurring providers (e.g., CropNut in Kenya, PAAT Soil Clinic in Uganda) dominating key services such as soil testing. Consequently, this chapter focuses less on trends in employment or business ownership among women and youth, and more on the structure of service delivery and patterns of participation by 2024/25.

Typologies of Service Delivery Models

As outlined by SNV and the Springfield Centre (2022), service delivery within the CRAFT business models fell into four main categories:

Mode	*Definition*
Embedded	Services integrated into the contract between Business Champions (BCs) and farmers
Brokered	Independently provided services secured via BC-negotiated rates or access
Signposted	Services promoted via training or extension but accessed independently
ToT-led	Services delivered by trained farmers (ToTs), either independently or as commissioned agents

Table 1 illustrates the types and modes of service delivery across selected BCs in Kenya, Uganda, and Tanzania.

Table 18: Select BC services by type of service delivery model

Service	Kenya		Uganda			Tanzania		
	Starlight, Kenya	Kaplomboi	Sebei SACCO, Uganda	KDPGCUL	Byeffe	Kibaigwa	EAF	JAKMA
1. Weather information and advisory services	1	-	2	-	2	2	2	2
2. Extension and training	1	1	1	1	1	1	1	1
3. Aggregation and off take	1	1	1	1	1	1	1	3
4. Improved seed multiplication and or distribution	1	1	1	1	1	2	2	2
5. Financing	1	-	1	-	-	2	2	3
6. Soil testing services	2	-	2	3	2	2	2	2
7. Spray hire services	4	4	-	-	-	1	-	-
8. Mechanisation hire services	1	1	3	-	-	1	-	-
9. Crop insurance	-	-	2	-	2	2	-	-
10. Fertiliser distribution	-	1	-	-	-	2	-	-
11. Storage services	-	1	1	-	-	-	-	-

Note: 1-embedded 2 – brokered 3 – signposted 4 – ToT led

Table 16 highlights the range of climate-smart agriculture (CSA) services provided across business cases and the dominant modes of delivery. Services such as extension and training, aggregation and offtake, and improved seed distribution emerged as the most consistently embedded within contract farming arrangements. This embedded nature enabled more predictable service access for women and youth, although the scale of access remained uneven. Brokered and signposted services such as weather advisories and soil testing were more fragmented, depending heavily on external providers. While this model allowed some flexibility, it often resulted in lower uptake among marginalized groups due to limited outreach, cost, or accessibility barriers. Notably, delivery modes that involved local ToTs (e.g., spray services and soil testing) showed promise for inclusive outreach but remained underutilized in many BCs.

5.1.1 Participation in accessing services by women and youth

This section presents an analysis of women's and youth's participation in accessing climate-smart agriculture (CSA) services across different business cases. Figures 9 to 15 and the accompanying narratives highlight key patterns in access, influenced by service type, business leadership, and financing models.

Participation in accessing weather information was strongly associated with the gender of the business leader. Women-led enterprises; Starlight Cooperative and Byeffe, showed the highest levels of female engagement. In contrast, male-led enterprises such as JAKMA, Kibaigwa, and SEBEI SACCO reported consistently lower female participation. Youth access to weather information varied widely, ranging from 15% to 47% across the five business cases, with no clear

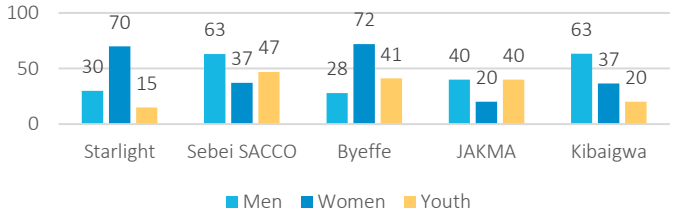

Figure 9: participation of women and youth in accessing weather information

pattern linked to the gender or age of the business leader.	

Access to crop insurance was generally limited for women, except in Byeffe (a female-led SME) and Kibaigwa (a male-led enterprise), where women's participation surpassed that of men and youth. In SEBEI SACCO, a male youth-led cooperative, men and youth had higher access than women. Although women's limited land ownership typically constrains their ability to purchase crop insurance, this barrier was addressed through targeted sensitization, gender-responsive outreach, and subsidized premiums delivered via public and business case (BC) partnerships.

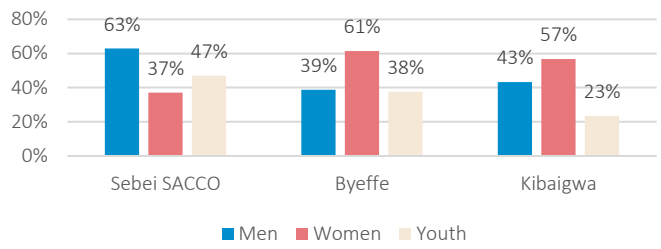

Figure 10: Participation of women and youth in accessing crop insurance

Access to extension and training services generally reflected the gender and age of business leadership. Women-led enterprises; Starlight and Byeffe, reported high female participation, while SEBEI SACCO, a male youth-led cooperative, demonstrated strong youth engagement. Notably, KDPGCUL, a male-led cooperative in the potato value chain, also showed high female participation, deviating from the overall trend. In contrast, male-led SMEs reported near-equal participation between women and men but lower youth engagement. SEBEI SACCO was the only case where women's participation remained consistently low compared to other business cases.

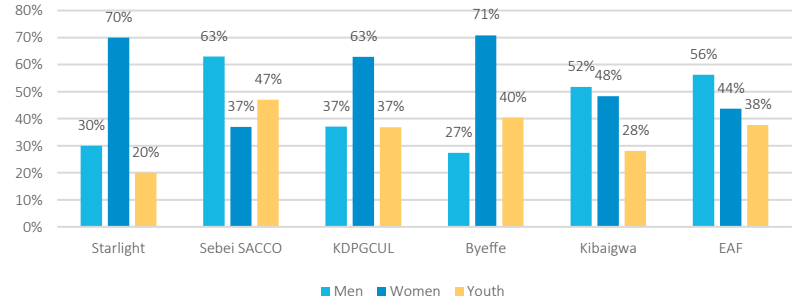

Figure 11: Participation of women and youth in accessing extension and training

In aggregation and offtake services, SEBEI SACCO, a youth-led cooperative, provided relatively broad access for both women and youth. Starlight Cooperative's offtake services were predominantly accessed by women. In contrast, male-led SMEs such as Kibaigwa and EAF in Tanzania showed low levels of inclusion, particularly for women. Overall, none of the business cases demonstrated consistently balanced access across gender and age groups for this service.

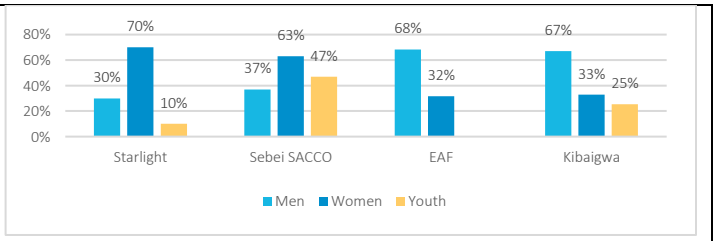

Figure 12:Participation of women and youth in accessing aggregation and offtake

Access to SME-distributed improved seed was predominantly male, with outreach to men ranging from 63% to 88% across the three business cases with available data. This disparity appears linked to underlying financing models and resource control. In Starlight Cooperative, women's access to seed is tied to savings accumulated from a share of milk sales granted by their husbands, and participation in the cooperative's seed multiplication scheme (not all participate). While innovative, this model may not provide sufficient capital to meet women's climate-smart agriculture (CSA) input needs. In contrast, the financing mechanisms used by male-led enterprises appear more structured and supportive. SEBEI SACCO applies a peer guarantee system linked to women's involvement in village savings and loan associations (VSLAs), which it profiles, trains, and registers. Kibaigwa connects registered farmer groups directly to banks, offering more formal financial access pathways.

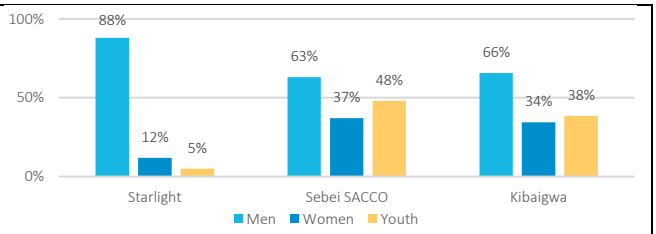

Figure 13: Participation of women and youth in accessing SME distributed improved seed

As noted earlier, SEBEI SACCO applies a structured, gender-responsive financing model tailored to women. It relies on women-dominated platforms such as village savings and loan associations (VSLAs), replaces traditional collateral with peer guarantees, and delivers financing on-site during VSLA meetings via agents and mobile money. EAF and Kibaigwa, by contrast, connect farmer groups to formal financial institutions. These formal financing pathways appear to provide greater access for women compared to farmers in Starlight (see Fig. 14).

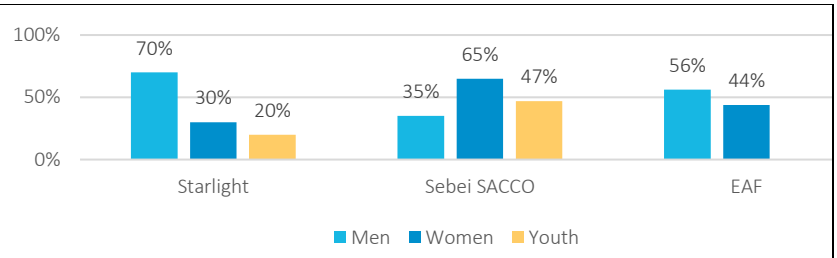

Figure 14: Participation of women and youth in accessing financing for CSA

Soil testing services were offered by only a few business cases, often as one-off pilots. Access to this service was limited, particularly for women and youth, as it is tied to land ownership, typically controlled by men and delivered through external providers requiring upfront payment. These conditions created barriers for women and youth, resulting in male-dominated access across the two business cases with available data (excluding the pilots).

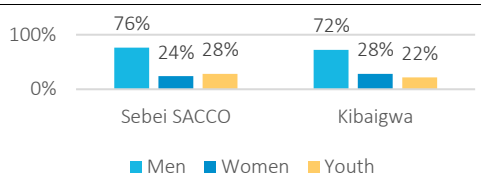

Figure 15: Participation of women and youth in accessing soil testing services

Discussion: women and youth access to CSA services across business cases

Access to climate-smart agriculture (CSA) services among women and youth varied widely across the business cases and was influenced by business leadership, financing models, and gender-responsive design. Access to weather information was highest in women-led enterprises such as Starlight Cooperative and Byeffe, where female engagement outpaced that of male-led enterprises. This suggests that leadership plays a key role in enabling women's access to timely climate information. However, youth participation in weather information services showed no consistent pattern, indicating that age of leadership or enterprise type alone is not a strong determinant of youth access.

Access to crop insurance was generally low for women, consistent with known barriers such as limited land ownership. However, targeted interventions, such as subsidies, sensitization, and outreach through business case (BC) partnerships helped to mitigate these constraints in cases like Byeffe and Kibaigwa. SEBEI SACCO demonstrated higher access for men and youth, highlighting the potential of youth-led models to increase youth engagement, though gender equity may still lag in such contexts.

Extension and training services reflected similar trends. Women-led enterprises promoted higher female participation, while SEBEI SACCO enabled strong youth engagement. Interestingly, KDPGCUL, a male-led cooperative, also showed high female participation, suggesting that contextual or operational factors (e.g., crop type, delivery channels) can override gendered leadership patterns. Male-led SMEs showed near gender parity but lower youth engagement, pointing to potential gaps in youth-responsive design.

In aggregation and offtake services, inclusivity remained limited across most business cases. SEBEI SACCO provided relatively broad access for both women and youth, while Starlight's services were largely accessed by women. Male-led SMEs, particularly Kibaigwa and EAF, were the least inclusive. Notably, no business case showed consistently balanced inclusion across both gender and age in this service domain.

Access to SME-distributed improved seed was predominantly male. Financing models and control over resources were key barriers for women. In Starlight, access was linked to informal savings from milk sales and limited participation in a cooperative-run seed scheme. While innovative, this model fell short in meeting women's CSA input needs. In contrast, SEBEI SACCO and Kibaigwa employed more structured and formal financing models that were better able to reach women, demonstrating the importance of well-designed financial systems in improving access.

Financing for CSA followed a similar pattern. SEBEI SACCO used a peer guarantee system linked to VSLAs, enabling broad access for women through community-based platforms. EAF and Kibaigwa leveraged formal linkages with financial institutions, providing more robust access than informal models like Starlight's. These findings underscore the role of financing design in shaping equitable access to CSA services.

Soil testing services were rarely offered and often piloted as short-term interventions. Access was heavily gender-biased, primarily due to the land-based nature of the service, upfront payment requirements, and external delivery models. With men typically controlling land, these structural barriers excluded women and youth from meaningful participation in the two business cases with available data.

Lessons learned and implications for future programming

Findings from these business cases reveal that gender and age-responsive leadership, financing models, and service design significantly affect access to CSA services. Women-led and youth-led enterprises tend to perform better in reaching marginalized groups, but this is not guaranteed. Structured financial models, especially those leveraging community-based systems like VSLAs or formal banking linkages, enable more inclusive access compared to informal or household-dependent mechanisms. Targeted outreach, embedded subsidies, and gender-sensitive design further enhance access for women and youth. Future programming should prioritize gender and youth-responsive models, tailor financing approaches to meet the needs of different demographic groups, and address systemic barriers such as land ownership and control over resources. Embedding accountability and disaggregated data tracking will also be critical to ensure inclusive service delivery and equitable outcomes in CSA adoption.

5.1.2 Participation in independent service roles and enterprise

While employment at service nodes remained limited overall, the CRAFT project supported notable growth in independent service roles for women and youth. For instance, Sebei SACCO increased its number of village agents from 15 (with only 2 youth, no women) in 2019 to 26 by 2024/25, now including 8 women and 6 youth. Additionally, participation in entrepreneurial roles such as Trainer-of-Trainers (ToT) (often as commissioned agents) and seed multipliers expanded under several BCs, as shown in Figures 16 and 17.

However, women dominated the ToT role only in Byeffe, a female-led enterprise, where they accounted for 73% of participants. Overall, ToT roles were largely male-dominated. However, some business cases, such as KDPGCUL (potato, Uganda) and Kibaigwa (sorghum, Tanzania), showed near gender parity (Fig 16). This may reflect the relatively high level of women's involvement in these value chains within their respective regions.

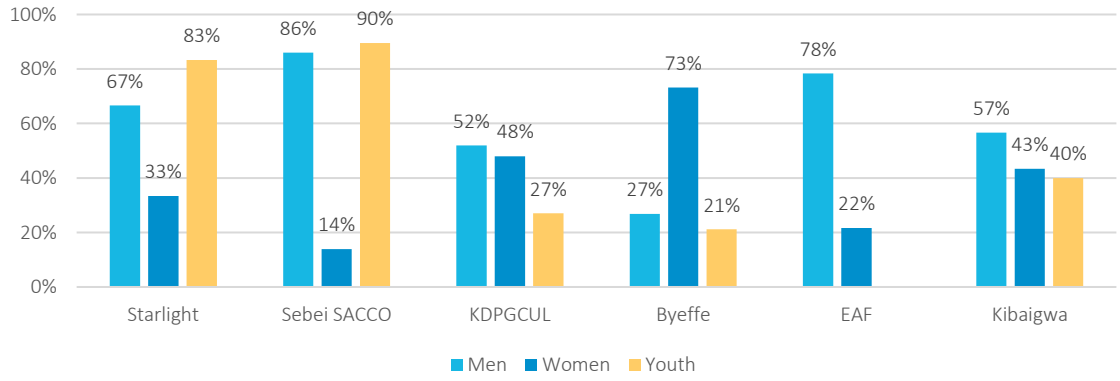

Figure 16: participation of women and youth as ToTs across select BCs

With the exception of Kaplomboi Ruto Cooperative, where women make up 71% of seed multipliers, partly due to their dominance in the common bean value chain, this entrepreneurial role was primarily occupied by men in other business cases (Fig. 17). Youth participation followed a similar pattern, increasing in cases where women faced fewer barriers to entry.

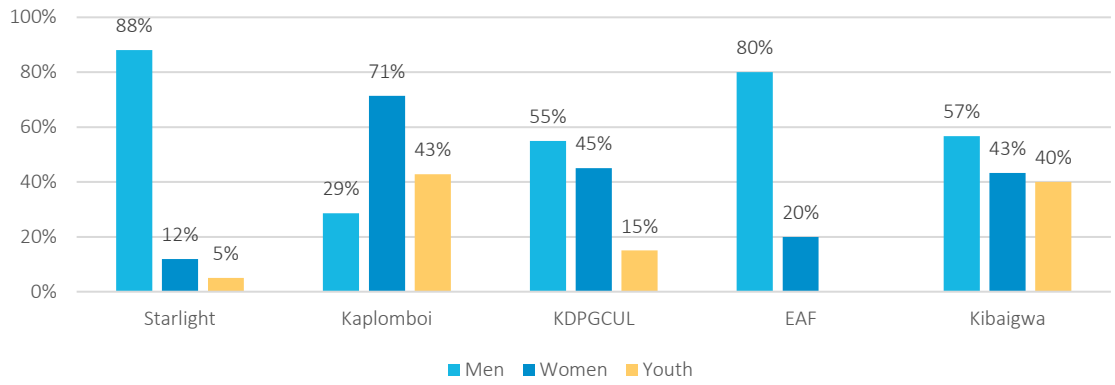

Figure 17: Participation of women and youth as seed multipliers across select BC

While these opportunities remain numerically limited, they represent scalable models for entrepreneurial entry into input delivery and extension systems.

5.1.3 Lessons Learnt and Implications for Future Programming

The analysis of value chain participation across business cases highlights several critical lessons. First, women's and youth's access to climate-smart agriculture (CSA) services is strongly influenced by the structure of service delivery, leadership demographics, and the underlying financing mechanisms. Women-led and youth-led enterprises demonstrated greater inclusion of marginalized groups, though inclusion was not uniform or guaranteed. Embedded service models, such as those involving extension, aggregation, and training enabled more predictable access but did not always translate into equitable participation.

Second, informal and household-level financing mechanisms were less effective in reaching women and youth compared to structured, gender-responsive systems like those implemented by SEBEI SACCO. These models, which used peer guarantees and leveraged women-dominated savings groups, facilitated broader inclusion. In contrast, upfront payment requirements and land-linked services (e.g., soil testing) continued to exclude women and youth due to systemic constraints around land ownership and resource control.

Third, while there were positive shifts in women and youth engagement as service users, their participation as service providers such as Trainers-of-Trainers or seed multipliers, remained limited. However, emerging examples (e.g., Byeffe, Kaplomboi Ruto, and SEBEI SACCO) demonstrate that, with targeted support, these roles can serve as viable entry points for women and youth into entrepreneurial and leadership positions within value chains.

Going forward, programming should shift from focusing solely on access to fostering ownership and agency. This includes investing in inclusive financing models, bundling CSA services at accessible delivery hubs, and embedding gender equality and social inclusion (GESI) principles from the outset in value chain design. Strengthening institutional partnerships and enabling policy frameworks will be essential to scale and sustain inclusive CSA service delivery.

5.1.4 Conclusion

CRAFT's engagement with climate-smart agriculture services across diverse business cases has contributed to meaningful, though uneven, improvements in women's and youth's participation. Gains were most evident in services that were subsidized, embedded in contract arrangements, or delivered through inclusive platforms. However, access remained limited in more capital- and asset-intensive services such as mechanization, crop insurance, and soil testing.

While the emergence of women and youth as Trainers-of-Trainers, seed multipliers, and village agents is a promising development, their overall representation in service delivery and entrepreneurship remains low. This signals a need to transition from participation-as-beneficiaries toward participation-as-business actors.

The diversity of service delivery models piloted under CRAFT demonstrates the potential for inclusive value chain design. To build on this progress, future efforts must prioritize the incubation of women- and youth-led enterprises, improve the accessibility of bundled CSA services, and ensure GESI considerations are fully integrated into both public and private sector initiatives. Only through such deliberate and inclusive strategies can agricultural systems become truly climate-resilient and equitable.

Transforming Power: Gender and Youth Dynamics in CRAFT Value Chains

Using the Project-level Women's Empowerment in Agriculture Index (PRO-WEAI), the study assesses the gender and youth implications of CRAFT-supported crops and evaluates the effectiveness of Gender Equality and Social Inclusion (GESI) strategies within CRAFT supported business cases. The study focuses on intra-household gender dynamics using the pro-WEAI framework and its 12 indicators. Particular attention is paid to shifts in inter-household power balances and individual empowerment outcomes, providing both cross-country comparisons and value chain-specific insights. This evidence offers a grounded understanding of how climate-smart agriculture interventions can drive inclusive development and systemic change in gender and youth dynamics.

5.2 Gender and youth empowerment in CRAFT value chains

5.3 Methodology

The project level women empowerment in agriculture index (pro-WEAI) framework was used to guide the study design and protocols. Pro-WEAI focuses specifically on measuring agency, or the ability of individuals to make and act on strategic choices. pro-WEAI has 12 indicators mapped to three domains as shown in Table 11 below: intrinsic agency (power within), instrumental agency (power to), and collective agency (power with).

pro-WEAI, is calculated as the weighted mean of two sub-indices: The Three Domains of Empowerment Index (3DE), with a weight of 90 percent, and the Gender Parity Index (GPI), with a weight of 10 percent. The 3DE measures women's achievements across the above three domains – intrinsic agency (power within), instrumental agency (power to), and collective agency (power with) – and includes women from both dual-adult and female-adult-only households. The GPI compares the empowerment scores of the eligible individual and her spouse in each dual-adult household. Interventions by a project that lead to improvements in either the 3DE or GPI will increase a project's pro-WEAI score.

Table 19: The domains, indicators, and definitions of adequacy in pro-WEAI

Indicators by Domain	Definition of when a man or woman is considered adequate in an indicator
Intrinsic agency	
Autonomy in income	More motivated by own values than by coercion or fear of others' disapproval
Self-efficacy	"Agree" or greater on average with self-efficacy questions
Attitudes about intimate partner violence against women	Believes husband is NOT justified in hitting or beating his wife in all 5 scenarios: 1) She goes out without telling him 2) She neglects the children 3) She argues with him 4) She refuses to have sex with him 5) She burns the food
Respect among household members	Meets ALL of the following conditions related to another household member: 1) Respondent respects relation (MOST of the time) AND 2) Relation respects respondent (MOST of the time) AND 3) Respondent trusts relation (MOST of the time) AND

	4) Respondent is comfortable disagreeing with relation (MOST of the time)
Instrumental agency	
Input in productive decisions	Meets at least ONE of the following conditions for ALL of the agricultural activities they participate in 1) Makes related decision solely, 2) Makes the decision jointly and has at least some input into the decisions 3) Feels could make decision if wanted to (to at least a MEDIUM extent)
Ownership of land and other assets	Owns, either solely or jointly, at least ONE of the following: 1) At least THREE small assets (poultry, non-mechanized equipment, or small consumer durables) 2) At least TWO large assets 3) Land
Access to and decisions on financial services	Meets at least ONE of the following conditions: 1) Belongs to a household that used a source of credit in the past year AND participated in at least ONE sole or joint decision about it 2) Belongs to a household that did not use credit in the past year but could have if wanted to from at least ONE source 3) Has access, solely or jointly, to a financial account
Control over use of income	Has input in decisions related to how to use BOTH income and output from ALL of the agricultural activities they participate in AND has input in decisions related to income from ALL non-agricultural activities they participate in, unless no decision was made
Work balance	Works less than 10.5 hours per day: Workload = time spent in primary activity + (1/2) time spent in childcare as a secondary activity
Mobility/Visiting important locations	Meets at least ONE of the following conditions: 1) Visits at least TWO locations at least ONCE PER WEEK of [city, market, family/relative], or 2) Visits least ONE location at least ONCE PER MONTH of [health facility, public meeting]
Collective agency	
Group membership	Active member of at least ONE group
Membership in influential groups	Active member of at least ONE group that can influence the community to at least a MEDIUM extent

5.4 Autonomy in income

Autonomy in income refers to an individual's freedom to make economic decisions driven by personal values rather than external coercion, fear, or obligation. Within the pro-WEAI framework, a farmer is considered adequate if they demonstrate a higher internal motivation than external pressure in relation to income-related decisions.

In the context of SNV/CRAFT, which aims to enhance the climate resilience of agribusinesses, this domain is highly relevant. Building resilient agricultural systems requires entrepreneurial autonomy, including the ability to evaluate risks, invest in new technologies (such as CSA practices), and diversify income streams

without being constrained by social or relational pressures. Without autonomy, farmers, especially women and youth, may be unable to adopt adaptive behaviors essential for thriving in a changing climate.

5.4.1 Summary of findings

Autonomy in income is one of the lower-scoring domains in the pro-WEAI analysis for CRAFT. Only 49.84% of all respondents across Kenya, Tanzania, and Uganda are considered adequate on this indicator.

Table 20: Respondents' who are adequate in autonomy in income by country and group (26.92%)

Group	Kenya	Tanzania	Uganda	All Countries
All respondents	55.62	59.60	39.56	49.84
Senior men	54.39	61.19	48.00	53.09
Senior women in male-headed households	53.64	59.65	26.92	44.38
Senior women in female-headed households	60.98	52.17	39.77	50.52
Young men	57.41	52.63	40.00	50.00
Young women	55.29	65.63	43.53	51.98

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5.4.1.1 Gendered patterns in autonomy in income

Senior men vs senior women in male headed households

Senior women in MHH consistently score lower autonomy than senior men, especially in Uganda, where only 26.92% of senior women are adequate compared to 48% of senior men. Statistical tests reveal a significant gender gap in Uganda *(p = 0.0001)* and across all countries *(p = 0.0096)*. This suggests that intra-household dynamics in MHH often limit women's autonomy in financial decisions, especially in more patriarchal settings like Uganda.

Senior men vs senior women in female headed households

Gender gaps are narrower and not statistically significant across all countries for senior women in FHH. Interestingly, in Kenya, senior women in FHH perform better than their male counterparts (60.98% vs 54.39%). This reinforces the idea that female-headed households can offer women more decision-making space, though contextual vulnerabilities still exist.

Young men vs young women

Young women slightly outperform young men in Tanzania and Uganda, while young men lead in Kenya. Across all countries, differences are not statistically significant, indicating a relative parity in income autonomy among youth. However, the overall levels of adequacy remain low for both genders, suggesting that young people, in general, face broader economic dependency and limited agency.

Table 21: Testing significance of gender differences in adequacy in autonomy in income by country and group

Gender comparison	Kenya	Tanzania	Uganda	All countries
Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes	0.1332 (0.4471)	0.1740 (0.4311)	3.6944 (0.0001)	2.3485 (0.0096)
Senior Men vs Senior Women in Female-Headed Households (FHH)	-0.9876 (0.1621)	0.7525 (0.2269)	1.2304 (0.1099)	0.5860 (0.2791)

Young men vs Young Women	0.2430 (0.4042)	-0.9082 (0.1841)	-0.3847 (0.3505)	-0.3409 (0.6333)

Source: household survey dataset
Each cell contains the t-statistic and the p-value

5.4.1.2 Implications for the SNV/CRAFT project and future programming

1. Low autonomy constrains climate resilience and innovation
    - Farmers who lack income autonomy may be unable or unwilling to adopt climate-smart technologies, even when offered.
    - Interventions must address social norms and power dynamics that limit individual decision-making, particularly for women in MHH.
2. Women in MHH are especially vulnerable
    - The large autonomy gap in Uganda and other settings indicates entrenched household gender norms.
    - SNV/CRAFT should consider household-level dialogues, joint decision-making training, and male ally engagement to reduce resistance and build women's agency.
3. FHH can be an entry point for economic empowerment
    - Senior women in FHH show greater autonomy, especially in Kenya.
    - These households may be more responsive to climate finance, CSA entrepreneurship, and market linkage interventions.
4. Youth autonomy is generally low but shows gender balance
    - Parity among young men and women offers a unique opportunity to design youth-inclusive agribusiness models.
    - Programs should emphasize access to independent income, such as climate-resilient micro-enterprises, mobile-based agritech, and youth-led savings groups.

Key Recommendations for CRAFT Programming

Action	Target Group	Details
Conduct intra-household dialogue sessions	Women in MHH, especially in Uganda	Use trained facilitators to promote joint decision-making on income and investments
Support financial literacy and negotiation skills	Senior and young women	Integrate into farmer group training, with special modules on income autonomy
Strengthen CSA-linked microenterprises	Young men and women	Promote youth-run climate-smart enterprises and savings-led models to boost financial independence
Prioritize FHH for climate finance interventions	Senior women in FHH	Provide tailored packages (e.g., matching grants, CSA input kits) linked to clear autonomy outcomes
Gender-transformative behavioral change communication (BCC)	All adult household members	Campaigns that challenge gender norms and promote shared financial responsibility

Conclusion

Autonomy in income remains a critical weakness in the empowerment landscape for SNV/CRAFT beneficiaries. While women in FHH and youth show some progress, persistent gaps among senior women in MHH, especially in Uganda, signal deep-rooted constraints. Addressing these issues through gender-

responsive programming and targeted empowerment strategies is essential to unlock the full potential of farmers as resilient, climate-smart agripreneurs.

5.5 Self-efficacy

Self-efficacy is a critical psychological trait that influences an individual's ability to persevere and succeed in challenging tasks. For farmers, high self-efficacy is associated with better decision-making, resilience, and productivity. This report analyzes survey data on farmers' self-efficacy across Kenya, Tanzania, and Uganda, focusing on differences by country, gender, and household typology.

In the pro-WEAI framework, a farmer is considered adequate if they agree or strongly agree with the following self-efficacy questions on average

- When facing difficult tasks, I am certain that I will accomplish them.
- In general, I think that I can obtain outcomes that are important to me.
- I am confident that I can perform effectively on many different tasks.
- Even when things are tough, I can perform quite well.

Based on the data from the SNV/CRAFT project across Kenya, Tanzania, and Uganda, this report examines self-efficacy among farmers across seven commodity value chains. The analysis considers gender, age, and household typology, revealing key insights for future programming, especially with respect to persistent gender disparities.

Self-Efficacy Levels Across Countries and Groups

Overall, the level of self-efficacy—measured as the percentage of respondents who agreed or strongly agreed with self-efficacy statements—varied by country and demographic group. Uganda showed the highest overall self-efficacy (67.33%), followed by Kenya (63.88%), with Tanzania lagging behind (43.50%). Disaggregation by respondent group reveals that young men consistently reported the highest levels of self-efficacy across all three countries, particularly in Kenya (71.01%) and Uganda (72.73%). Young women also reported relatively high levels (66.35% in Kenya and 71.33% in Uganda), although a more pronounced gender gap is evident in Tanzania.

Senior men and senior women in male-headed households (MHH) reported moderate levels of self-efficacy, with minor variation across countries. Interestingly, senior women in female-headed households (FHH) exhibited the lowest self-efficacy in Tanzania (33.33%), but conversely, the highest in Uganda (75.63%), suggesting stark country-level contextual influences on self-perception and agency.

Gender Gaps and Statistical Significance

Table 30, which presents significance testing results, confirms that gender gaps in self-efficacy are not uniform across countries or household typologies. While differences between senior men and senior women in MHHs were not statistically significant in any country (all p-values > 0.05), gaps between senior men and senior women in FHHs were significant in Kenya ($p = 0.0185$) and Uganda ($p = 0.0004$). This suggests that in these contexts, women heading households either feel significantly less self-efficacious than men (as in Kenya) or significantly more (as in Uganda).

For young respondents, gender differences between young men and young women were not statistically significant in any country, suggesting a possible generational shift toward more equal perceptions of agency and ability. However, Tanzania still showed a large numerical gap (36.00% for young men vs. 48.21% for young women), indicating the need for targeted attention.

Implications for Programming

These findings carry several implications for future program design and implementation:

- The statistically significant self-efficacy differences between senior men and senior women in FHHs point to a need for targeted psychosocial support and empowerment interventions for older women, especially in Kenya where the gap disfavors women. Programs should consider integrating mentorship and leadership components specifically for women heading households, who may be more isolated or disadvantaged in accessing support networks.
- The high levels of self-efficacy among Ugandan women—particularly those in FHHs—signal that enabling environments can make a substantial difference. Comparative case studies could help unpack the structural or cultural factors enabling this trend, and best practices could be adapted for other contexts.
- The relatively small gender gaps in self-efficacy among youth suggest that gender-transformative interventions may be taking root or that younger generations perceive fewer barriers to agency. Future programming should capitalize on this momentum, providing equal opportunities for young men and women to take leadership roles in value chains and cooperatives.
- The overall lower self-efficacy across all groups in Tanzania requires urgent attention. Gender-sensitive capacity-building initiatives, particularly in confidence-building and decision-making, may help improve outcomes for both men and women in this region.

Overall, the data shows promising trends toward gender parity among younger populations, while highlighting persistent and significant gaps among senior women in specific household contexts. Effective programming must take an intersectional approach that considers age, gender, household structure, and national context to foster self-efficacy and equitable participation in agricultural value chains. Monitoring and evaluation systems should incorporate qualitative assessments in future rounds to deepen understanding of the drivers behind these trends.

Table 22: Respondents' adequate on self-efficacy (% agree or strongly agree on average) by country and group

	Kenya	Tanzania	Uganda	All
All respondents	63.88	43.50	67.33	61.62
Senior men	65.88	45.30	59.45	58.93
Senior women in male headed households	63.07	46.08	65.73	60.69
Senior women in female headed households	53.54	33.33	75.63	61.46
Young men	71.01	36.00	72.73	66.67
Young women	66.35	48.21	71.33	65.48

Table 23: Testing significance of gender differences in self-efficacy by country and household typology

Respondent group	Kenya	Tanzania	Uganda	Total

Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes	0.5741 (0.2831)	-0.1150 (0.4543)	-1.3945 (0.0819)	-0.5845 (0.2795)
Senior Men vs Senior Women in Female-Headed Households (FHH)	2.0945 (0.0185)	1.4768 (0.0708)	-3.4154 (0.0004)	-0.7365 (0.2308)
Young men vs Young Women	0.6427 (0.2606)	-1.0158 (0.1564)	0.2200 (0.4130)	0.2614 (0.3969)

5.6 Attitudes regarding gender-based violence against women

Attitudes towards gender-based violence (GBV) serve as a proxy for empowerment and are a core element of the pro-WEAI framework. The CRAFT dataset assessed GBV attitudes by asking respondents whether a husband is justified in hitting or beating his wife in five common scenarios. An individual is classified as **adequate** if they report **zero tolerance**—i.e., they reject all five justifications.

Overall, 76.5% of respondents across the three countries express zero tolerance for intimate partner violence (IPV). However, attitudes vary meaningfully by country, gender, age, and household typology.

Country-Level Trends

Kenya displays slightly higher levels of intolerance (75.1%) compared to Tanzania (73.7%) albeit lower than Uganda (78.7%). Tolerance of IPV is most widespread in Tanzania, with 11.0% of respondents justifying violence if a wife "goes out without telling her husband"—compared to 7.1% in Kenya and only 6.3% in Uganda.

In Uganda, the highest proportion of respondents (78.7%) categorically reject all five forms of GBV, suggesting progress toward shifting social norms. By contrast, Tanzanian respondents show higher justification levels across multiple scenarios, including neglecting children (14.7%) and arguing with the husband (11.0%).

Gender and Household Typology Differences

- Senior women in female-headed households (FHHs) exhibit the highest levels of zero tolerance (81.2%), especially in Uganda and Tanzania, where 86.3% and 84.3% respectively report rejecting all justifications.
- Senior men and young men are somewhat less likely to justify GBV, with 77.0% and 78.6% deemed adequate overall.
- Young women (especially in Tanzania) are more likely than young men to justify GBV in specific scenarios. For example, 25.0% of young Tanzanian women say violence is justified if the wife neglects the children, compared to 20.0% of young men.
- Among senior women in male-headed households, only 74.7% are classified as adequate, with many still justifying GBV in some scenarios (e.g., 14.3% say it's acceptable if she neglects the children).

Scenario-Specific Insights

The most commonly accepted justification for GBV across all respondents is neglecting the children (13.4%). Other scenarios, such as refusing sex (7.2%) and going out without informing the husband (7.5%), also see notable tolerance. Acceptance of GBV for burning food, a more trivial issue, is generally low (4.8%), but still present—highlighting residual social norms around control and discipline in marital relationships.

Statistical Significance of Gender Gaps

Table 30 provides t-test results to assess the statistical significance of gender-based differences in GBV attitudes. Key insights include:

- Young men vs. young women:
  - Significant gender gaps exist across all five scenarios at the aggregate level, with young women showing greater tolerance in most cases. For example:
    - *Going out without telling him*: t = 2.30, p = 0.011
    - *Arguing with him*: t = 2.38, p = 0.009
    - *Refusing sex*: t = 2.38, p = 0.009
    - *Burning food*: t = 1.81, p = 0.036
- Senior men vs. senior women in MHHs:
  - Significant differences are seen in Uganda for *going out without telling him* (t = 2.71, p = 0.003) and *refusing sex* in Tanzania (t = -1.79, p = 0.038).
- Senior men vs. senior women in FHHs:
  - A strong and significant gender difference is seen in the scenario *refusing sex* (t = -3.32, p < 0.001), with women more likely to justify it.
- Adequacy differences (summary indicator):
  - Gender differences in overall IPV tolerance are not statistically significant at the aggregate level (t = 0.89, p = 0.186). However, within Uganda, senior women in FHHs are significantly more intolerant than men (t = -2.92, p = 0.0019).

Summary of Key Findings

- While overall tolerance for GBV is relatively low, around 1 in 4 people still justify intimate partner violence in at least one scenario.
- Uganda leads in GBV intolerance, particularly among women in FHHs.
- Tanzania shows higher tolerance rates, especially among young and senior women, which may reflect deeper cultural entrenchment of patriarchal norms.
- Statistically significant gender differences appear in specific countries and household types, suggesting that blanket interventions may miss key sub-group dynamics.

Implications and Recommendations for Programming

To address these nuanced findings within the CRAFT framework:

1. **Tailored Awareness Campaigns**
   - Country-specific interventions are essential. In **Tanzania**, awareness programs must tackle deep-rooted cultural norms that legitimize violence. In **Uganda**, campaigns should consolidate the relatively lower tolerance levels.

2. **Gender-Responsive Education**
    - Given the higher tolerance among **women in some contexts**, particularly in Tanzania, programs must also target **internalized norms among women**, not just male perpetrators.
3. **Household Typology Programming**
    - Recognize household-level dynamics. Female-headed households, especially in Uganda, show more progressive attitudes, indicating potential for community role modeling or peer influence programming.
4. **Youth Engagement**
    - Young women in Tanzania show unexpected levels of GBV acceptance. Interventions must prioritize gender norms education early—through schools, youth groups, and digital platforms.
5. **Community Dialogues**
    - Foster open, intergenerational discussions on power, respect, and conflict resolution through community dialogues, facilitated by trusted leaders and CRAFT-supported facilitators.
6. **Policy and Advocacy**
    - Collaborate with local authorities to push for the enforcement of anti-GBV laws and strengthen local protection mechanisms. Advocate for the integration of GBV modules into adult education and agriculture extension training.
7. **Monitoring and Mixed Methods**
    - Complement quantitative surveys with **qualitative research** (e.g., focus groups) to unpack the why behind tolerance patterns and identify deeper drivers of behavior.

Table 24: Differences among men and women's perceptions on gender based violence (% saying YES)

In your opinion, is a husband justified in hitting or beating his wife in the following situations? % saying YES	Kenya	Tanzania	Uganda	All
All respondents				
If she goes out without telling him	7.13	11.02	6.32	7.49
If she neglects the children	12.44	14.69	13.58	13.38
If she argues with him	6.22	11.02	7.14	7.55
If she refuses to have sex with him	7.59	8.76	6.21	7.17
If she burns the food	6.07	3.39	4.33	4.76
% adequate on intimate partner violence	75.08	73.73	78.69	76.53
Senior Men				
If she goes out without telling him	6.64	6.84	9.84	8.08
If she neglects the children	8.53	6.84	17.72	12.20
If she argues with him	4.74	8.55	8.66	7.22
If she refuses to have sex with him	6.64	5.13	8.27	7.04
If she burns the food	3.32	0.85	6.69	4.30
% adequate on intimate partner violence	77.25	82.57	74.52	77.03
Senior Women in Male-Headed Households (MHH)/marital homes				
If she goes out without telling him	9.09	13.73	3.76	7.74
If she neglects the children	13.64	20.59	11.74	14.26
If she argues with him	11.36	16.67	6.57	10.39
If she refuses to have sex with him	12.50	11.76	6.57	9.78
If she burns the food	9.09	6.06	4.69	6.72
% adequate on intimate partner violence	73.03	68.32	79.00	74.70
Senior Women in Female-Headed Households (FHH)				

If she goes out without telling him	6.06	9.26	3.75	5.41
If she neglects the children	15.15	7.41	7.50	9.87
If she argues with him	6.06	7.41	3.75	5.10
If she refuses to have sex with him	3.03	3.03	3.13	3.50
If she burns the food	9.09	0.00	2.50	4.14
% adequate on intimate partner violence	71.00	84.31	86.34	81.15
Young Men				
If she goes out without telling him	7.25	4.00	10.39	8.19
If she neglects the children	14.49	20.00	10.39	13.45
If she argues with him	2.90	4.00	11.69	7.02
If she refuses to have sex with him	2.90	4.00	3.90	3.51
If she burns the food	2.90	4.00	1.30	2.34
% adequate on intimate partner violence	73.91	72.73	84.42	78.57
Young Women				
If she goes out without telling him	5.71	19.64	4.67	7.74
If she neglects the children	14.42	25.00	17.33	17.74
If she argues with him	2.88	12.50	6.67	6.45
If she refuses to have sex with him	8.65	16.70	6.67	9.03
If she burns the food	5.77	5.36	3.33	4.52
% adequate on intimate partner violence				

Source: Household survey dataset

Table 25: Testing significance of gender differences in attitudes towards intimate partner violence by country and household typology

Respondent group	Kenya	Tanzania	Uganda	Total
Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes				
If she goes out without telling him	1.1291 (0.1298)	1.3807 (0.0844)	2.7146 (0.0034)	1.2682 (0.1025)
If she neglects the children	-0.0294 (0.4883)	-0.5022 (0.3080)	1.2928 (0.0984)	0.0103 (0.4959)
If she argues with him	0.1880 (0.4255)	-0.4811 (0.6845)	0.8417 (0.2002)	0.2013 (0.4203)
If she refuses to have sex with him	0.5795 (0.2813)	-1.7886 (0.0375)	0.0180 (0.4928)	0.5475 (0.2921)
If she burns the food	1.6046 (0.0547)	0.3157 (0.3763)	-0.6901 (0.2452)	1.5942 (0.0556)
% adequate on intimate partner violence	0.9599 (0.1689)	2.4287 (0.0080)	-1.1509 (0.1252)	0.8918 (0.1864)
Senior Men vs Senior Women in Female-Headed Households (FHH)				
If she goes out without telling him	-1.1065 (0.8653)	0.3794 (0.3524)	-0.0541 (0.5215)	-0.8735 (0.8087)
If she neglects the children	-0.1244 (0.5494)	1.1502 (0.1258)	0.1789 (0.4290)	0.1024 (0.4592)
If she argues with him	-0.9652 (0.8324)	0.6283 (0.2653)	-1.0859 (0.1391)	-0.7976 (0.2127)
If she refuses to have sex with him	-3.3156 (0.0005)	0.7341 (0.2319)	-0.2891 (0.3863)	-2.8382 (0.0023)
If she burns the food	-0.1309 (0.4480)	-0.8843 (0.1889)	-0.9538 (0.1704)	0.0555 (0.4779)

% adequate on intimate partner violence	1.1919 (0.1171)	-0.2730 (0.6074)	-2.9158 (0.0019)	-1.4292 (0.0767)
Young Men vs Young Women				
If she goes out without telling him	2.1705 (0.0157)	-1.9558 (0.0270)	0.3309 (0.3705)	2.2998 (0.0109)
If she neglects the children	1.7538 (0.0406)	0.1122 (0.4555)	-1.9205 (0.0280)	1.8012 (0.0361)
If she argues with him	2.1622 (0.0160)	1.1207 (0.1329)	0.1868 (0.4260)	2.3848 (0.0087)
If she refuses to have sex with him	2.2108 (0.0142)	-1.7207 (0.0446)	-1.3412 (0.0906)	2.3789 (0.0089)
If she burns the food	1.7340 (0.0424)	-0.7069 (0.2408)	-1.5274 (0.0640)	1.8074 (0.0357)
% adequate on intimate partner violence	-0.7504 (0.2270)	1.3646 (0.0883)	1.7347 (0.0421)	1.4032 (0.0806)

Each table cell contains the t-test statistic, and the p-value in parentheses

Source: Household survey dataset

5.7 Intra-household relationships

This domain of the pro-WEAI focuses on the quality of interpersonal relationships within farming households, specifically among key adult household members. It assesses mutual respect, trust, and the comfort to disagree within intimate partnerships or cohabiting arrangements. For women in marital relationships, this includes interactions with husbands, mothers-in-law, and co-wives where applicable; while for men, it includes relationships with wives and, in some cases, fathers. A respondent is considered *adequate* in this domain if they respond "most of the time" to all four of the following questions in relation to each household counterpart:

1. Do you respect your relation?
2. Does your relation respect you?
3. Do you trust your relation to do things in your best interest?
4. Are you comfortable telling your relation when you disagree?

At its core, this domain captures whether a farmer experiences a basic threshold of respectful, communicative, and trusting relationships within the household—conditions that are fundamental to effective joint decision-making and behavior change, especially in the adoption of climate-smart agriculture (CSA) practices.

Summary of Findings

Data from across Kenya, Tanzania, and Uganda reveals both progress and persistent gender disparities in intra-household relationships (see Table 33). On average, 58.15% of all respondents across the three countries report being adequate in this domain—meaning they most often feel respected by, trust, and are able to disagree comfortably with other key household members. However, disaggregation by gender and age reveals significant disparities.

Young men reported the highest adequacy overall, with 69.59% meeting the domain threshold, compared to 56.27% of young women. This pattern of male advantage is also observed among senior respondents. Senior men had a higher average adequacy rate (62.31%) than senior women in both male-headed (52.59%) and female-headed households (40.30%). Notably, the lowest adequacy was reported by senior women in female-headed households in Tanzania, where only 20% of respondents reported positive relational dynamics.

Country-level patterns vary. In Kenya, significant gender gaps emerge: 65.71% of senior men are adequate compared to only 47.34% of senior women in male-headed households. Uganda shows a similar but slightly narrower gap. In contrast, Tanzania displays more parity among senior men and women in marital homes but reveals major deficits for senior women in female-headed households, suggesting increased relational strain or isolation in these settings.

Statistical Evidence of Gender Gaps

The observed gender differences are backed by statistically significant results in several group comparisons (see Table 34). Across all countries:

- **Senior men vs. senior women in male-headed households** show a significant overall gender gap ($t = 3.2091$, $p < 0.001$), particularly pronounced in Kenya.
- **Senior men vs. senior women in female-headed households** also reveal significant disparities ($t = 3.5099$, $p < 0.001$), with Uganda and Tanzania contributing most to the difference.
- **Young men vs. young women** show a meaningful gap overall ($t = 2.8050$, $p = 0.0026$), especially in Kenya and Uganda.

These findings suggest that men across age groups more frequently experience respectful, trusting, and communicative relationships than women. Women, especially older women in female-headed households, face greater relational barriers that could limit their agency in household or farming decisions.

Implications for Programming

These gendered gaps in intra-household relationships have concrete implications for the success of CSA initiatives. Climate-smart farming decisions—such as investing in water-saving technologies, diversifying crops, or adjusting planting times—often depend on dialogue and cooperation within households. If women are not respected or cannot safely express disagreement, critical knowledge may be lost or suppressed, resulting in suboptimal farming outcomes and under-adoption of CSA technologies.

For example, if a woman knows that a particular hybrid seed fails on their land due to poor soil compatibility, but feels unheard or unsafe to express that view, the household risks poor harvests and wasted investment. Similarly, training women in CSA techniques loses impact if their input is dismissed or met with resistance at home. The result is not only reduced empowerment but also diminished project efficiency and impact.

To address these hidden bottlenecks, the **SNV/CRAFT project** should integrate relational empowerment into its CSA delivery systems. This includes:

- **Couples' CSA training sessions**, where partners attend and learn together, fostering joint planning and shared visioning (e.g. mapping planting calendars, farm budgets).
- **Facilitator-led tools** such as role plays, skits, or dialogue sessions to prompt reflection: *"What happens when we don't agree at home?"*, *"How do we listen?"*
- **Community dialogues** through local leaders, churches, or women's groups, framing respect and shared decision-making as productivity and welfare issues, not just moral or "gender issues."
- **Male role model engagement**, where respected farmers champion respectful partnerships as part of good farming practice.
- **Simple self-reflection checklists** or relationship diagnostics used in farmer field schools, helping participants ask: *"Do I listen when we disagree?"*, *"Do I trust her input?"*

By strengthening this domain, CRAFT can not only promote gender equality, but unlock greater efficiency, innovation, and resilience in farming households. Mutual respect and shared voice are not luxuries; they are enabling conditions for success.

Table 26: Respondents' adequate on intra-household relations (% responding "most of the time" to all four scenarios, for all relations) by country and group

	Kenya	Tanzania	Uganda	All
All respondents	59.67	60.34	56.06	**58.15**
Senior men	65.71	60.68	60.24	**62.31**
Senior women in male headed households	47.34	58.82	53.77	**52.59**
Senior women in female headed households	60.00	20.00	39.29	**40.30**
Young men	75.36	60.00	67.53	**69.59**
Young women	56.84	68.29	51.97	**56.27**

Table 27: Testing significance of gender differences in intra-household relations among household members by country and household typology

Respondent group	Kenya	Tanzania	Uganda	All
Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes	3.6509 (0.0001)	0.2789 (0.3903)	1.4044 (0.0804)	3.2091 (0.0007)
Senior Men vs Senior Women in Female-Headed Households (FHH)	0.2646 (0.3958)	1.8212 (0.0355)	2.8914 (0.0021)	3.5099 (0.0002)
Young men vs Young Women	2.4798 (0.0071)	-0.6778 (0.5003)	2.1973 (0.0146)	2.8050 (0.0026)

5.8 Input in livelihood decisions

The "Input in livelihood decisions" indicator of the pro-WEAI framework is especially critical in the context of building climate resilience. When individuals, particularly women, are empowered to influence livelihood decisions, they are better equipped to adopt sustainable and adaptive practices, access resources, and respond effectively to climate shocks. In the SNV/CRAFT project, understanding gendered patterns in decision-making capacity is essential to ensure that climate-smart agricultural innovations benefit all community members equitably and sustainably.

Summary of Findings

Across the three project countries—Kenya, Tanzania, and Uganda—participation in decision-making on livelihood activities was generally high. On average, respondents engaged in 2.47 livelihood activities and reported having input in 96.1% of them or felt they could if they wished. Across all activities—from staple farming to wage employment—over 94% reported having medium to high input into decisions. Notably, 92.3% of respondents met the adequacy threshold for this indicator, indicating broad inclusion across contexts.

Gendered Patterns of Input in Livelihood Decisions

Senior Men vs Senior Women in Male-Headed Households

Senior men in male-headed households had a higher average number of livelihood activities (2.60) and stronger input in decision-making (98.6%) compared to senior women (2.50 activities and 90.2% input). Senior men were significantly more likely to report medium to high decision-making input across most activities—especially staple grain production (99.4% vs 92.3%) and high-value crops (96.9% vs 88.3%). The t-test results confirm statistically significant gender gaps in adequacy ($t = 6.98$, $p < 0.001$), showing that senior women face more barriers to effective participation.

Senior Men vs Senior Women in Female-Headed Households

In female-headed households, senior men reported participating in significantly more livelihood activities than senior women (mean difference = 3.95, $p < 0.001$). Interestingly, in terms of decision-making input, senior women performed relatively similarly or better in certain areas, with some negative t-values indicating no significant disadvantage. However, adequacy remained slightly lower for senior women (though not statistically significant at the aggregated level). There were, however, significant disparities in specific activities such as poultry and horticulture, pointing to persistent gendered norms even in households nominally led by women.

Young Men vs Young Women

Young men participated in slightly more livelihood activities (2.56 vs 2.40) and reported higher decision-making adequacy (98.2% vs 90.97%). Differences were significant in several domains, including staple grain farming and poultry. Young men exhibited higher confidence and autonomy across nearly all agricultural and non-farm domains. The difference in adequacy ($t = 3.14$, $p = 0.0009$) suggests that, even among younger populations, patriarchal patterns of decision-making persist and could affect the uptake of climate-adaptive innovations by young women.

Implications for the SNV/CRAFT Project and for Future Programming

The findings underscore the importance of targeted gender-transformative approaches within the SNV/CRAFT project. Despite high overall adequacy, clear disparities remain between men and women, especially senior women in male-headed households and young women. These gaps could hinder inclusive adoption of climate-resilient practices, reduce overall household resilience, and perpetuate gender inequalities.

Programmatic Implications:

- Designing tailored outreach and capacity-building for women, particularly in domains where their participation is lowest (e.g., poultry, horticulture).
- Facilitating joint decision-making processes through household dialogue and training for both men and women.
- Incentivizing women's participation in high-value agricultural chains, which often show the highest gender gaps.
- Focusing youth interventions on enhancing agency for young women to close the decision-making gap early.
- Strengthening monitoring tools to disaggregate impact by gender and age continuously.

Table 37: Recommendations for Future Programming

Recommendation	Target Group	Rationale
Facilitate couple and intra-household decision-making training	Senior women in male-headed households	To enhance joint decision-making where women currently lack influence
Expand youth-tailored empowerment initiatives with a focus on young women	Young women	To address early-life inequalities in agency and decision-making
Prioritize high-value crop and poultry value chains for women-targeted interventions	Senior and young women	These are the domains with largest gender gaps in input
Introduce adaptive learning spaces where women can build technical and business capacity	All women participants	Builds knowledge and confidence to participate effectively
Leverage existing female-headed households to demonstrate inclusive leadership	Mixed households	Peer learning from female-led households with higher autonomy

Conclusion

The pro-WEAI indicator "Input in productive decisions" reveals that while overall participation in livelihood decisions is high across the SNV/CRAFT target populations, gendered inequalities persist, particularly among senior women in male-headed households and young women. These disparities, if unaddressed, could undermine the equitable uptake of climate-smart agriculture and resilience innovations. By embedding gender-sensitive and transformative programming throughout implementation, SNV/CRAFT can not only improve gender equity but also enhance overall climate resilience outcomes across communities.

Table 28: Differences among men and women's participation in livelihood decisions

Indicator	Kenya	Tanzania	Uganda	All countries
All respondents				
Number of livelihood activities participates in (#) (mean count)	2.86	1.99	2.37	2.47
% of activities engaged in in which they provide input in decisions or can if they wanted to	96.1%	96.5%	95.9%	96.1%
% whose input in decisions is medium to high extent by activity:				
Staple grain farming	96.9%	97.4%	97.6%	97.3%
Horticultural or high value crop farming/processing	93.7%	91.6%	96.7%	94.9%
Large livestock raising/processing	98.7%	94.6%	96.2%	97.3%

Small livestock raising/processing	97.0%	97.8%	95.5%	96.3%
Poultry and other small animal raising/processing	93.4%	97.0%	96.2%	94.9%
Fishpond culture (small sample N,5)	50.0%	—	100.0%	80.0%
Non-farm economic activities	92.6%	100.0%	97.0%	96.3%
Wage and salary employment	94.5%	100.0%	100.0%	97.5%
% adequate in decision making	91.5%	89.3%	94.3%	92.3%
Senior men in male headed households				
Number of livelihood activities participates in (#) (mean count)	3.01	2.17	2.46	2.60
% of activities engaged in in which they provide input in decisions or can if they wanted to	97.4%	99.8%	99.1%	98.6%
% whose input in decisions is medium to high extent by activity:				
Staple grain farming	98.9%	100.0%	99.6%	99.4%
Horticultural or high value crop farming/processing	93.4%	100.0%	98.9%	96.9%
Large livestock raising/processing	100.0%	100.0%	98.4%	99.4%
Small livestock raising/processing	98.0%	100.0%	100.0%	99.2%
Poultry and other small animal raising/processing	95.1%	97.6%	98.9%	96.7%
Fishpond culture (small sample N,3)	100.0%	—	100.0%	100.0%
Non-farm economic activities	100.0%	100.0%	100.0%	100.0%
Wage and salary employment	95.8%	100.0%	100.0%	98.0%
% adequate in decision making	93.8%	94.9%	98.4%	96.0%
Senior women in male headed households				
Number of livelihood activities participates in (#) (mean count)	2.96	1.96	2.38	2.50
% of activities engaged in in which they provide input in decisions or can if they wanted to	91.5%	89.4%	89.5%	90.2%
% whose input in decisions is medium to high extent by activity:				
Staple grain farming	91.8%	90.8%	93.3%	92.3%
Horticultural or high value crop farming/processing	88.2%	75.9%	92.7%	88.3%
Large livestock raising/processing	98.6%	90.9%	91.4%	94.7%
Small livestock raising/processing	94.5%	94.4%	89.3%	91.9%
Poultry and other small animal raising/processing	87.8%	92.3%	91.4%	89.7%
Fishpond culture (small sample N,1)	0.0%	—	—	0.0%
Non-farm economic activities	66.7%	100.0%	83.3%	82.4%
Wage and salary employment	85.7%	—	100.0%	90.5%
% adequate in decision making	82.9%	78.4%	86.9%	83.7%
Young men				
Number of livelihood activities participates in (#) (mean count)	2.68	2.24	2.55	2.56
% of activities engaged in in which they provide input in decisions or can if they wanted to	99.3%	100.0%	99.1%	99.3%
% whose input in decisions is medium to high extent by activity:				
Staple grain farming	100.0%	100.0%	100.0%	100.0%
Horticultural or high value crop farming/processing	96.4%	100.0%	96.9%	96.9%
Large livestock raising/processing	100.0%	100.0%	100.0%	100.0%
Small livestock raising/processing	100.0%	100.0%	97.4%	98.7%
Poultry and other small animal raising/processing	97.9%	100.0%	100.0%	98.9%
Fishpond culture (small sample N,1)	—	—	100.0%	100.0%

Non-farm economic activities	100.0%	100.0%	100.0%	100.0%
Wage and salary employment	100.0%	100.0%	100.0%	100.0%
% adequate in decision making	97.1%	100.0%	98.7%	98.2%
Young women				
Number of livelihood activities participates in (#) (mean count)	2.80	2.00	2.27	2.40
% of activities engaged in in which they provide input in decisions or can if they wanted to	95.6%	97.5%	93.6%	94.98%
% whose input in decisions is medium to high extent by activity:				
Staple grain farming	96.8%	100.0%	96.1%	97.0%
Horticultural or high value crop farming/processing	95.2%	94.4%	95.1%	95.0%
Large livestock raising/processing	96.3%	80.0%	100.0%	96.4%
Small livestock raising/processing	95.8%	94.7%	92.3%	93.9%
Poultry and other small animal raising/processing	90.1%	100.0%	92.3%	92.3%
Fishpond culture (small sample N,1)	—	—	—	—
Non-farm economic activities	100.0%	100.0%	100.0%	100.0%
Wage and salary employment	100.0%	—	100.0%	100.0%
% adequate in decision making	90.4%	92.9%	90.7%	90.97%

Source: Household survey data

Table 29: Testing the significance of gender gaps in input in livelihood decisions

Indicator	Kenya	Tanzania	Uganda	All countries
Senior men vs Senior women in male male headed households				
Number of livelihood activities participates in (#) (mean count)	0.4024 (0.3438)	1.2929 (0.0987)	0.6111 (0.2707)	1.1874 (0.1177)
% of activities engaged in in which they provide input in decisions or can if they wanted to	3.3592 (0.0004)	4.0239 (0.0000)	4.9402 (0.0000)	7.1215 (0.0000)
% whose input in decisions is medium to high extent:				
Staple grain farming	3.1605 (0.0009)	3.2282 (0.0007)	3.5950 (0.0002)	5.7489 (0.0000)
Horticultural or high value crop farming/processing	1.1359 (0.1289)	3.3320 (0.0007)	2.1931 (0.0148)	3.4298 (0.0003)
Large livestock raising/processing	1.0896 (0.1388)	1.5471 (0.0644)	1.7892 (0.0381)	2.5901 (0.0050)
Small livestock raising/processing	1.3098 (0.0959)	1.5073 (0.0687)	3.6260 (0.0002)	3.9794 (0.0000)
Poultry and other small animal raising/processing	2.1484 (0.0163)	1.0719 (0.1435)	2.2957 (0.0115)	3.2088 (0.0007)
Fishpond culture (small sample)	-	-	-	-
Non-farm economic activities	2.5100 (0.0109)	-	1.3933 (0.0919)	2.5231 (0.0076)
Wage and salary employment	1.1043 (0.1384)	-	-	1.4166 (0.0806)
% adequate in decision making	3.4354 (0.0003)	3.7321 (0.0001)	5.0522 (0.0000)	6.9844 (0.0000)
Senior men vs Senior women in female male headed households				
Number of livelihood activities participates in (#) (mean count)	2.6767 (0.0039)	3.3468 (0.0005)	1.5605 (0.0597)	3.9497 (0.0000)
% of activities engaged in in which they provide input in decisions or can if they wanted to	-1.6496 (0.0500)	-0.6535 (0.2572)	-0.9565 (0.1697)	-1.9883 (0.0235)
% whose input in decisions is medium to high extent:				
Staple grain farming	-0.9231 (0.1784)	-	-0.7736 (0.2198)	-1.2340 (0.1088)
Horticultural or high value crop farming/processing	-1.7088 (0.0449)	-	-0.8072 (0.2104)	-1.9076 (0.0286)
Large livestock raising/processing	1.4853 (0.0701)	-	0.6480 (0.2593)	1.5277 (0.9360)
Small livestock raising/processing	-0.6873 (0.2466)	-	-	-0.8397 (0.2008)
Poultry and other small animal raising/processing	-1.8962 (0.0297)	-0.6954 (0.2448)	-0.7558 (0.2255)	-2.1991 (0.0142)
Fishpond culture (small sample N,3)	-	-	-	-
Non-farm economic activities	-	-	-	-
Wage and salary employment	-0.3475 (0.3656)	-	-	-0.5120 (0.3053)
% adequate in decision making	-2.0434 (0.0209)	1.4238 (0.0782)	-0.2613 (0.3970)	-0.8265 (0.2044)
Young men vs Young women				

Number of livelihood activities participates in (#) (mean count)	-0.5613 (0.2877)	0.8933 (0.1872)	1.3562 (0.0882)	1.1923 (0.1169)
% of activities engaged in in which they provide input in decisions or can if they wanted to	2.0203 (0.0225)	0.8626 (0.1955)	2.0782 (0.0194)	2.9347 (0.0017)
% whose input in decisions is medium to high extent:				
Staple grain farming	1.3074 (0.0966)	-	1.6236 (0.0531)	2.0744 (0.0193)
Horticultural or high value crop farming/processing	0.2376 (0.4065)	0.4625 (0.3244)	0.4009 (0.3447)	0.5806 (0.2811)
Large livestock raising/processing	0.7412 (0.2314)	0.7500 (0.2408)	-	1.0930 (0.1387)
Small livestock raising/processing	1.1647 (0.1238)	0.5538 (0.2925)	1.0535 (0.1473)	1.6220 (0.0532)
Poultry and other small animal raising/processing	1.6402 (0.0518)	-	1.5083 (0.0678)	2.2214 (0.0137)
Fishpond culture (small sample N,1)	-	-	-	-
Non-farm economic activities	-	-	-	-
Wage and salary employment	-	-	-	-
% adequate in decision making	1.7071 (0.0448)	1.3695 (0.0874)	2.3243 (0.0105)	3.1367 (0.0009)

Source: Household survey data

Each cell contains the t-test statistic and the p-value in parentheses

5.9 Ownership of land and other assets

The survey results offer crucial insights into gender dynamics related to access and control over productive resources across the project's operational areas in Kenya, Tanzania, and Uganda. Applying the pro-WEAI framework, this analysis compares ownership patterns and asset control across gender and generational lines, with specific focus on senior men versus senior women in male-headed households, senior men versus women in female-headed households, and young men versus young women.

5.9.1 Ownership of land and other assets

Across the three countries, a high proportion of respondents (over 94%) reported owning land and/or at least three other productive assets. Land ownership was nearly universal across all demographics, particularly in Tanzania and Uganda (both above 97%). Kenya lagged slightly, particularly among senior women in female-headed households (82.8%). Poultry, small livestock, and cellphones were among the most commonly held assets. Tanzania showed significantly higher ownership of houses/buildings and means of transportation than the other two countries. Mechanized equipment and fishponds were rare, underscoring continued technological and infrastructural constraints in the sector.

Uganda generally recorded the lowest average asset counts (mean of 2.68), especially among senior women in female-headed households (2.36), whereas Kenya and Tanzania respondents had slightly higher averages. The number of senior women in FHHs who are adequate in this domain of asset ownership is significantly lower than that of senior men across all countries.

5.9.1.1 Gender Gaps in Male-Headed Households: Senior Men vs. Senior Women

Statistical comparisons between senior men and senior women in male-headed households reveal a more equitable picture. Asset ownership levels were relatively comparable in many categories. Excluding means of transportation and other land not used for agriculture, the gender gap in asset ownership is relatively small between these two groups. Across most asset types (land, livestock, poultry, equipment, etc.), the differences are statistically insignificant, indicating minimal disparity. This is supported by the low or non-significant t-statistics and p-values > 0.05 in Table 26 for most assets.

There are variations at country level however, with Tanzania posting significant gender gaps favoring men including small livestock, non-mechanized farm equipment, large consumer durables, cell phones, other land not used for agriculture, and means of transportation (all $p < 0.05$). For instance, ownership of means of transport in Tanzania showed a statistically significant difference ($p = 0.0028$), with 48.7% of senior men owning such assets versus only 30.4% of senior women. Overall, the gender gap in the average number of assets owned sole or jointly is high in Tanzania ($p = 0.0013$).

In contrast, Kenya and Uganda presented more gender-equitable patterns, although most differences were not statistically significant. This may point to contextual and cultural variations in definitions of asset ownership across countries or other structural barriers/enablers. Nevertheless, the data shows a small albeit insignificant advantage of senior women over senior men in terms of ownership of land, large and small livestock, mechanized farm equipment and cell phones ownership, potentially reflecting broader digital and financial inclusion trends.

5.9.1.2 Gender Gaps in Female-Headed Households: Senior Men in MHH vs. Senior Women in FHH

Gender disparities were more pronounced among senior women in female-headed households. Senior men had significantly higher ownership of small livestock and means of transportation across all countries ($p < 0.0000$).

Country level results show that for Kenya, in addition, senior women in FHHs are significantly disadvantaged in relation to senior men in male headed households with regard to land, housing, large and small consumer durables, cellphones and means of transportation. There is however, no significant asset gender gap for large livestock, poultry, equipment (farm and off-farm), and other land not used for agriculture.

In Tanzania, there is no asset gender gap among senior men and senior women in FHHs for land, poultry or other small livestock, non-farm business equipment and housing. A statistically significant gender gap persists however for all other productive assets (Table 26). In Uganda, reported ownership of poultry and other small livestock significantly exceeds that of men and there is near parity in ownership of land, farm and off farm equipment, consumer durables, cellphones and other land not used for agriculture. A gender gap however persists for large and small livestock and means of transportation.

These findings underscore a persistent structural gap, possibly due to asset depletion during life shocks (e.g., widowhood or divorce), fewer inheritance rights, or limited income-generating opportunities for women-headed households. The implications are concerning: such households may face a compounded vulnerability to climate and economic shocks, limiting their resilience capacity.

5.9.1.3 Intergenerational Analysis: Young Men vs. Young Women

Comparisons between young men and young women offer a more optimistic view, with gender gaps generally narrower than in the senior cohorts. Results show near parity in ownership of most assets suggesting more equal access for younger cohorts to non-land assets. Notably, the average number of assets for young women was 3.07 versus 3.28 for young men—a relatively small and statistically non-significant difference compared to the senior female-headed households group (2.44 for women vs. 3.53 for senior men). The data indicates no gender gaps for the youth cohort in ownership across all countries for all livestock types, off-farm business equipment, housing and consumer durables.

Nevertheless, inequality perseveres in specific contexts (Table 26). Young women in Tanzania had the most disparities where significant differences in asset ownership still persist with regard to cell phones[10], non-mechanized farm equipment, other land not used for agriculture and means of transportation. Young women in Kenya are also as likely as young men to own productive assets overall, but are less likely to own land specifically ($t = 1.88$, $p = 0.0306$). Furthermore, a very interesting result emerges from the data. Although, young men and women in Uganda show similar levels of ownership for individual productive assets, including land, a significantly smaller proportion of young women meet the pro-WEAI adequacy standard for asset ownership — which requires owning land and at least three productive assets. This gap highlights the need for targeted interventions to strengthen Ugandan young women's access to a diverse set of productive resources.

These trends suggest an intergenerational shift toward more equitable access among youth. Although the gains are not uniform across all asset types, the relatively balanced ownership levels among young men and women indicate that programming focused on youth may be fostering more inclusive development outcomes.

5.9.1.4 Implications for CRAFT Programming and Gender-Responsive Interventions

The findings suggest that while some gender gaps have narrowed, others persist—particularly among senior women in female-headed households, who emerge as the most asset-deprived group.

The least gender disparity exists between senior men and senior women in male-headed households, and to some extent among young men and women. However, the greatest and most persistent gaps are faced by senior women in female-headed households, across almost all asset types. The narrowing gaps among youth signal opportunities for programming focused on sustaining these gains.

Addressing current disparities will require multi-faceted, group-specific strategies involving policy reform, targeted programming, and improved access to financial and technological resources. Some of these are:

- Targeted support for women in FHH (especially seniors) including tailored asset transfer or subsidy programs for older women without male household support.
- Training and gender-responsive financing mechanisms to ensure ownership and control of mechanized and non-mechanized farming equipment —not just use.
- Invest in legal and institutional reforms including equal inheritance, joint land titling and registration schemes; and the integration of customary and statutory legal frameworks to support women's asset rights.

[10] And hence potential digital exclusion in an increasingly digital era

- Enhanced access to financial services and credit for young women to accumulate productive assets.
- Bridge the cellphone ownership gap, as it limits access to mobile banking, markets, and information on CSA in addition to scaling digital literacy for young women especially in Tanzania.

Overall, the pro-WEAI analysis indicates progress in reducing some gender disparities in productive asset ownership within CRAFT operational areas, especially among younger demographics. However, structural disadvantages—particularly for senior women in female-headed households—remain. Addressing these through targeted gender-transformative programming will be critical for ensuring equitable climate resilience and sustainable agricultural transformation in Kenya, Tanzania, and Uganda. CRAFT's value chain approach should consider these disparities in control over productive resources in re/designing climate resilience interventions. Enhancing asset access not only strengthens individual resilience but also boosts household-level adaptive capacity in the face of climate variability.

Table 30: Differences in men and women's ownership of land and other productive assets

	Kenya	Tanzania	Uganda	Total
All respondents				
Currently solely or jointly owns, %				
Land	91.96	97.36	97.82	95.52
Large livestock	39.76	18.36	26.93	29.82
Small livestock	48.56	31.07	59.25	50.11
Poultry or other small animals	76.78	56.50	62.88	66.60
Fish pond or fishing equipment	0.46	0.00	1.52	0.86
Non-mechanized farm equipment	29.44	19.77	15.46	21.20
Mechanized farm equipment	2.73	3.11	1.29	2.14
Non-farm business equipment	8.04	6.50	4.22	6.00
House or building	14.26	57.63	13.82	22.32
Large consumer durables	19.88	21.19	12.65	16.06
Small consumer durables	32.93	29.94	21.66	27.25
Cellphone	71.47	67.80	32.08	52.78
Other land not used for agriculture	3.79	14.41	1.87	4.93
Means of transportation	18.21	32.49	13.82	18.95
Average number of assets owned sole or jointly including land	3.66	3.59	2.68	3.20
Owns land and or at least 3 other assets (%)	94.84	91.53	94.85	94.22
Senior Men				
Currently solely or jointly owns, %				
Land	91.94	98.11	99.16	96.21
Large livestock	44.08	23.08	33.86	35.40
Small livestock	51.18	39.32	59.84	52.58
Poultry or other small animals	76.30	58.12	59.06	65.12
Fish pond or fishing equipment	0.95	0.00	3.54	1.89
Non-mechanized farm equipment	28.44	28.21	14.57	22.34
Mechanized farm equipment	3.79	5.98	1.18	3.09
Non-farm business equipment	9.95	5.98	4.72	6.87
House or building	17.54	66.67	14.57	26.12
Large consumer durables	22.75	29.91	11.42	19.24
Small consumer durables	38.39	40.17	23.23	32.13
Cellphone	72.04	78.63	29.53	54.81

Other land not used for agriculture	5.21	23.08	1.57	7.22
Means of transportation	23.70	48.72	18.11	26.29
Average number of assets owned sole or jointly including land	3.94	4.48	2.75	3.53
Owns land and or at least 3 other assets (%)	94.79	96.58	96.46	95.88
Senior Women in Male Headed Households				
Currently solely or jointly owns, %				
Land	96.59	97.83	97.44	97.19
Large livestock	44.89	28.43	31.46	35.64
Small livestock	56.25	23.53	64.32	52.95
Poultry or other small animals	77.27	57.84	61.50	66.40
Fish pond or fishing equipment	0.57	0.00	0.94	0.61
Non-mechanized farm equipment	32.39	16.67	15.49	21.79
Mechanized farm equipment	5.11	3.92	1.41	3.26
Non-farm business equipment	10.23	6.86	3.76	6.72
House or building	16.48	58.82	13.15	23.83
Large consumer durables	22.16	19.61	11.27	16.90
Small consumer durables	34.09	33.33	19.72	27.70
Cellphone	75.00	66.67	33.33	55.19
Other land not used for agriculture	4.55	8.82	1.41	4.07
Means of transportation	20.45	30.39	12.68	19.14
Average number of assets owned sole or jointly including land	3.99	3.55	2.70	3.34
Owns land and or at least 3 other assets (%)	97.16	95.10	94.84	95.72
Senior Women in Female Headed Households				
Currently solely or jointly owns, %				
Land	82.83	97.73	97.08	92.17
Large livestock	40.40	0.00	16.88	21.34
Small livestock	28.28	16.67	50.00	37.26
Poultry or other small animals	68.69	51.85	70.00	66.56
Fish pond or fishing equipment	0.00	0.00	0.63	0.32
Non-mechanized farm equipment	27.27	12.96	15.63	18.79
Mechanized farm equipment	1.01	0.00	0.63	0.64
Non-farm business equipment	5.05	3.70	5.63	5.10
House or building	9.09	57.41	11.25	18.79
Large consumer durables	10.10	7.41	11.88	10.83
Small consumer durables	21.21	7.41	16.88	16.88
Cellphone	50.51	48.15	29.38	39.49
Other land not used for agriculture	2.02	11.11	3.75	4.46
Means of transportation	1.01	9.26	3.13	3.82
Average number of assets owned sole or jointly including land	2.65	2.26	2.36	2.44
Owns land and or at least 3 other assets (%)	85.86	83.33	88.75	86.94
Young Men				
Currently solely or jointly owns, %				
Land	97.10	94.74	98.63	97.52
Large livestock	24.64	8.00	23.38	21.64
Small livestock	50.72	28.00	64.94	53.80

Poultry or other small animals	78.26	64.00	63.64	69.59
Fish pond or fishing equipment	0.00	0.00	1.30	0.58
Non-mechanized farm equipment	24.64	28.00	16.88	21.64
Mechanized farm equipment	0.00	0.00	1.30	0.58
Non-farm business equipment	2.90	12.00	3.90	4.68
House or building	11.59	52.00	19.48	21.05
Large consumer durables	14.49	20.00	16.88	16.37
Small consumer durables	31.88	28.00	24.68	28.65
Cellphone	76.81	80.00	36.36	7.22
Other land not used for agriculture	1.45	28.00	1.30	59.06
Means of transportation	21.74	44.00	20.78	24.56
Average number of assets owned sole or jointly including land	3.39	3.96	2.95	3.28
Owns land and or at least 3 other assets (%)	94.79	96.58	96.46	95.88
Young Women				
Currently solely or jointly owns, %				
Land	89.42	95.24	96.35	93.64
Large livestock	31.73	12.50	21.33	23.23
Small livestock	48.08	42.86	58.00	51.94
Poultry or other small animals	16.35	51.79	63.33	68.06
Fish pond or fishing equipment	0.00	0.00	0.00	0.00
Non-mechanized farm equipment	31.73	10.71	16.00	20.32
Mechanized farm equipment	0.00	0.00	2.00	0.97
Non-farm business equipment	6.73	7.14	2.67	4.84
House or building	10.58	39.29	13.33	17.10
Large consumer durables	14.49	20.00	16.88	18.71
Small consumer durables	31.73	23.21	25.33	27.10
Cellphone	80.77	60.71	35.33	55.16
Other land not used for agriculture	2.88	3.57	1.33	2.26
Means of transportation	17.31	19.64	16.00	17.10
Average number of assets owned sole or jointly including land	3.68	2.91	2.70	3.07
Owns land and or at least 3 other assets (%)	93.09	91.03	92.23	92.30

Table 31: Testing significance of gender differences in ownership of land and other assets by country and household typology

	Kenya	Tanzania	Uganda	Total
Senior Men vs Senior Women in Male Headed Households				
Currently solely or jointly owns, %				
Land	-1.9300 (0.0272)	0.1425 (0.4434)	1.4092 (0.0798)	-0.8678 (0.1929)
Large livestock	-0.1594 (0.4367)	-0.9036 (0.1836)	0.5500 (0.7087)	-0.0839 (0.4666)
Small livestock	-0.9935 (0.1606)	2.5238 (0.0062)	-0.9910 (0.1611)	-0.1227 (0.4512)
Poultry or other small animals	-0.2242 (0.4114)	0.0412 (0.4836)	-0.5371 (0.2957)	-0.4379 (0.3308)
Fish pond or fishing equipment	0.4231 (0.3362)	-	1.8512 (0.0324)	1.8406 (0.0330)
Non-mechanized farm equipment	-0.8412 (0.7996)	2.0392 (0.0213)	-0.2786 (0.3943)	0.2140 (0.4153)
Mechanized farm equipment	-0.6307 (0.2643)	0.6943 (0.2441)	-0.2168 (0.4142)	-0.1544 (0.4387)
Non-farm business equipment	-0.0891 (0.4645)	-0.2643 (0.3959)	0.5139 (0.3038)	0.0983 (0.4608)
House or building	0.2749 (0.3918)	1.1977 (0.1162)	0.4411 (0.3297)	0.8610 (0.1947)
Large consumer durables	0.1380 (0.4451)	1.7588 (0.0400)	0.0507 (0.4798)	0.9897 (0.1613)
Small consumer durables	0.8734 (0.1915)	1.0434 (0.1490)	0.9165 (0.1799)	1.5771 (0.0575)
Cellphone	-0.6552 (0.2564)	2.0001 (0.0234)	-0.8825 (0.1890)	-0.1253 (0.4501)
Other land not used for agriculture	0.3020 (0.3814)	2.8794 (0.0022)	0.1470 (0.4416)	2.2013 (0.0140)
Means of transportation	0.7625 (0.2231)	2.7957 (0.0028)	1.6116 (0.0539)	2.7769 (0.0028)
Average number of assets owned sole or jointly including land	-0.2150 (0.4149)	3.0585 (0.0013)	0.2443 (0.4036)	1.3347 (0.0911)
Owns land and or at least 3 other assets (%)	-1.1663 (0.1221)	0.5494 (0.2917)	0.8606 (0.1950)	0.1247 (0.4504)
Senior Men vs Senior Women in Female Headed Households				
Currently solely or jointly owns, %				
Land	2.4090 (0.0083)	0.1527 (0.4394)	1.5402 (0.0622)	2.5014 (0.0063)
Large livestock	0.6074 (0.2720)	4.0013 (0.0000)	3.8348 (0.0001)	4.4039 (0.0000)
Small livestock	3.8669 (0.0001)	3.0075 (0.0015)	1.9692 (0.0248)	4.4243 (0.0000)
Poultry or other small animals	1.4231 (0.0779)	0.7646 (0.2228)	-2.2581 (0.0122)	-0.4326 (0.3327)
Fish pond or fishing equipment	0.9702 (0.1664)	-	1.8868 (0.0299)	1.9545 (0.0255)

Non-mechanized farm equipment	0.2119 (0.4162)	2.2069 (0.0143)	-0.2931 (0.3848)	1.2413 (0.1074)
Mechanized farm equipment	1.3595 (0.0875)	1.8429 (0.0335)	0.5621 (0.2872)	2.3790 (0.0088)
Non-farm business equipment	1.4520 (0.0738)	0.6175 (0.2689)	-0.4057 (0.3426)	1.0481 (0.1474)
House or building	1.9558 (0.0257)	1.1686 (0.1221)	0.9670 (0.1671)	2.4718 (0.0068)
Large consumer durables	2.6845 (0.0038)	3.3471 (0.0005)	-0.1413 (0.4439)	3.2702 (0.0006)
Small consumer durables	3.0356 (0.0013)	4.5894 (0.0000)	1.5524 (0.0607)	4.9808 (0.0000)
Cellphone	3.7828 (0.0001)	4.1844 (0.0000)	0.0331 (0.4868)	4.4189 (0.0000)
Other land not used for agriculture	1.3071 (0.0961)	1.8507 (0.0330)	-1.4037 (0.0806)	1.6277 (0.0520)
Means of transportation	5.2240 (0.0000)	5.3657 (0.0000)	4.6220 (0.0000)	8.6043 (0.0000)
Average number of assets owned sole or jointly including land	4.6672 (0.0000)	6.2334 (0.0000)	1.8757 (0.0307)	6.9208 (0.0000)
Owns land and or at least 3 other assets (%)	2.7148 (0.0035)	3.1055 (0.0011)	3.1213 (0.0010)	4.9809 (0.0000)
Young Men vs Young Women				
Currently solely or jointly owns, %				
Land	1.8843 (0.0306)	-0.0825 (0.4673)	0.9418 (0.1737)	1.8119 (0.0353)
Large livestock	-1.0049 (0.1582)	-0.5892 (0.2787)	0.3502 (0.3632)	-0.3975 (0.3456)
Small livestock	0.3392 (0.3674)	-1.2677 (0.1043)	1.0091 (0.1570)	0.3915 (0.3478)
Poultry or other small animals	-0.8914 (0.1870)	1.0158 (0.1564)	0.0447 (0.4822)	0.3445 (0.3653)
Fish pond or fishing equipment	-	-	1.3987 (0.0816)	1.3476 (0.0892)
Non-mechanized farm equipment	-1.0049 (0.1582)	1.9809 (0.0255)	0.1698 (0.4327)	0.3395 (0.3672)
Mechanized farm equipment	-	-	-0.3787 (0.3527)	-0.4419 (0.3294)
Non-farm business equipment	-1.1089 (0.1345)	0.7120 (0.2393)	0.5053 (0.3069)	-0.0787 (0.4686)
House or building	0.2084 (0.4176)	1.0613 (0.1459)	1.2128 (0.1132)	1.0685 (0.1429)
Large consumer durables	-1.3910 (0.0830)	0.0368 (0.4854)	0.3014 (0.3817)	-0.6388 (0.2616)
Small consumer durables	0.0211 (0.4916)	0.8267 (0.2055)	-0.1078 (0.5429)	0.3650 (0.3576)
Cellphone	-0.6250 (0.2664)	1.7105 (0.0455)	0.1527 (0.4394)	0.8255 (0.2048)
Other land not used for agriculture	-0.6122 (0.2706)	3.4195 (0.0005)	-0.0215 (0.4914)	1.7612 (0.0394)

Means of transportation	0.7233 (0.2352)	2.3239 (0.0113)	0.8924 (0.1866)	1.9722 (0.0246)
Average number of assets owned sole or jointly including land	-0.9739 (0.1657)	2.0859 (0.0201)	0.7748 (0.2196)	1.0064 (0.1574)
Owns land and or at least 3 other assets (%)	0.6122 (0.2076)	0.4712 (0.3194)	1.7833 (0.0379)	1.7442 (0.0409)

5.9.2 Access to information for decision making on productive activities

Access to information was assessed by evaluating the degree to which respondents reported being able to obtain information necessary for making informed decisions about each livelihood activity they were involved in. Responses were categorized on a four-point scale: not at all (1), to a small extent (2), to a medium extent (3), and to a high extent (4). Respondents reporting access to a high extent were classified as having adequate access. Table 24 presents the percentage of respondents with adequate access, disaggregated by activity, sex, country, and household typology.

Summary of findings

- **Gendered patterns in access to information on livelihood activities engaged in**

Senior men vs senior women in male headed households

Overall, senior men reported significantly greater access to information than their female counterparts in MHHs across most livelihood activities. This includes staple grain farming ($t = 3.7092$, $p < 0.001$), livestock ($t = 5.5103$, $p < 0.001$), small livestock ($t = 4.6907$, $p < 0.001$), fishpond culture ($t = 1.7613$, $p < 0.05$), and wage/salary employment ($t = 3.4353$, $p < 0.001$). Exceptions to this trend were noted in horticulture, poultry, and non-farm economic activities—sectors where women traditionally play a dominant role.

At the country level, Tanzania exhibits the narrowest gender gap. Here, men only significantly outperformed women in access to information on large livestock, and notably, women surpassed men in horticulture ($t = -1.8371$, $p < 0.05$). In contrast, Kenya and Uganda showed broader gender disparities in favor of men across nearly all activities, with Uganda reflecting statistically significant differences for nearly all but fishpond culture and non-farm economic activities while in Kenya it was only poultry and horticulture.

Senior men vs senior women in female headed households

Interestingly, in FHHs, senior women reported higher levels of information access than men across most activities (except for non-farm activities and wage/salary employment). This may be attributed to their higher engagement with group-based learning and extension activities facilitated by the project. In Tanzania, gender parity was achieved across all livelihood activities in this household category. In Kenya and Uganda, women in FHHs enjoyed a statistically significant advantage in access to information, except for wage employment in Kenya and non-farm activities in Uganda.

Young men vs Young women

Among youth, gender disparities in access to information persist. Young men reported significantly higher access than young women for all activities except poultry and non-farm economic activities. While Tanzania again showed equitable access across all youth activities, Uganda and Kenya reflected a continuation of the traditional gender gap, though Uganda demonstrated relative parity in horticulture.

- **Implications of the results**

These findings reveal that while progress has been made in reducing gender gaps in access to information, particularly in Tanzania and among women in FHHs, significant disparities persist across countries and age groups. The gendered access to information mirrors broader social norms, livelihood roles, and power dynamics, influencing resilience and adaptive capacity.

For climate-resilient development, such disparities pose a threat to inclusive adaptation and equitable transformation. Women and youth, particularly young women and senior women in MHHs, may be less able to access timely and relevant information on climate-resilient practices, market trends, and resource management. This compromises their ability to effectively adapt their livelihood strategies to climate variability and shocks, undermining the broader goals of the SNV/CRAFT initiative.

Moreover, the relatively high information access among women in FHHs suggests that when women hold decision-making power within households, or are more targeted by project interventions, the gender gap narrows. This underscores the value of designing gender-transformative programming.

- **Recommendations for project redesign and future programming**

- Strengthen Gender-Responsive Information Channels: Develop and scale up delivery mechanisms—such as mobile platforms, community radio, farmer field schools, and extension services—that are designed to reach women, especially those in MHHs and youth cohorts. Delivery should be tailored to their literacy levels, schedules, and social contexts.
- Promote Inclusive Extension Services: Encourage the recruitment and training of female extension officers and peer educators. Representation within extension staff enhances women's access and trust, and reinforces their learning networks.
- Leverage Group-Based Learning for Women and Youth: Expand support for producer groups, savings and credit associations, and cooperatives where women and youth can collectively access training and market information. These platforms should be actively supported to bridge gaps in access.
- Use Household Typology to Target Programming: Recognize the distinct dynamics in MHHs vs. FHHs. Tailored strategies are needed to reach women in MHHs, who are often marginalized in decision-making processes. In contrast, FHHs can be leveraged as models of effective female-led adaptive strategies.
- Promote Intergenerational Knowledge Transfer: Integrate mentorship models that link older women with younger women and youth groups to facilitate the sharing of adaptive techniques and enterprise skills, ensuring continuity of resilience.
- Invest in Tanzania's Good Practices for Scale-Up: Tanzania's more equitable outcomes offer a learning opportunity. A comparative case study should be conducted to identify replicable mechanisms—policy, delivery systems, or community dynamics—that contributed to equitable access.
- Monitor and Evaluate Gendered Impacts of Information Interventions: Establish a robust monitoring system to track changes in access over time, disaggregated by gender, age, household typology, and country. This will ensure that interventions are responsive and inclusive.

Table 32: Differences in men and women's access to information for decision making on livelihood activities (% whose access to information important for decision making on [ACTIVITY ENGAGED IN] is to a high extent)

Activity	Kenya (%)	Tanzania (%)	Uganda (%)	All Countries (%)
All respondents				
Staple grain farming	33.1	51.8	21.8	31.3
Horticultural/high value crop farming/processing	38.3	72.6	23.9	35.7
Large livestock raising/processing	34.7	48.2	21.5	30.7
Small livestock raising/processing	35.0	49.4	19.3	28.8
Poultry and other small animal raising/processing	35.5	55.6	18.3	32.6
Fishpond culture	0.0	—	12.0	10.0
Non-farm economic activities	50.0	47.6	14.5	31.1
Wage and salary employment	34.5	50.0	29.8	32.2
Senior men				
Staple grain farming	38.0	54.8	17.6	32.2
Horticultural/high value crop farming/processing	37.4	66.7	23.1	35.5
Large livestock raising/processing	42.2	64.0	29.0	40.1
Small livestock raising/processing	48.0	55.0	17.1	35.1
Poultry and other small animal raising/processing	26.1	53.7	15.8	26.6
Fishpond culture	0.0	—	25.0	22.2
Non-farm economic activities	57.1	16.7	17.6	32.4
Wage and salary employment	50.0	50.0	27.6	38.2
Senior women in male headed households				
Staple grain farming	22.1	43.7	10.6	21.4
Horticultural/high value crop farming/processing	35.7	86.2	9.9	31.1
Large livestock raising/processing	18.1	31.8	4.5	14.3
Small livestock raising/processing	20.4	44.4	8.9	16.6
Poultry and other small animal raising/processing	35.2	56.4	5.1	28.8
Fishpond culture	0.0	—	0.0	0.0
Non-farm economic activities	37.5	60.0	6.7	25.0
Wage and salary employment	12.5	—	0.0	6.3
Senior women in female headed households				
Staple grain farming	67.5	65.2	45.7	55.5
Horticultural or high value crop farming/processing	69.8	62.5	47.1	56.3
Large livestock raising/processing	66.7	0.0	50.0	58.6
Small livestock raising/processing	64.0	50.0	43.5	50.0
Poultry and other small animal raising/processing	67.6	60.0	40.7	56.8
Fishpond culture	0.0	—	0.0	0.0
Non-farm economic activities	0.0	50.0	33.3	33.3
Wage and salary employment	50.0	—	61.5	58.8
Young men				
Staple grain farming	30.8	47.8	32.3	34.3
Horticultural or high value crop farming/processing	35.7	50.0	28.1	32.8
Large livestock raising/processing	33.3	66.7	33.3	36.4
Small livestock raising/processing	37.5	66.7	28.9	35.5
Poultry and other small animal raising/processing	29.8	50.0	25.0	31.5
Fishpond culture	0.0	0.0	100.0	100.0
Non-farm economic activities	100.0	50.0	0.0	45.5
Wage and salary employment	50.0	50.0	69.2	60.9
Young women				

Staple grain farming	13.98	48.94	14.50	20.30
Horticultural or high value crop farming/processing	14.29	72.22	18.46	24.80
Large livestock raising/processing	11.11	40.00	7.14	11.67
Small livestock raising/processing	18.75	36.84	13.04	18.38
Poultry and other small animal raising/processing	26.76	57.89	16.07	26.71
Fishpond culture	0.00	0.00	0.00	0.00
Non-farm economic activities	25.00	75.00	0.00	26.67
Wage and salary employment	0.00	0.00	0.00	0.00

Table 33: Testing the significance of the gender gap in access to information on livelihood activities engaged in

	Kenya	Tanzania	Uganda	All Countries
Senior men vs senior women in male headed households				
Staple grain farming	3.1309 (0.0010)	1.5335 (0.0634)	2.0430 (0.0208)	3.7092 (0.0001)
Horticultural/high value crop farming/processing	0.2139 (0.4155)	-1.8371 (0.0355)	2.4759 (0.0071)	0.9604 (0.1687)
Large livestock raising/processing	3.3320 (0.0005)	2.2755 (0.0138)	4.0036 (0.0001)	5.5103 (0.0000)
Small livestock raising/processing	4.1996 (0.0000)	0.7348 (0.2328)	1.8362 (0.0338)	4.6907 (0.0000)
Poultry and other small animal raising/processing	-1.6237 (0.0528)	-0.2443 (0.4038)	2.2793 (0.0119)	-0.5562 (0.2892)
Fishpond culture	-	-	1.6270 (0.0623)	1.7613 (0.0471)
Non-farm economic activities	0.8607 (0.1998)	-1.5056 (0.0832)	0.9202 (0.1824)	0.6444 (0.2608)
Wage and salary employment	2.5728 (0.0071)	-	2.4134 (0.0101)	3.4353 (0.0005)
Senior men vs senior women in female headed households				
Staple grain farming	-4.4959 (0.0000)	-1.1888 (0.1182)	-6.1181 (0.0000)	-6.4452 (0.0000)
Horticultural/high value crop farming/processing	-3.6509 (0.0002)	0.2198 (0.4135)	-3.3697 (0.0005)	-3.7944 (0.0001)
Large livestock raising/processing	-2.5710 (0.0057)	-	-2.0315 (0.0225)	-2.6527 (0.0043)
Small livestock raising/processing	-1.4311 (0.0775)	0.2244 (0.4118)	-3.9717 (0.0001)	-2.5459 (0.0057)
Poultry and other small animal raising/processing	-6.3389 (0.0000)	-0.4612 (0.3232)	-3.5036 (0.0003)	-6.4005 (0.0000)
Fishpond culture	-	-	0.9045 (0.1946)	0.9834 (0.1733)
Non-farm economic activities	-	-0.8660 (0.2099)	-0.9538 (0.1743)	-0.0615 (0.4756)
Wage and salary employment	0.0000 (0.5000)	-	-2.1601 (0.0184)	-1.5050 (0.0684)
Young men vs Young women				
Staple grain farming	2.4577 (0.0076)	-0.0860 (0.4658)	2.9615 (0.0017)	3.1311 (0.0009)

Horticultural/high value crop farming/processing	2.1292 (0.0184)	-0.8372 (0.2062)	1.0819 (0.1410)	1.1653 (0.1227)
Large livestock raising/processing	1.7817 (0.0412)	0.6547 (0.2685)	2.3005 (0.0133)	2.9242 (0.0022)
Small livestock raising/processing	1.8853 (0.0316)	1.2733 (0.1078)	2.0398 (0.0219)	2.8211 (0.0026)
Poultry and other small animal raising/processing	0.0316 (0.3613)	-0.4376 (0.3323)	0.9762 (0.1659)	0.7798 (0.2182)
Fishpond culture	-	-	-	-
Non-farm economic activities	2.5355 (0.0261)	-0.6547 (0.2685)	-	0.9746 (0.1698)
Wage and salary employment	2.2678 (0.0213)	-	5.1962 (0.0000)	5.3055 (0.0000)

5.10 Access to and decisions on financial services

Access to and decisions on financial services is a key domain of empowerment under the pro-WEAI (Project-level Women's Empowerment in Agriculture Index) framework. This domain assesses an individual's empowerment based on their engagement with financial institutions and credit sources. Specifically, a farmer is considered *adequate* if they meet *any* of the following criteria: (1) they live in a household that used credit in the past year and participated in at least one decision about it, (2) they live in a household that did not use credit but could have accessed it if needed from at least one source, or (3) they have sole or joint ownership of a financial account.

Overview of Financial Access and Use

Across Kenya, Tanzania, and Uganda, the average adequacy score in this domain is **74.6%,** with **Kenya (77.2%)** showing higher empowerment than Tanzania (70.6%) and Uganda (74.2%). On average, **34.9%** of respondents held a formal financial account, and **1.34 credit sources** were used per person. Although **40% of respondents did not use any form of credit** in the past year, participation in decision-making on credit—where credit was accessed—was consistently high across all countries and sources, often exceeding **90%**.

Group-based microfinance, informal savings groups, and friends or relatives remain key channels of credit. Notably, informal and community-based credit sources were more widely used than formal lenders, though usage was particularly low in Tanzania across all sources.

Gendered Patterns of Financial Access and Use

Across gender and age cohorts, access to and decisions over financial services showed significant variation:

Senior Men vs. Senior Women in Male-Headed Households (MHH)

Senior men have significantly higher rates of financial account ownership (**41.6%** vs **31.2%**, *p<0.01*). Country contexts vary however. In Uganda, among male-headed households, there is no significant difference between men and women in the likelihood of holding an account—whether jointly or solely—in a formal financial institution (Table 28). The reverse is true for Kenya and Tanzania, mainly due to the dominance of mobile money in the latter.

On average, there was no significant difference in men and women's perceived ability to borrow from any of the lending sources if they wanted to. There are a few variations at country level, however. Men in Kenya reported greater access to NGO funding ($p<0.05$) while men in Tanzania reported having greater access to formal lenders ($p<0.00$), and group based micro-finance or lending ($p<0.05$), than women. Levels of perceived ability to borrow and actual credit usage remain concerning however; about 27% of the respondents reported that they wouldn't be able to borrow from any source if they wanted to. 42% vs 38% of men and women respectively had not borrowed from any lending source in the past 12 months.

Actual credit usage is also comparable among men and women in male headed households across lenders at the aggregate level suggesting gains in closing the gender gap in credit access. There are a few contextual differences however. In Tanzania, men use NGOs, formal and informal credit sources more than women ($p<0.05$) while in Uganda, men are more likely to use group based micro-finance or lending ($p<0.05$), than women. In Kenya, there is no statistically significant difference in the way men and women use the different lending sources.

Decision-making in credit transactions, was high for both groups (>90%), suggesting that gains have been made in enhancing agency and that current barriers lie more in **access and usage**. Nevertheless, the gender gap in participation in decision making is significant across all lending sources.

Only Uganda has a gender gap in diversity of credit sources where the average number of credit sources used is significantly higher among men than women ($p<0.05$).

Both groups are similar in adequacy (76.3% vs 73.3%). There was no statistically significant gender gap in the percentage of men and women who are adequate in access to and decisions over credit in the male headed household type.

While gains have been made in closing gender gaps for this domain i.e. with regard to the proportion meeting the adequacy threshold in all countries, financial account ownership in Uganda, etc., these gains are not uniform across countries and lending sources with statistical tests indicating persistent gender gaps in **financial inclusion**.

Senior Women in Female-Headed Households (FHH)

This group showed the lowest adequacy score across all senior cohorts (**70.4%**) and the lowest formal account ownership (29.3%). They also reported the **lowest average number of credit sources used (1.19)** and relatively high levels of **credit exclusion** (30.6% had no access). However, where they accessed credit, **decision-making was universally high (100%)**. This indicates that once structural access issues are overcome, these women exercise full agency.

Young Men vs. Young Women

Gender gaps between young men and young women were narrower than among senior cohorts, with both groups reporting similar adequacy levels (76.6% for young men vs 76.5% for young women). However, access to formal accounts and credit usage was higher among young men, while young women had higher decision-making rates across most sources once credit was accessed. Young women were also more reliant on informal groups and friends for credit.

Tanzania stands out as the context with persistently lower credit use and access, especially for women. In contrast, Uganda appears to have the most inclusive credit environment overall.

Where Gaps Persist and What Can Be Done

- Senior women, especially in FHHs, and young women trail behind men in financial account ownership. Increasing outreach by financial institutions to these segments—through mobile banking, simplified KYC (know your customer) requirements, and proximity of services—can make a measurable difference.
- While credit access is theoretically possible, actual usage remains low. Financial literacy and trust in institutions may be barriers. Tailored financial education and community-based credit facilitators could help close this gap.
- In FHHs, the intersection of gender and headship status results in compounded exclusion. Targeted programs that work with female heads of households—e.g., bundled savings and loan products, or women-only credit cooperatives—are critical.
- Informal savings and group lending remain vital. Strengthening and formalizing these channels without undermining their social capital (e.g., by linking them with formal institutions or government programs) can expand access while preserving trust.

Implications for the Project and Future Programming

Projects should prioritize expanding access rather than solely focusing on decision-making, as women already exercise high levels of agency once financial services are accessed. This calls for demand-side interventions (e.g., financial literacy, confidence-building) and supply-side changes (e.g., flexible products, mobile services).

Particular attention should be paid to senior women in FHHs, who are doubly disadvantaged by gender and household headship. Meanwhile, the narrow gender gap among youth suggests a critical window to reinforce equality by embedding financial inclusion in youth-focused agri-business or livelihood programming.

In conclusion, while decision-making parity has largely been achieved, **financial access remains the frontier** for gender equality in empowerment. Future programs must move beyond inclusion metrics to tackle underlying structural barriers in financial systems, especially for **senior women in household headship positions**.

Table 34: Differences in men and women's access to and decisions on financial services by country

	Kenya	Tanzania	Uganda	All
All respondents				
Holds an account in a formal finance institution sole or jointly (%)	31.87	36.44	36.53	34.85
Can borrow from [ ] if they wanted to (%)				
No access to any form of credit	23.67	33.62	26.11	26.71
Non-governmental organization	26.40	34.46	36.65	32.60
Formal lender	27.47	33.62	36.42	32.71
Informal lender	24.89	28.25	33.61	29.50
Friends or relatives	50.83	43.79	50.47	49.30
Group based micro-finance or lending	41.58	36.72	55.04	46.79
Informal credit/savings groups	53.26	26.55	37.82	41.11
Used credit from [ ] in last 12 months (%)				
Didn't use any form of credit	31.26	53.11	41.22	39.99
Non-governmental organization	14.26	10.73	17.68	15.15
Formal lender	17.00	8.19	19.32	16.38
Informal lender	13.35	7.06	18.97	14.72
Friends or relatives	39.76	23.73	34.43	34.26
Group based micro-finance or lending	33.08	15.25	39.58	32.66
Informal credit/savings groups	42.79	6.50	23.77	27.19
Solely or jointly made decisions on credit (%)				
Non-governmental organization	96.81	92.11	92.05	93.64
Formal lender	100.00	100.00	92.02	95.72
Informal lender	96.59	92.00	96.27	95.99
Friends or relatives	95.79	96.43	93.20	94.68
Group based micro-finance or lending	97.25	98.15	95.86	96.56
Informal credit/savings groups	96.45	100.00	92.12	94.88
Average number of credit sources used	1.55	0.69	1.44	1.34
% adequate in access to and decisions over credit	77.24	70.62	74.24	74.57
Senior Men				
Holds an account in a formal finance institution sole or jointly (%)	40.28	51.28	38.19	41.58
Can borrow from [ ] if they wanted to (%)				
No access to any form of credit	25.12	30.77	27.95	27.49
Non-governmental organization	30.33	44.44	35.83	35.57
Formal lender	32.70	47.01	36.61	37.29
Informal lender	26.07	35.90	33.07	31.10
Friends or relatives	46.92	47.01	48.03	47.42
Group based micro-finance or lending	42.18	47.86	53.54	48.28
Informal credit/savings groups	48.82	38.19	35.90	41.58
Used credit from [ ] in last 12 months (%)				
Didn't use any form of credit	35.55	56.41	39.76	41.58
Non-governmental organization	18.48	16.24	19.69	18.56
Formal lender	21.80	13.68	20.47	19.59

Informal lender	14.22	11.97	22.83	17.53
Friends or relatives	35.55	19.66	38.58	33.68
Group based micro-finance or lending	32.23	15.38	43.70	33.85
Informal credit/savings groups	41.23	9.40	28.35	29.21
Solely or jointly made decisions on credit (%)				
Non-governmental organization	97.44	94.74	98.00	97.22
Formal lender	100.00	100.00	94.23	97.37
Informal lender	96.67	92.86	98.28	97.06
Friends or relatives	94.67	95.65	95.92	95.41
Group based micro-finance or lending	100.00	100.00	98.20	98.98
Informal credit/savings groups	100.00	100.00	93.06	97.06
Average number of credit sources used	1.61	0.84	1.67	1.48
% adequate in access to and decisions over credit	76.30	75.21	76.77	76.29
Senior Women in Male Headed Households				
Holds an account in a formal finance institution sole or jointly (%)	29.55	26.47	34.74	31.16
Can borrow from [ ] if they wanted to (%)				
No access to any form of credit	21.02	36.27	25.35	26.07
Non-governmental organization	22.16	34.31	37.09	31.16
Formal lender	25.57	27.45	36.15	30.55
Informal lender	22.73	29.41	31.92	28.11
Friends or relatives	53.41	41.18	53.99	51.12
Group based micro-finance or lending	41.48	35.29	54.46	45.82
Informal credit/savings groups	55.11	26.47	36.62	41.44
Used credit from [ ] in last 12 months (%)				
Didn't use any form of credit	25.00	51.96	41.31	37.68
Non-governmental organization	13.64	7.84	20.66	15.48
Formal lender	19.32	3.92	20.19	16.50
Informal lender	14.20	3.92	18.31	13.85
Friends or relatives	44.89	24.51	33.80	35.85
Group based micro-finance or lending	38.07	17.65	36.15	32.99
Informal credit/savings groups	47.16	9.80	23.47	29.12
Solely or jointly made decisions on credit (%)				
Non-governmental organization	95.83	87.50	81.82	86.84
Formal lender	100.00	100.00	83.72	91.36
Informal lender	96.00	75.00	89.74	91.18
Friends or relatives	94.94	92.00	86.11	90.91
Group based micro-finance or lending	94.03	94.44	93.51	93.83
Informal credit/savings groups	92.77	100.00	86.00	90.91
Average number of credit sources used	1.68	0.63	1.33	1.31
% adequate in access to and decisions over credit	79.55	66.67	71.36	73.32
Senior Women in FHH				
Holds an account in a formal finance institution sole or jointly (%)	22.22	20.37	36.88	29.30
Can borrow from [ ] if they wanted to (%)				
No access to any form of credit	26.26	40.74	29.38	30.57
Non-governmental organization	25.25	27.78	38.75	32.48
Formal lender	22.22	25.93	36.25	29.94
Informal lender	27.27	29.63	36.25	32.17
Friends or relatives	50.51	42.59	48.75	48.09
Group based micro-finance or lending	44.44	35.19	55.63	48.41

Informal credit/savings groups	48.48	24.07	43.13	41.40
Used credit from [ ] in last 12 months (%)				
Didn't use any form of credit	37.37	57.41	51.25	48.09
Non-governmental organization	12.12	11.11	15.00	13.38
Formal lender	9.09	5.56	15.63	11.78
Informal lender	11.11	7.41	15.63	12.74
Friends or relatives	32.32	22.22	26.25	27.39
Group based micro-finance or lending	38.38	14.81	36.88	33.44
Informal credit/savings groups	30.30	1.85	22.50	21.34
Solely or jointly made decisions on credit (%)				
Non-governmental organization	100.00	100.00	95.83	97.62
Formal lender	100.00	100.00	100.00	100.00
Informal lender	100.00	100.00	100.00	100.00
Friends or relatives	100.00	100.00	100.00	100.00
Group based micro-finance or lending	100.00	100.00	100.00	100.00
Informal credit/savings groups	100.00	100.00	100.00	100.00
Average number of credit sources used	1.33	0.63	1.29	1.19
% adequate in access to and decisions over credit	74.75	59.26	71.88	70.38
Young Men				
Holds an account in a formal finance institution sole or jointly (%)	36.23	48.00	40.26	39.77
Can borrow from [ ] if they wanted to (%)				
No access to any form of credit	23.19	40.00	20.78	24.56
Non-governmental organization	36.23	28.00	33.77	33.92
Formal lender	31.88	28.00	38.96	34.50
Informal lender	34.78	12.00	33.77	30.99
Friends or relatives	55.07	48.00	49.35	51.46
Group based micro-finance or lending	44.93	12.00	61.04	47.37
Informal credit/savings groups	62.32	20.00	37.66	45.03
Used credit from [ ] in last 12 months (%)				
Didn't use any form of credit	28.99	60.00	32.47	35.09
Non-governmental organization	13.04	8.00	16.08	14.04
Formal lender	15.94	8.00	23.38	18.13
Informal lender	20.29	0.00	22.08	18.13
Friends or relatives	39.13	28.00	38.96	37.43
Group based micro-finance or lending	30.43	0.00	41.56	30.99
Informal credit/savings groups	50.72	0.00	23.38	30.99
Solely or jointly made decisions on credit (%)				
Non-governmental organization	88.89	50.00	100.00	91.67
Formal lender	100.00	100.00	100.00	100.00
Informal lender	92.86	-	100.00	96.77
Friends or relatives	100.00	100.00	100.00	100.00
Group based micro-finance or lending	100.00	-	90.63	94.34
Informal credit/savings groups	100.00	-	83.33	96.34
Average number of credit sources used	1.67	0.40	1.58	1.44
% adequate in access to and decisions over credit	76.81	68.00	79.22	76.61
Young Women				
Holds an account in a formal finance institution sole or jointly (%)	25.00	33.93	34.00	30.97
Can borrow from [ ] if they wanted to (%)				
No access to any form of credit	23.08	25.00	23.33	23.55

Non-governmental organization	20.19	23.21	36.67	28.71
Formal lender	22.12	26.79	35.33	29.35
Informal lender	17.31	16.07	34.00	25.16
Friends or relatives	51.92	41.07	52.00	50.00
Group based micro-finance or lending	35.58	28.57	54.67	43.55
Informal credit/savings groups	57.69	12.50	33.33	37.74
Used credit from [ ] in last 12 months (%)				
Didn't use any form of credit	28.85	41.07	37.33	35.16
Non-governmental organization	9.62	5.36	13.33	10.65
Formal lender	11.54	7.14	18.00	13.87
Informal lender	7.69	5.36	15.33	10.97
Friends or relatives	47.12	30.36	34.67	38.06
Group based micro-finance or lending	23.08	17.86	39.33	30.00
Informal credit/savings groups	45.19	1.79	18.00	24.19
Solely or jointly made decisions on credit (%)				
Non-governmental organization	100.00	100.00	90.00	93.94
Formal lender	100.00	100.00	88.89	93.02
Informal lender	100.00	100.00	95.65	97.06
Friends or relatives	93.75	100.00	88.46	92.31
Group based micro-finance or lending	91.67	100.00	93.22	93.55
Informal credit/savings groups	91.49	100.00	96.30	93.33
Average number of credit sources used	1.34	0.68	1.27	1.19
% adequate in access to and decisions over credit	77.88	80.36	74.00	76.45

Table 35: Testing significance of gender differences in access to and decisions over credit by country

	Kenya	Tanzania	Uganda	All
Senior Men vs Senior Women in MHH				
Holds an account in a formal finance institution sole or jointly (%)	2.2080 (0.0139)	3.8511 (0.0001)	0.7690 (0.2211)	3.5430 (0.0002)
Can borrow from [ ] if they wanted to (%)				
Non-governmental organization	1.8145 (0.0352)	1.5295 (0.0638)	-0.2818 (0.6109)	1.5231 (0.0640)
Formal lender	1.5336 (0.0630)	3.0241 (0.0014)	0.1036 (0.4588)	2.3206 (0.0102)
Informal lender	0.7586 (0.2243)	1.0169 (0.1552)	0.2627 (0.3964)	1.0685 (0.1428)
Friends or relatives	-1.2708 (0.1023)	0.8642 (0.1942)	-1.2825 (0.1002)	-1.2067 (0.8861)
Group based micro-finance or lending	0.1392 (0.4447)	1.8865 (0.0303)	-0.1976 (0.4217)	0.8027 (0.2112)
Informal credit/savings groups	-1.2339 (0.1090)	1.4988 (0.0677)	0.3482 (0.3639)	0.1457 (0.4421)
Used credit from [ ] in last 12 months (%)				
Non-governmental organization	1.2856 (0.0997)	1.8920 (0.0299)	-0.2604 (0.3973)	1.3325 (0.0915)
Formal lender	0.5993 (0.2747)	2.5243 (0.0062)	0.0759 (0.4697)	1.3078 (0.0956)
Informal lender	0.0038 (0.4985)	2.1755 (0.0153)	1.1998 (0.1154)	1.6436 (0.0503)

Friends or relatives	-1.8731 (0.0309)	-0.8639 (0.1945)	1.0683 (0.1430)	-0.7430 (0.7712)
Group based micro-finance or lending	-1.1996 (0.1155)	-0.4488 (0.3270)	1.6585 (0.0489)	0.2954 (0.3839)
Informal credit/savings groups	-1.1689 (0.8784)	-0.1004 (0.4601)	1.1930 (0.1167)	0.0306 (0.4878)
Solely or jointly made decisions on credit (%)				
Non-governmental organization	0.3470 (0.3649)	0.6320 (0.2653)	2.7372 (0.0037)	2.7640 (0.0033)
Formal lender	-	-	1.6683 (0.0493)	1.8825 (0.0306)
Informal lender	0.1291 (0.4489)	0.9724 (0.1727)	1.8781 (0.0317)	1.6821 (0.0472)
Friends or relatives	-0.0750 (0.4702)	0.5127 (0.3053)	2.3212 (0.0107)	1.7327 (0.0420)
Group based micro-finance or lending	2.0624 (0.0206)	1.0000 (0.1622)	1.6744 (0.0479)	2.7258 (0.0034)
Informal credit/savings groups	2.5883 (0.0052)	-	1.2852 (0.1006)	2.3409 (0.0099)
Average number of credit sources used	-0.4396 (0.6698)	1.3156 (0.0949)	1.9402 (0.0265)	1.6081 (0.0541)
% adequate in access to and decisions over credit	-0.7625 (0.2231)	1.3936 (0.0824)	1.3323 (0.0917)	1.1175 (0.1320)
Senior Men vs Senior Women in FHH				
Holds an account in a formal finance institution sole or jointly (%)	3.1585 (0.0009)	3.9630 (0.0001)	0.2680 (0.3944)	3.6502 (0.0001)
Can borrow from [ ] if they wanted to (%)				
Non-governmental organization	0.9199 (0.1792)	2.0896 (0.0191)	-0.5988 (0.2748)	0.9257 (0.1774)
Formal lender	1.8938 (0.0296)	2.6502 (0.0044)	0.0748 (0.4702)	2.2082 (0.0137)
Informal lender	-0.2238 (0.4115)	0.8015 (0.2120)	-0.6623 (0.2541)	-0.3275 (0.3717)
Friends or relatives	-0.5875 (0.2786)	0.5362 (0.2963)	-0.1421 (0.4435)	-0.1904 (0.4245)
Group based micro-finance or lending	-0.3744 (0.3542)	1.5549 (0.0609)	-0.4132 (0.3399)	-0.0359 (0.4857)
Informal credit/savings groups	0.0541 (0.4785)	1.5402 (0.0627)	-0.9967 (0.1598)	0.0520 (0.5207)
Used credit from [ ] in last 12 months (%)				
Non-governmental organization	1.4086 (0.0800)	0.8791 (0.1903)	1.2108 (0.1133)	1.9840 (0.0238)
Formal lender	2.7556 (0.0031)	1.5726 (0.0588)	1.2336 (0.1090)	2.9889 (0.0014)
Informal lender	0.7511 (0.2266)	0.8997 (0.1848)	1.7867 (0.0374)	1.8736 (0.0307)
Friends or relatives	0.5548 (0.2897)	-0.3842 (0.3507)	2.5976 (0.0049)	1.9357 (0.0266)
Group based micro-finance or lending	-1.0639 (0.1441)	0.0959 (0.5381)	1.3745 (0.0850)	0.1235 (0.4509)

Informal credit/savings groups	1.8551 (0.0323)	1.8031 (0.0366)	1.3187 (0.0940)	2.5553 (0.0054)
Solely or jointly made decisions on credit (%)				
Non-governmental organization	-0.5508 (0.2921)	-0.5538 (0.2925)	0.5318 (0.7017)	-0.1346 (0.4466)
Formal lender	-	-	-1.1707 (0.1228)	-0.9660 (0.1678)
Informal lender	-0.6007 (0.2758)	-0.5230 (0.3041)	-0.6409 (0.2617)	-1.0794 (0.8589)
Friends or relatives	-1.3301 (0.0932)	-0.7171 (0.2392)	-1.3273 (0.0933)	-2.0272 (0.0218)
Group based micro-finance or lending	-	-	-1.0343 (0.1512)	-1.0343 (0.1509)
Informal credit/savings groups	-	-	-1.6238 (0.0537)	-1.4189 (0.0786)
Average number of credit sources used	1.2992 (0.9026)	0.9992 (0.8404)	1.9817 (0.0241)	2.3852 (0.0086)
% adequate in access to and decisions over credit	0.2973 (0.3832)	2.1356 (0.0171)	1.1176 (0.1322)	1.9302 (0.0269)
Young Men vs Women				
Holds an account in a formal finance institution sole or jointly (%)	1.5889 (0.0570)	1.1994 (0.1170)	0.9272 (0.1774)	1.9522 (0.0258)
Can borrow from [ ] if they wanted to (%)				
Non-governmental organization	2.3622 (0.0096)	0.4563 (0.3247)	-0.4301 (0.3338)	1.1862 (0.1181)
Formal lender	1.4344 (0.0766)	0.1121 (0.4555)	0.5353 (0.2965)	1.1659 (0.1221)
Informal lender	2.6633 (0.0042)	-0.4712 (0.3194)	-0.0351 (0.4860)	1.3754 (0.0848)
Friends or relatives	0.4043 (0.3432)	0.5755 (0.2833)	-0.3765 (0.3534)	0.3064 (0.6203)
Group based micro-finance or lending	1.2313 (0.1100)	-1.6326 (0.0533)	0.9153 (0.1805)	0.8051 (0.2106)
Informal credit/savings groups	0.6042 (0.2733)	0.8710 (0.1932)	0.6460 (0.2595)	1.5602 (0.0597)
Used credit from [ ] in last 12 months (%)				
Non-governmental organization	0.7030 (0.2415)	0.4515 (0.3264)	0.7160 (0.2374)	1.1002 (0.1359)
Formal lender	0.8322 (0.2032)	0.1344 (0.4467)	0.9597 (0.1691)	1.2382 (0.1081)
Informal lender	2.4638 (0.0074)	-1.1748 (0.1218)	1.2616 (0.1042)	2.2055 (0.0139)
Friends or relatives	-1.0334 (0.1514)	-0.2120 (0.4163)	0.6354 (0.2629)	-0.1377 (0.4453)
Group based micro-finance or lending	1.0776 (0.1414)	-2.3023 (0.0120)	0.3225 (0.3737)	0.2265 (0.4104)
Informal credit/savings groups	0.7105 (0.2392)	-0.6658 (0.2537)	0.9597 (0.1691)	1.6165 (0.0533)
Solely or jointly made decisions on credit (%)				
Non-governmental organization	-1.0576 (0.1525)	-1.3416 (0.1361)	1.1649 (0.8735)	-0.3261 (0.3728)

Formal lender	-	-	1.4663 (0.0749)	1.5040 (0.0685)
Informal lender	-0.7480 (0.2316)	-	0.8568 (0.1985)	-0.0653 (0.4741)
Friends or relatives	1.3236 (0.0949)	-	1.9539 (0.0271)	2.2966 (0.0114)
Group based micro-finance or lending	1.3506 (0.0919)	-	-0.4392 (0.3308)	0.1899 (0.4248)
Informal credit/savings groups	1.7822 (0.0393)	-	-1.5012 (0.0703)	0.2299 (0.4093)
Average number of credit sources used	1.3724 (0.0859)	-1.8727 (0.9676)	1.3010 (0.0973)	1.7431 (0.0410)
% adequate in access to and decisions over credit	-0.1644 (0.4348)	-1.2084 (0.1153)	0.8668 (0.1935)	0.0387 (0.4846)

Each table cell contains the t-test statistic, and the p-value in parentheses

Source: Household survey dataset

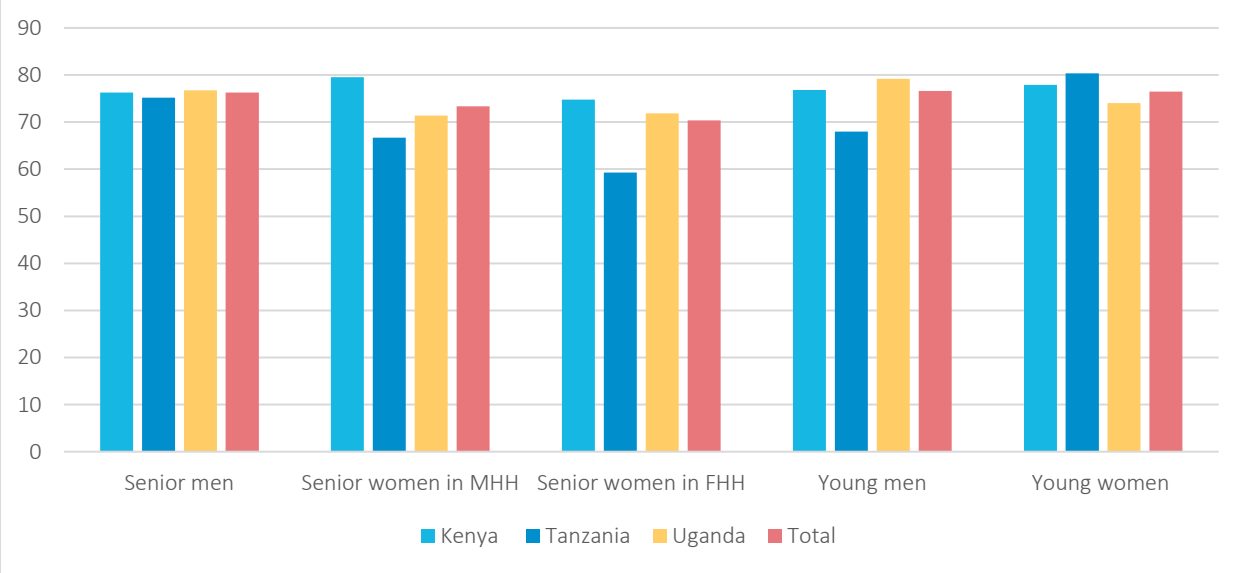


Figure 18:% adequate in access to and decisions over credit

5.11 Control over use of income

For agribusinesses to be resilient in the face of climate change, farmers must not only earn income but also have the agency to decide how that income is used. This is critical for adopting climate-smart agricultural (CSA) practices, reinvesting in adaptation, and ensuring inclusive value chains. The pro-WEAI indicator of control over income assesses whether individuals have meaningful input in decisions on how to use all income and outputs from their agricultural and non-agricultural activities. The SNV/CRAFT project views this as a cornerstone of empowerment—particularly for women and youth—who are often underrepresented in household financial decisions, yet central to climate adaptation efforts.

5.11.1 Summary of findings

Overall, 71.5% of respondents across Kenya, Tanzania, and Uganda were found to be adequate in control over the use of income. However, disaggregated results reveal sharp gender disparities, particularly disadvantaging senior women in female-headed households (FHH) across all countries.

Key observations:

- Senior men and senior women in male-headed households (MHH) are the most empowered groups, with adequacy rates exceeding 85%.
- Senior women in FHH fare worst, with an average adequacy rate of just 16.6%, indicating extreme disempowerment.
- Young women have higher adequacy than young men in Kenya, but the reverse is true in Uganda—highlighting country-specific dynamics.

Table 36: Respondents' who are adequate in control over income by country and group (%)

Group	Kenya	Tanzania	Uganda	All Countries
All respondents	71.02	67.51	73.51	71.51
Senior men	86.26	84.62	85.43	85.57
Senior women in male-headed households	80.11	80.39	92.96	85.74
Senior women in female-headed households	6.06	16.67	22.64	16.61
Young men	73.91	60.00	88.31	78.36
Young women	84.62	60.71	72.00	74.19

Gendered patterns in control over use of income

Senior men vs senior women in male headed households

There are no statistically significant differences in overall adequacy (t = -0.0820, p = 0.4673) for this cohort, suggesting relative parity in decision-making in marital homes. However, Uganda shows a significant gap (t = -2.59, p = 0.0050); senior women are more empowered than senior men, perhaps due to targeted programming or localized norms.

Senior men vs senior women in female headed households

The data reveals highly significant disparities in all countries, with senior men overwhelmingly more empowered than senior women in FHH. Kenya (t = 20.87, p < 0.0001), Tanzania (t = 11.26), Uganda (t = 16.33), Overall (t = 27.38). This suggests that women in FHH lack decision-making power even when they are the de facto heads, possibly due to extended family control or social norms.

Young men vs Young women

The data reveals contextual variations. In Kenya, young women are more empowered on this indicator (*t = -1.74, p = 0.042*), while in Uganda, young men dominate (*t = 2.82, p = 0.003*). Overall, the gender difference is not significant at the aggregate level (*p = 0.154*), indicating context-specific differences in youth agency.

Table 37: Testing significance of gender differences in adequacy in control over income by country and group

Gender comparison	Kenya	Tanzania	Uganda	All Countries
Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes	1.6209 (0.0529)	0.8207 (0.2063)	-2.5876 (0.0050)	-0.0820 (0.4673)
Senior Men vs Senior Women in Female-Headed Households (FHH)	20.8681 (0.0000)	11.2618 (0.0000)	16.3250 (0.0000)	27.3847 (0.0000)
Young men vs Young Women	-1.7397 (0.0419)	-0.0600 (0.4762)	2.8243 (0.0026)	1.0191 (0.1543)

Source: household survey dataset
Each cell contains the t-statistic and the p-value

Implications for the SNV/CRAFT project and future programming

These findings present key challenges and opportunities for SNV/CRAFT:

Challenge	Implication
Women in FHH are the most disempowered	Traditional programming that targets household heads may unintentionally exclude or overlook women's actual lack of decision-making power.
High agency among senior women in MHH	These women may be potential champions for peer learning and mentoring across households.
Inconsistencies in youth empowerment	Tailored programming is needed to address differing barriers for young women and men across contexts.

Key Recommendations for CRAFT Programming

Recommendation	Target Group	Expected Outcome
Promote joint decision-making models via household dialogues and community sensitization	Women in FHH, MHH	Improved financial agency and more inclusive investment in CSA practices
Design financial inclusion programs that integrate gender norms training	Women and youth	Empower informed use of climate finance tools such as savings groups, VSLA, digital wallets
Target youth with mentorship and agency-building interventions, especially in Uganda	Young women and men	Balanced empowerment to lead innovation in climate-smart agribusiness
Use gender-sensitive monitoring to detect and address hidden intra-household inequalities	All demographic groups	Adaptive programming that ensures inclusive resilience

Conclusion

The ability to control income use is fundamental for farmers to act on climate decisions, invest in adaptive innovations, and manage risks effectively. While overall adequacy is high (71.5%), the SNV/CRAFT project must address persistent gender disparities, particularly the critical gap among senior women in FHH. These findings call for context-specific, gender-transformative approaches that strengthen household-level autonomy and reinforce the role of women and youth as active agents in climate-resilient agriculture.

5.12 Work life balance

The Work Balance indicator of the pro-WEAI framework measures whether individuals maintain a sustainable workload, defined as working less than 10.5 hours per day. This includes time spent on primary productive activities and a weighted portion of time spent on caregiving, particularly childcare. The adequacy threshold is critical because it captures not just participation in economic activities but also the burden of effort, a key dimension of resilience, agency, and wellbeing.

This indicator is especially relevant for the SNV/CRAFT project, because CSA interventions often involve the adoption of new technologies, diversification of livelihoods, and increased engagement in value chain activities, all of which can have unintended effects on household time use. Without careful consideration, such shifts may lead to excessive workloads, especially for women, who often face a dual burden of productive and reproductive labor.

Understanding work balance within this context is therefore essential. It provides insight into whether the project's innovations are enabling adaptive and inclusive livelihoods, or inadvertently exacerbating time poverty, particularly among women and youth. If individuals are overburdened, their capacity to adopt climate-smart practices, engage in market opportunities, or participate in community-level decision-making may be compromised, undermining long-term resilience goals.

The following section presents the findings on the work balance indicator, disaggregated by gender and household type, and discusses the implications for CSA uptake, equitable participation, and sustainable agribusiness development.

5.13 Summary of findings

5.13.1 Gendered patterns of work balance

Senior Men vs. Senior Women in Male-Headed Households

Analysis across three countries (Kenya, Tanzania, and Uganda) shows clear gender disparities in how time is allocated across four domains: productive work, domestic and care responsibilities, engagement in the public sphere, and leisure/personal time.

Productive Work: Senior men consistently spend more time in productive work than senior women, averaging 6.55 hours/day compared to 4.73 hours/day for women ($p < 0.001$). Men's time is concentrated in formal employment, own business operations, staple grain farming, and large livestock, whereas women participate more in horticulture, poultry, and textile work—though the gender difference is statistically significant only for textile-related activities. At country level, these trends hold across Kenya, Tanzania, and Uganda, with Uganda showing the widest gap.

Unpaid Domestic and Care Work: Women carry a disproportionately high burden of unpaid care work—4.92 hours/day compared to 1.33 hours/day for men ($p < 0.001$). This includes childcare, cooking, and household chores. These differences are starkest in Kenya and Tanzania, though significant in all countries.

Engagement in the Public Sphere: Men are more engaged in activities that take them beyond the home—such as commuting, shopping, or accessing services—averaging 0.90 hours/day compared to 0.47

hours/day for women. However, women in Kenya do spend more time on shopping and accessing services than men, indicating localized variation.

Leisure and Personal Time: Men enjoy significantly more leisure time (13.62 hours/day) compared to women (12.22 hours/day), including more time spent resting, eating, and engaging in hobbies or social activities. This imbalance reflects deeper structural constraints on women's autonomy and wellbeing.

Total Workload and Work Balance Adequacy: Men in male-headed households work on average 7.47 hours/day, while women work 5.60 hours/day. Despite their shorter work hours, women's schedules are more fragmented and burdened by unpaid labor. Interestingly, 90.3% of women achieve an adequate work balance (i.e., <10.5 hours/day), compared to 80.2% of men, suggesting that quantity of hours is not the only metric of strain—quality and type of work matter significantly.

Senior Men vs. Senior Women in Female-Headed Households

Among female-headed households (FHHs), the gender gap in total workload narrows. In fact, in Kenya and Tanzania, senior women in FHHs work significantly more than their male counterparts, with higher engagement in staple and high-value crop farming. Yet, they also carry greater domestic burdens and report lower adequacy in work balance in Uganda. This dual burden may reflect both agency and vulnerability, as women in FHHs often assume all household roles without shared responsibility.

Young Men vs. Young Women

Among youth, gender disparities in time use persist, though somewhat less stark.

Productive Work: Young men work significantly more hours in productive activities (6.32 hours/day) than young women (5.17 hours/day). The biggest differences are in own business work and staple grain farming.

Unpaid Domestic and Care Work: Young women shoulder a heavier domestic burden—4.97 hours/day vs. 2.22 hours/day for men—driven largely by childcare, cooking, and household chores ($p < 0.001$ across all countries).

Public Sphere and Leisure: Young men are more likely to engage with the public sphere and enjoy more leisure time. Notably, their involvement in social activities and exercising is significantly higher than for young women, especially in Tanzania and Uganda.

Workload Adequacy: While 86.8% of young women meet the adequacy threshold, only 74.2% of young men do. This inversion mirrors the senior cohort and reinforces the idea that although women technically "work less" by the threshold, their time is consumed by invisible, undervalued tasks that limit their flexibility and well-being.

Implications of the Results

The findings reveal that while the SNV/CRAFT project has contributed to reducing women's overall time burden in some areas, gendered time poverty persists—particularly in unpaid care and limited leisure. These patterns pose several risks to project outcomes:

Reduced Adaptive Capacity: Women with heavy unpaid workloads have less time to attend training sessions, adopt CSA innovations, or participate in cooperative decision-making.

Burnout Risk: Intensification of agribusiness activities without corresponding support for care responsibilities risks overburdening women, especially in FHHs.

Unequal Benefits from Climate-Smart Interventions: Time poverty among women and young people may limit their ability to fully benefit from climate-smart technologies or value chain integration.

Limited Youth Engagement: While young men have higher workloads, young women are constrained by domestic responsibilities, reducing their visibility and engagement in formal agribusiness channels.

Recommendations for Project Redesign and Future Programming

To align better with the project's goals of inclusive resilience and equitable agribusiness transformation, the following actions are recommended:

1. Introduce Labor-Saving CSA Technologies

- Promote and scale up time-saving climate-smart innovations, particularly for weeding, irrigation, post-harvest handling, and livestock care.
- Example: Mechanized or no-till seed planting for potatoes can reduce women's time burden significantly.

2. Mainstream Gender-Sensitive Time Use Planning

- Incorporate time use assessments in business case design and monitoring.
- Ensure that interventions are evaluated not just by productivity gains, but also by their effects on time poverty.

3. Engage Men in Care and Domestic Responsibilities

- Support community dialogues and sensitization on shared domestic roles, targeting both men and elders.
- Include work balance messaging in behavior change campaigns and extension materials.

4. Tailor Support for Female-Headed Households

- FHHs need targeted support, including care services (e.g., childcare during training) and labor support mechanisms (e.g., group labor pooling).

5. Prioritize Youth-Friendly Interventions

- Time-saving technologies and flexible training formats (evening/weekend sessions, mobile content) should be prioritized for youth.
- Promote models of youth-led services (e.g., digital extension agents) that allow young women especially, to engage from home or near-home locations.

6. Institutionalize Time Use Monitoring

- Make work balance a standard performance indicator in M&E frameworks.
- Regularly disaggregate findings by gender, age, and household type to adapt strategies.

This analysis confirms that addressing time use inequities is **not ancillary but central** to achieving the climate resilience and agribusiness goals of the SNV/CRAFT project. Sustained attention to work balance, especially unpaid care, will be vital in ensuring equitable participation and lasting impact for all segments of rural populations.

Table 38: Gender differences in time use by sphere and country

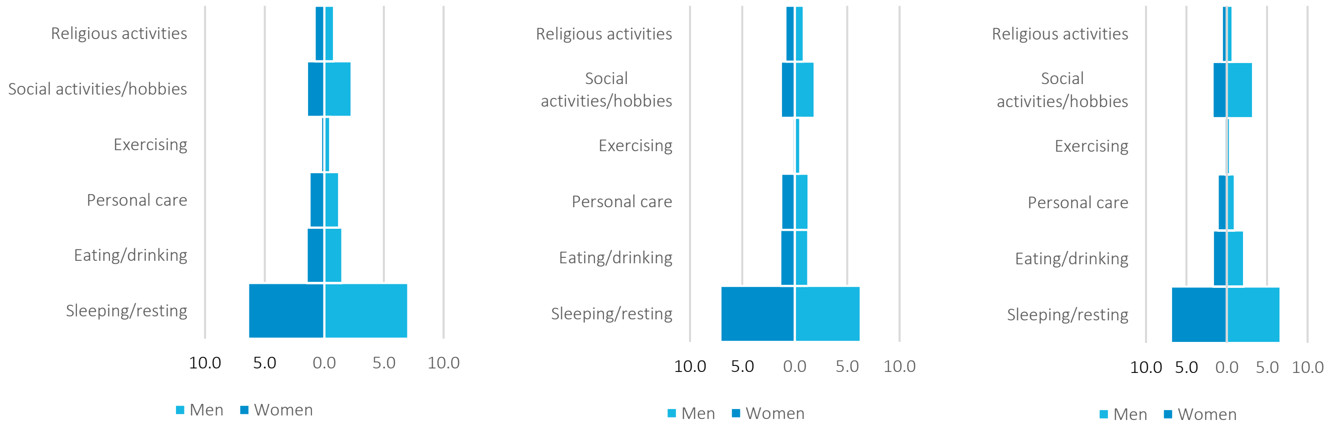


Table 39: Time use by country (average hours per day)

Time use for all respondents by country (average hours per day)

	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**0.889**	**0.368**	**0.613**	**0.665**
Commuting to work	0.304	0.095	0.211	0.222
Shopping/getting services	0.334	0.067	0.193	0.220
Traveling	0.251	0.206	0.208	0.223
Unpaid domestic and care work	**3.522**	**3.732**	**3.116**	**3.375**
Caring for adults	0.234	0.029	0.124	0.145
Caring for children	0.318	0.415	0.277	0.317
Domestic work	1.517	1.708	1.148	1.383
Cooking	1.329	1.571	1.545	1.475
School/homework	0.125	0.008	0.022	0.055
Productive work	**4.352**	**5.285**	**7.189**	**5.840**
Work, employed	0.418	0.250	0.403	0.380
Own business work	0.833	1.472	0.858	0.964
Staple grain farming	1.120	1.508	2.428	1.800
High value crop farming	0.747	1.431	2.156	1.527
Large livestock raising	0.553	0.253	0.339	0.398
Small livestock raising	0.568	0.273	0.780	0.611
Poultry raising	0.062	0.066	0.117	0.088
Fishpond culture	0.015	0.000	0.024	0.017
Weaving/sewing/textiles	0.035	0.031	0.084	0.057
Own-time inc. leisure	**13.424**	**13.319**	**11.793**	**12.647**
Sleeping/resting	7.517	6.868	6.440	6.894
Eating/drinking	1.835	1.867	1.258	1.573
Personal care	1.155	1.121	1.293	1.212
Exercising	0.357	0.290	0.413	0.370
Social activities/hobbies	1.584	2.504	1.489	1.713
Religious activities	0.977	0.668	0.900	0.884
Workload (hours)	5.879	5.738	7.902	6.825

% adequate on work life balance	89.71	88.42	78.20	83.94

Time use among senior men in male headed households by country (average hours per day)

	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**1.15**	**0.61**	**0.82**	**0.90**
Commuting to work	0.43	0.13	0.28	0.31
Shopping/getting services	0.26	0.05	0.20	0.19
Traveling	0.46	0.42	0.34	0.40
Unpaid domestic and care work	**1.05**	**1.30**	**1.57**	**1.33**
Caring for adults	0.23	0.06	0.14	0.15
Caring for children	0.19	0.14	0.14	0.16
Domestic work	0.35	0.78	0.83	0.65
Cooking	0.16	0.30	0.45	0.32
School/homework	0.12	0.02	0.01	0.05
Productive work	**5.05**	**6.76**	**7.67**	**6.55**
Work, employed	0.63	0.35	0.51	0.52
Own business work	1.05	1.99	0.97	1.20
Staple grain farming	1.10	2.26	2.60	1.99
High value crop farming	0.76	1.19	1.95	1.37
Large livestock raising	0.95	0.50	0.61	0.71
Small livestock raising	0.48	0.40	0.84	0.62
Poultry raising	0.04	0.08	0.09	0.07
Fishpond culture	0.02	0.00	0.06	0.03
Weaving/sewing/textiles	0.01	0.00	0.05	0.02
Own-time inc. leisure	**14.35**	**14.34**	**12.70**	**13.62**
Sleeping/resting	7.57	6.89	7.10	7.23
Eating/drinking	2.10	2.20	1.24	1.74
Personal care	1.24	1.01	1.28	1.21
Exercising	0.37	0.25	0.45	0.38
Social activities/hobbies	2.12	3.27	1.74	2.18
Religious activities	0.95	0.72	0.90	0.88
Workload (hours)	6.578	7.187	8.236	7.467
% adequate on work life balance	86.17	82.05	75.00	80.18

Time use among senior women in male headed households by country (average hours per day)

	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**0.76**	**0.10**	**0.41**	**0.47**
Commuting to work	0.16	0.00	0.08	0.09
Shopping/getting services	0.44	0.04	0.17	0.24
Traveling	0.16	0.06	0.16	0.14
Unpaid domestic and care work	**5.13**	**5.84**	**4.34**	**4.92**
Caring for adults	0.17	0.00	0.08	0.10
Caring for children	0.39	0.61	0.29	0.39
Domestic work	2.16	2.84	1.55	2.03
Cooking	2.33	2.39	2.42	2.38
School/homework	0.08	0.00	0.00	0.03
Productive work	**3.64**	**4.19**	**5.86**	**4.73**

Work, employed	0.30	0.00	0.39	0.28
Own business work	0.32	0.69	0.60	0.52
Staple grain farming	1.26	1.04	2.01	1.55
High value crop farming	0.67	1.90	1.97	1.49
Large livestock raising	0.32	0.10	0.15	0.20
Small livestock raising	0.67	0.30	0.53	0.53
Poultry raising	0.05	0.04	0.08	0.06
Fishpond culture	0.00	0.00	0.01	0.01
Weaving/sewing/textiles	0.05	0.11	0.13	0.09
Own-time inc. leisure	**13.04**	**12.20**	**11.58**	**12.22**
Sleeping/resting	7.37	6.52	6.38	6.76
Eating/drinking	1.53	1.87	1.34	1.51
Personal care	1.14	1.08	1.27	1.19
Exercising	0.38	0.26	0.22	0.28
Social activities/hobbies	1.39	1.76	1.48	1.51
Religious activities	1.23	0.69	0.90	0.97
Workload (hours)	5.017	4.552	6.514	5.603
% adequate on work life balance	95.06	94.12	85.14	90.33

Time use among senior women in female headed households by country (average hours per day)

	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**0.51**	**0.17**	**0.41**	**0.41**
Commuting to work	0.14	0.00	0.18	0.14
Shopping/getting services	0.25	0.00	0.16	0.17
Traveling	0.12	0.17	0.07	0.10
Unpaid domestic and care work	**5.44**	**4.62**	**3.59**	**4.36**
Caring for adults	0.38	0.00	0.15	0.20
Caring for children	0.33	0.24	0.24	0.27
Domestic work	2.60	1.83	1.27	1.79
Cooking	2.08	2.55	1.93	2.09
School/homework	0.05	0.00	0.00	0.02
Productive work	**4.33**	**4.41**	**8.58**	**6.53**
Work, employed	0.11	0.36	0.17	0.18
Own business work	0.72	0.67	1.05	0.88
Staple grain farming	1.33	1.93	2.74	2.16
High value crop farming	0.84	1.20	3.40	2.21
Large livestock raising	0.53	0.00	0.21	0.27
Small livestock raising	0.63	0.25	0.83	0.67
Poultry raising	0.13	0.00	0.09	0.09
Fishpond culture	0.00	0.00	0.00	0.00
Weaving/sewing/textiles	0.05	0.00	0.08	0.06
Own-time inc. leisure	**12.17**	**13.58**	**10.50**	**11.54**
Sleeping/resting	7.52	7.04	5.69	6.48
Eating/drinking	1.55	1.66	1.03	1.30
Personal care	0.67	1.56	1.33	1.17
Exercising	0.30	0.02	0.44	0.32
Social activities/hobbies	1.20	2.61	1.10	1.39
Religious activities	0.94	0.69	0.91	0.88

Workload (hours)	5.672	4.641	9.097	7.319
% adequate on work life balance	93.26	96.30	73.01	83.06

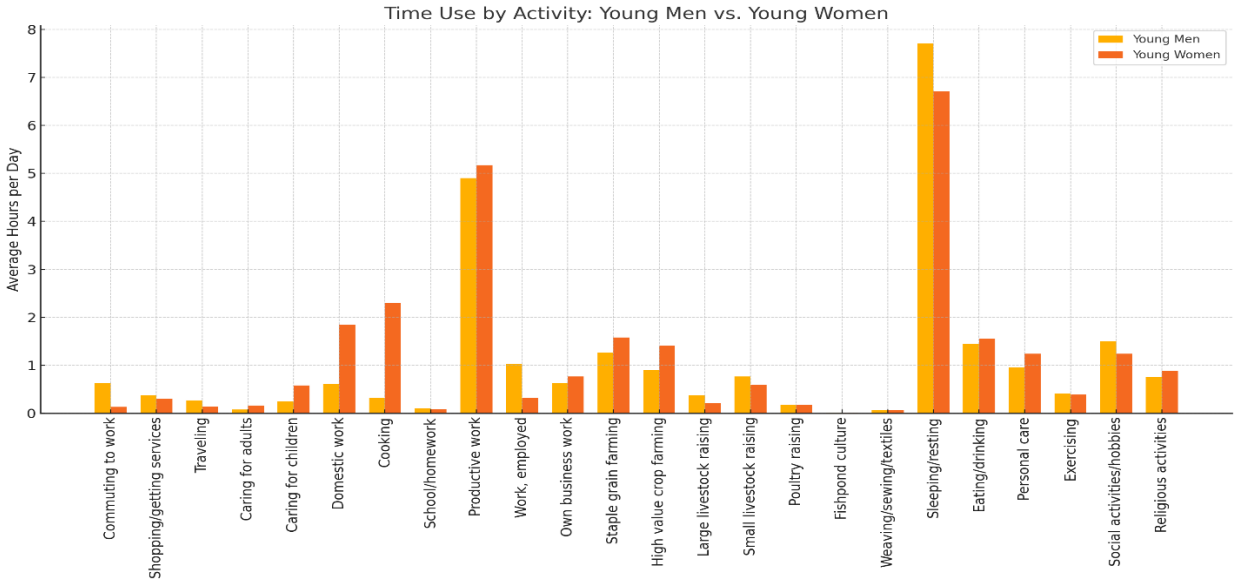
Time use among young men by country (average hours per day)

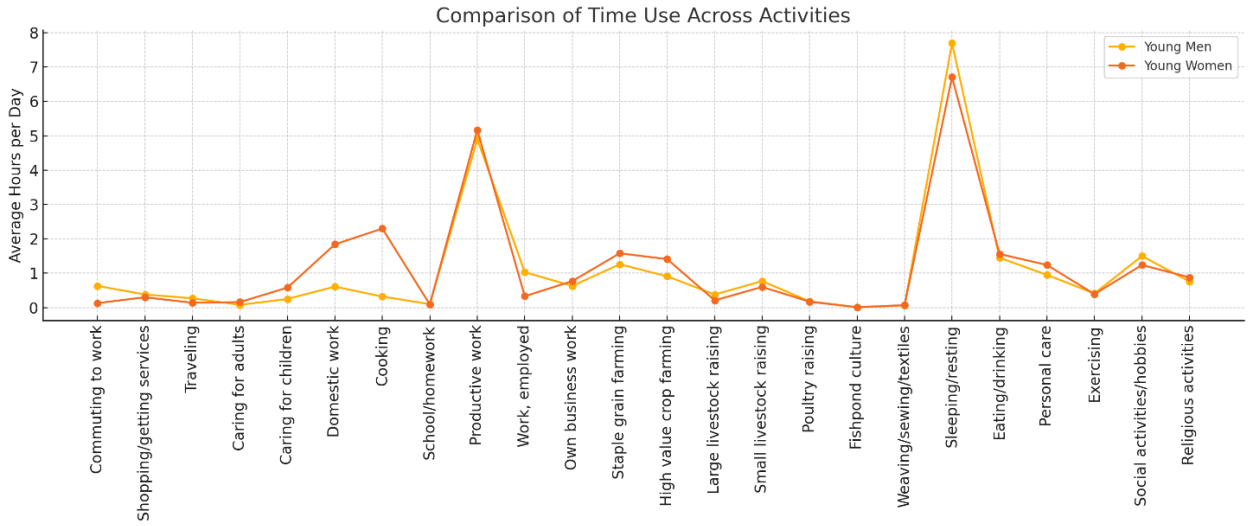
	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**0.84**	**0.21**	**0.45**	**0.60**
Commuting to work	0.25	0.00	0.19	0.19
Shopping/getting services	0.19	0.00	0.13	0.14
Traveling	0.15	0.21	0.07	0.13
Unpaid domestic and care work	**2.35**	**2.42**	**1.93**	**2.22**
Caring for adults	0.07	0.00	0.05	0.05
Caring for children	0.12	0.00	0.08	0.09
Domestic work	1.11	1.25	1.20	1.18
Cooking	1.04	1.17	0.60	0.91
School/homework	0.01	0.00	0.01	0.01
Productive work	**5.47**	**4.66**	**8.69**	**6.32**
Work, employed	0.60	0.42	0.16	0.40
Own business work	1.54	0.71	1.02	1.16
Staple grain farming	1.65	2.17	2.66	2.12
High value crop farming	0.56	1.36	3.56	2.20
Large livestock raising	0.57	0.00	0.16	0.28
Small livestock raising	0.78	0.00	1.04	0.70
Poultry raising	0.12	0.00	0.09	0.09
Fishpond culture	0.00	0.00	0.00	0.00
Weaving/sewing/textiles	0.05	0.00	0.03	0.03
Own-time inc. leisure	**11.92**	**13.11**	**10.63**	**11.75**
Sleeping/resting	7.49	7.30	5.52	6.70
Eating/drinking	1.53	1.35	1.22	1.38
Personal care	0.67	1.44	1.03	1.04
Exercising	0.13	0.01	0.34	0.18
Social activities/hobbies	0.94	2.43	1.10	1.32
Religious activities	1.16	0.58	1.42	1.05
Workload (hours)	7.527	8.03	8.48	8.055
% adequate on work life balance	72.13	80.00	74.03	74.23

Time use among young women by country (average hours per day)

	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**0.76**	**0.20**	**0.59**	**0.57**
Commuting to work	0.17	0.00	0.14	0.13
Shopping/getting services	0.50	0.20	0.21	0.30
Traveling	0.09	0.00	0.23	0.14
Unpaid domestic and care work	**5.40**	**5.58**	**4.45**	**4.97**
Caring for adults	0.19	0.04	0.19	0.16
Caring for children	0.53	0.88	0.50	0.58
Domestic work	2.43	2.17	1.31	1.84
Cooking	2.12	2.49	2.37	2.30
School/homework	0.14	0.00	0.08	0.09
Productive work	**3.32**	**4.21**	**6.76**	**5.17**
Work, employed	0.31	0.23	0.38	0.33

Own business work	0.38	1.58	0.74	0.77
Staple grain farming	0.86	0.43	2.49	1.58
High value crop farming	0.82	1.75	1.69	1.41
Large livestock raising	0.21	0.00	0.28	0.21
Small livestock raising	0.64	0.04	0.77	0.60
Poultry raising	0.04	0.18	0.25	0.17
Fishpond culture	0.01	0.00	0.02	0.01
Weaving/sewing/textiles	0.04	0.00	0.13	0.07
Own-time inc. leisure	**13.25**	**12.46**	**11.05**	**12.03**
Sleeping/resting	7.69	7.21	5.88	6.71
Eating/drinking	1.93	1.44	1.36	1.56
Personal care	1.35	1.10	1.21	1.24
Exercising	0.29	0.31	0.48	0.39
Social activities/hobbies	1.13	1.86	1.10	1.24
Religious activities	0.86	0.55	1.02	0.88
Workload (hours)	5.083	4.906	7.785	6.423
% adequate on work life balance	95.70	87.50	81.17	86.80





Testing significance of differences in time use by country

Senior men vs senior women in male headed households

	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**2.2100 (0.0138)**	**2.6828 (0.0039)**	**2.5687 (0.0053)**	4.1395 (0.0000)
Commuting to work	2.1751 (0.0151)	1.6405 (0.0512)	2.3163 (0.0105)	3.4935 (0.0002)
Shopping/getting services	-2.1338 (0.0167)	0.1612 (0.4360)	0.2895 (0.3862)	-1.0692 (0.1426)
Traveling	3.1515 (0.0009)	2.2058 (0.0142)	1.7385 (0.0414)	3.9327 (0.0000)
Unpaid domestic and care work	**-15.4184 (0.0000)**	**-9.0984 (0.0000)**	**-9.8573 (0.0000)**	**-19.2231 (0.0000)**
Caring for adults	0.6829 (0.2475)	1.4402 (0.0756)	0.8651 (0.1937)	1.3730 (0.0850)
Caring for children	-1.9961 (0.0233)	-2.8940 (0.0021)	-2.0877 (0.0187)	-4.0178 (0.0000)
Domestic work	-11.8188 (0.0000)	-6.1771 (0.0000)	-3.8220 (0.0001)	-11.3188 (0.0000)
Cooking	-15.2521 (0.0000)	-8.0690 (0.0000)	-12.9125 (0.0000)	-20.8341 (0.0000)
School/homework	0.7912 (0.2147)	0.9334 (0.1758)	0.9750 (0.1650)	1.1434 (0.1266)
Productive work	**3.9820 (0.0000)**	**4.6093 (0.0000)**	**4.5424 (0.0000)**	**7.1832 (0.0000)**
Work, employed	1.6950 (0.0454)	2.2830 (0.0117)	0.7454 (0.2282)	2.2986 (0.0109)
Own business work	3.6417 (0.0002)	2.8888 (0.0021)	1.7879 (0.0372)	4.6028 (0.0000)
Staple grain farming	-0.8007 (0.2119)	2.9397 (0.0018)	2.0275 (0.0216)	2.5909 (0.0049)
High value crop farming	0.5625	-1.9048	-0.0713	-0.6721

	(0.2871)	(0.9709)	(0.5284)	(0.2508)
Large livestock raising	4.3259 (0.0000)	2.0978 (0.0185)	4.2771 (0.0000)	6.3331 (0.0000)
Small livestock raising	-1.6063 (0.0545)	0.5004 (0.3087)	2.3097 (0.0107)	1.0624 (0.1441)
Poultry raising	-0.1968 (0.4220)	0.6883 (0.2460)	0.0759 (0.4698)	0.2330 (0.4079)
Fishpond culture	1.7936 (0.0367)	-	1.1104 (0.1336)	1.9819 (0.0239)
Weaving/sewing/textiles	-2.1102 (0.0177)	-1.0714 (0.8574)	-1.7336 (0.0418)	-2.4150 (0.0080)
Own-time inc. leisure	**2.4168 (0.0081)**	**3.5836 (0.0002)**	**2.5819 (0.0051)**	**4.6402 (0.0000)**
Sleeping/resting	0.0081 (0.2832)	0.7083 (0.2398)	1.9752 (0.0244)	2.0340 (0.0211)
Eating/drinking	3.7523 (0.0001)	1.1812 (0.1194)	-0.8047 (0.2107)	2.2664 (0.0118)
Personal care	0.4981 (0.3093)	-0.3166 (0.3759)	0.0374 (0.4851)	0.2182 (0.4136)
Exercising	-0.0660 (0.4737)	-0.0919 (0.4634)	2.5460 (0.0056)	1.4576 (0.0726)
Social activities/hobbies	2.5426 (0.0057)	3.8540 (0.0001)	1.2446 (0.1069)	4.2121 (0.0000)
Religious activities	-1.4956 (0.0678)	0.1323 (0.4474)	0.0052 (0.4979)	-0.9037 (0.1832)
Workload (hours)	4.3685 (0.0000)	4.7788 (0.0000)	4.2286 (0.0000)	7.3431 (0.0000)
% adequate on work life balance	-2.8245 (0.0025)	-2.7433 (0.0033)	-2.7719 (0.0029)	-4.6215 (0.0000)

Senior men vs senior women in female headed households

	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**2.9170 (0.0019)**	**1.6842 (0.0470)**	**2.3034 (0.0109)**	**3.9886 (0.0000)**
Commuting to work	1.7859 (0.0376)	1.2147 (0.1131)	0.9752 (0.1650)	2.1997 (0.0140)
Shopping/getting services	0.1210 (0.4519)	0.6783 (0.2493)	0.4147 (0.3393)	0.4057 (0.3425)
Traveling	3.1132 (0.0010)	1.1016 (0.1361)	2.4957 (0.0065)	3.9016 (0.0001)
Unpaid domestic and care work	**-15.5425 (0.0000)**	**-6.2919 (0.0000)**	**-6.4722 (0.0000)**	**-14.8257 (0.0000)**
Caring for adults	-1.2843 (0.1000)	1.0931 (0.1380)	-0.1546 (0.4386)	-0.7338 (0.2316)
Caring for children	-1.5007 (0.0672)	-0.7747 (0.2198)	-1.1051 (0.1349)	-1.8807 (0.0302)
Domestic work	-12.4250 (0.0000)	-3.0191 (0.0015)	-2.0105 (0.0225)	-8.2274 (0.0000)
Cooking	-14.8691	-8.3274	-9.4532	-17.6997

	(0.0000)	(0.0000)	(0.0000)	(0.0000)
School/homework	1.0098 (0.1567)	0.6783 (0.2493)	0.7619 (0.2233)	1.4024 (0.0806)
Productive work	**1.6951 (0.0455)**	**3.5248 (0.0003)**	**-1.6848 (0.0464)**	**0.0631 (0.4749)**
Work, employed	2.3581 (0.0095)	-0.0140 (0.4944)	2.0962 (0.0183)	2.8580 (0.0022)
Own business work	1.2398 (0.1080)	2.3485 (0.0100)	-0.3101 (0.3783)	1.7450 (0.0407)
Staple grain farming	-0.9359 (-0.9359)	0.5813 (0.2809)	-0.3995 (0.3448)	-0.7775 (0.2185)
High value crop farming	-0.3367 (0.3683)	-0.0416 (0.4834)	-3.0854 (0.0011)	-3.2915 (0.0005)
Large livestock raising	2.1781 (0.0151)	2.0578 (0.0206)	3.1018 (0.0010)	4.3362 (0.0000)
Small livestock raising	-1.1740 (0.1207)	0.6678 (0.2526)	0.0485 (0.4807)	-0.4408 (0.3297)
Poultry raising	-1.4705 (0.0712)	1.4016 (0.0814)	-0.0660 (0.4737)	-0.4813 (0.3152)
Fishpond culture	1.2576 (0.1047)	-	2.0759 (0.0193)	2.3020 (0.0108)
Weaving/sewing/textiles	-1.9649 (0.0252)	-	-0.7373 (0.2307)	-1.5402 (0.0619)
Own-time inc. leisure	**3.4244 (0.0003)**	**1.1324 (0.1295)**	**4.3582 (0.0000)**	**5.9227 (0.0000)**
Sleeping/resting	0.1408 (0.4441)	-0.2549 (0.3995)	3.3452 (0.0004)	2.7622 (0.0029)
Eating/drinking	2.9563 (0.0017)	1.7481 (0.0411)	1.5561 (0.0602)	4.0357 (0.0000)
Personal care	2.7701 (0.0030)	-1.9789 (0.0247)	-0.2795 (0.3900)	0.3556 (0.3611)
Exercising	0.6148 (0.2696)	1.5311 (0.0638)	0.0611 (0.4757)	0.6941 (0.2439)
Social activities/hobbies	3.6020 (0.0002)	1.3213 (0.0941)	2.9395 (0.0017)	4.7166 (0.0000)
Religious activities	0.0649 (0.4742)	0.1246 (0.4505)	-0.007 (0.5279)	-0.0137 (0.4946)
Workload (hours)	2.1101 (0.0179)	3.8545 (0.0001)	-1.5839 (0.0570)	0.4402 (0.3299)
% adequate on work life balance	-1.7265 (0.0427)	-2.5718 (0.0055)	0.4554 (0.3245)	-1.0407 (0.1492)

Young men vs young women

	Kenya	Tanzania	Uganda	All countries
Engaging in the public sphere	**1.6705 (0.0483)**	**1.9047 (0.0302)**	**1.6429 (0.0509)**	**3.0655 (0.0011)**
Commuting to work	2.4370 (0.0079)	2.0322 (0.0227)	2.3219 (0.0106)	3.9924 (0.0000)

Shopping/getting services	-3.3080 (0.0006)	-0.4065 (0.3427)	0.4862 (0.3137)	-1.3773 (0.0845)
Traveling	2.8064 (0.0028)	1.6039 (0.0564)	-0.5558 (0.2895)	1.4125 (0.0792)
Unpaid domestic and care work	**-9.3984 (0.0000)**	**-5.5548 (0.0000)**	**-9.1217 (0.0000)**	**-13.8490 (0.0000)**
Caring for adults	0.6416 (0.2610)	0.0932 (0.4630)	-1.8946 (0.0297)	-0.5781 (0.2817)
Caring for children	-2.1970 (0.0147)	-1.5398 (0.0638)	-0.9519 (0.1711)	-2.6232 (0.0045)
Domestic work	-6.8644 (0.0000)	-3.6929 (0.0002)	-3.4339 (0.0004)	-7.7769 (0.0000)
Cooking	- 11.0809 (0.0000)	-5.5011 (0.0000)	- 10.9695 (0.0000)	-16.1018 (0.0000)
School/homework	1.0681 (0.1435)	1.5085 (0.0677)	-0.7145 (0.2378)	0.8526 (0.1972)
Productive work	**4.2724 (0.0000)**	**2.9834 (0.0019)**	**0.9815 (0.1637)**	**3.7369 (0.0001)**
Work, employed	1.2365 (0.1090)	1.0798 (0.1418)	0.9009 (0.1843)	1.7913 (0.0369)
Own business work	4.6052 (0.0000)	2.2593 (0.0133)	1.0777 (0.1412)	4.4880 (0.0000)
Staple grain farming	0.1671 (0.4337)	1.8137 (0.0368)	-0.4457 (0.3281)	0.0762 (0.4696)
High value crop farming	-0.6096 (0.2715)	-2.0004 (0.0244)	0.0039 (0.4985)	-1.2903 (0.0988)
Large livestock raising	2.1027 (0.0185)	2.7946 (0.0033)	0.5244 (0.3003)	2.5970 (0.0048)
Small livestock raising	-1.6742 (0.0480)	0.9398 (0.1751)	1.5202 (0.0649)	0.7287 (0.2333)
Poultry raising	0.7566 (0.2252)	-0.8109 (0.2099)	-1.2098 (0.1138)	-1.3275 (0.0925)
Fishpond culture	1.7936 (0.0367)	-	1.1104 (0.1336)	0.5585 (0.2884)
Weaving/sewing/textiles	0.4274 (0.3348)	-	-1.2963 (0.0981)	-0.9450 (0.1726)
Own-time inc. leisure	**0.5864 (0.2792)**	**2.0994 (0.0195)**	**4.1141 (0.0000)**	**3.9797 (0.0000)**
Sleeping/resting	-0.4517 (0.3260)	-0.1640 (0.4351)	2.2422 (0.0130)	1.5030 (0.0667)
Eating/drinking	0.5732 (0.2836)	0.8097 (0.2103)	0.0920 (0.4634)	0.9892 (0.1615)
Personal care	0.0314 (0.4875)	-0.5329 (0.2978)	1.0381 (0.1502)	0.5984 (0.2749)
Exercising	0.9591 (0.1694)	2.0248 (0.0231)	0.7049 (0.2408)	1.7831 (0.0376)
Social activities/hobbies	1.9882 (0.0242)	1.7841 (0.0391)	4.2060 (0.0000)	4.4994 (0.0000)
Religious activities	-0.9843 (0.1632)	0.0027 (0.4989)	-1.7824 (0.9620)	-1.8261 (0.0342)

Workload (average hours of work in last 24 hours)	4.5328 (0.0000)	3.1566 (0.0011)	1.1322 (0.1294)	4.0401 (0.0000)
% adequate on work life balance (work less than 10.5 hours/day)	-4.3965 (0.0000)	-0.8710 (0.1932)	-1.2507 (0.1062)	-3.4326 (0.0003)

5.14 Mobility/visiting important locations

Mobility is a vital dimension of empowerment that shapes farmers' access to markets, information, networks, and services critical for climate-smart agriculture (CSA). The pro-WEAI mobility indicator assesses whether individuals are able to move freely to key locations such as markets, health facilities, and family networks—an essential enabler for accessing resources, services, and opportunities. Within the SNV/CRAFT project, mobility reflects both individual agency and the broader enabling environment for participation in climate-resilient agribusiness.

5.14.1 Summary of findings

Overall, 80.3% of respondents across Kenya, Tanzania, and Uganda were found to be adequate in mobility. This high rate of adequacy signals relatively strong agency in physical movement across the project area. However, gender and age disaggregation uncovers persistent inequalities, especially for senior women in male-headed households.

Key observations:

- Senior men consistently exhibit high adequacy across all countries (average 82.0%), suggesting fewer structural barriers to mobility.
- Senior women in male-headed households (MHH) are significantly less mobile than their male counterparts in both Kenya and Tanzania—pointing to potential gender-based constraints within marital homes.
- Senior women in female-headed households (FHH) display high adequacy (average 82.8%), often exceeding that of women in MHH, indicating a more autonomous mobility profile when not constrained by a male partner.
- Young men and women report high levels of mobility across the board, with young men having a slight edge overall (85.96% vs. 79.03%).

Table 40: Respondents' who are adequate in mobility by country and group (%)

Group	Kenya	Tanzania	Uganda	All Countries
All respondents	76.78	72.60	86.07	80.25
Senior men	80.09	76.92	85.83	81.96
Senior women in male-headed households	67.61	61.76	88.26	75.36
Senior women in female-headed households	82.83	81.48	83.13	82.80
Young men	86.96	76.00	88.31	85.96
Young women	73.08	73.21	85.33	79.03

Gendered patterns in mobility

Senior men vs. senior women in male-headed households

Significant gender gaps exist in Kenya and Tanzania, with senior men significantly more mobile than their female counterparts (Kenya: $t = 2.82$, $p = 0.0025$; Tanzania: $t = 2.46$, $p = 0.0073$). However, in Uganda, the difference is not significant, suggesting stronger parity in certain cultural or policy contexts. Aggregated results also show a statistically significant difference in favor of men ($t = 2.65$, $p = 0.0041$).

Senior men vs. senior women in female-headed households

No significant differences were found between senior men and senior women in FHH across all countries ($p > 0.2$), indicating a more balanced empowerment dynamic. This supports the notion that when women head households, they often experience higher freedom of movement.

Young men vs. young women

Results are mixed. Kenya shows a significant gap in favor of young men ($t = 2.20$, $p = 0.0147$), but no significant differences were found in Tanzania or Uganda. Overall, there is a statistically significant but modest difference favoring young men ($t = 1.88$, $p = 0.0306$), suggesting that youth programs must account for subtle, context-specific barriers to young women's mobility.

Table 41: Testing significance of gender differences in adequacy in mobility by country and group

Gender comparison	Kenya	Tanzania	Uganda	All Countries
Senior Men vs Senior Women in Male-Headed Households (MHH)/marital homes	2.8237 (0.0025)	2.4611 (0.0073)	-0.7769 (0.2188)	2.6486 (0.0041)
Senior Men vs Senior Women in Female-Headed Households (FHH)	-0.5701 (0.2845)	-0.6698 (0.2519)	0.7439 (0.2287)	-0.3151 (0.3764)
Young men vs Young Women	2.1978 (0.0147)	0.2611 (0.3973)	0.6165 (0.2691)	1.8772 (0.0306)

Source: household survey dataset
Each cell contains the t-statistic and the p-value

Implications for the SNV/CRAFT project and future programming

These findings provide a promising outlook on individual agency in mobility, but also identify strategic opportunities to further reduce inequalities.

Challenge	Implication
Women in MHH face greater constraints to mobility	Traditional gender roles may inhibit women's ability to access climate services.
Women in FHH report high mobility	Indicates potential for leadership and peer-to-peer extension efforts.
Young women are slightly less mobile than young men	Gendered safety concerns, a disproportionate share in reproductive roles or cultural norms may restrict their movement.

Key recommendations for CRAFT programming

Recommendation	Target Group	Expected Outcome
Conduct gender-sensitive mobility audits of CSA service points and value chains	Women in MHH, especially senior women	Identify and address access barriers to extension and markets
Promote community dialogues on women's freedom of movement	Male-headed households	Reduce stigma and improve mobility for women in marital homes
Invest in transportation subsidies or group-based access mechanisms, bring services closer and offer child care support where applicable	Young women	Increase participation in trainings, markets, and service uptake
Leverage mobile and digital platforms to substitute for physical access where limited	All demographics	Broaden reach of CSA and financial inclusion tools

Conclusion

Mobility underpins farmers' ability to participate in value chains, access services, and apply adaptive practices. While 80% adequacy overall is a strong outcome, persistent gender gaps, especially within male-headed households and young women in Kenya, require targeted, culturally sensitive interventions. The SNV/CRAFT project has an opportunity to enhance agency by ensuring both men and women can physically access the spaces and resources that shape climate-smart agricultural transformation.

5.15 Group Membership

Group membership, particularly in farmer groups and other community-based collectives, is a critical enabler of climate-smart agriculture (CSA). It facilitates access to training, extension services, inputs, markets, and shared knowledge. Within pro-WEAI, adequacy in this domain is defined as being an active member of at least one group, and separately, membership in at least one group with medium or higher community influence.

For SNV/CRAFT, this domain is highly relevant as group structures often serve as entry points for delivering CSA technologies, strengthening resilience, and ensuring the equitable distribution of project benefits. Inclusive group participation also boosts collective agency and social capital, the foundations for sustainable climate adaptation. Ensuring gender-equitable participation and influence in these groups not only drives inclusive adaptation but also builds systemic resilience.

5.15.1 Summary of findings

Gendered patterns of membership, leadership and influence in groups

Senior men vs Senior women in male headed households

The data reveal promising progress in women's collective agency (Table 37 and 38). In fact, senior women in MHH are more likely than their male counterparts to meet the adequacy threshold for group

membership (85.34% vs. 80.93%, $p < 0.05$). Women also participate equally in influential groups. In Tanzania, in particular, women exceed men in participation in credit/microfinance ($p < 0.01$) and civic/charitable groups ($p < 0.05$).

However, gender gaps remain. Men in Kenya dominate participation in forest user groups ($p < 0.01$). In Uganda, men report greater involvement in credit and mutual help groups, belong to more groups, and are more likely to lead groups. In Kenya and Uganda, men report higher influence in decision making at group level, and more frequently perceive that their voices are heard and valued ($p < 0.05$).

Senior men vs Senior women in female headed households

Senior women in FHH outperform senior men in MHH in group participation and adequacy. Excluding forest user groups, where men still lead ($p < 0.01$), women in FHH have significantly higher participation in farmer groups ($p = 0.0473$) and are more likely to meet adequacy in both group membership and participation in influential groups ($p < 0.01$ and $p < 0.05$, respectively). This positions them especially well for access to CSA support and decision-making forums.

Still, localized gender gaps persist. In Kenya men are more likely to exert high influence, and to feel heard ($p < 0.05$). In Uganda, senior men also participate more in credit groups than their female counterparts in FHH ($p < 0.05$).

Young men vs Young women

Young women surpass young men in overall adequacy on this domain (87.42% vs. 81.87%, $p < 0.05$) and show higher participation in religious and farmer groups in Uganda and Tanzania respectively ($p < 0.05$). However, young men more frequently occupy leadership roles ($p < 0.01$) and report greater influence and voice ($p < 0.05$).

5.15.2 Leadership, voice and influence in farmer groups

The results indicate generally low performance on influence, leadership, and voice in farmer groups across all sex and age cohorts in Kenya, Tanzania, and Uganda, with only 25% of respondents reporting high influence in group decisions, 24% holding leadership positions, and 32% feeling their voice is heard and valued. Statistically significant differences were observed between men and women, particularly among senior cohorts: senior men in Kenya and Uganda were more likely than senior women in male-headed households (MHH) to report influence over group decisions, leadership roles, and having their voice heard, with differences statistically significant at the aggregate level. However, senior women in female-headed households (FHH) were generally comparable to senior men on these metrics, except in Kenya, where senior men were more likely to feel their voice is heard and valued. Among youth, young women in Tanzania reported slightly better outcomes than young men, though differences were not statistically significant. Conversely, in Kenya, Uganda, and overall, young men were significantly more likely to report leadership roles and feeling that their voice was valued. These patterns suggest persistent gendered disparities in leadership, decision-making, and voice in collective institutions, with women, especially those in MHH and young women consistently disadvantaged, while senior women in FHH demonstrate some parity with their male counterparts.

5.15.3 Implications for the SNV/CRAFT project and for future programming

The findings offer critical entry points for improving gender-equitable climate resilience interventions in agriculture:

1. **Build on Women's Collective Agency Gains**
    - Senior women, especially in FHH, are already highly engaged in farmer groups. CRAFT should leverage this by:
        - Recognizing that senior women in FHH are key agents for resilience building and program delivery.
        - Prioritizing these women for **CSA trainings and leadership roles** in demonstration farms and producer organizations.
        - Designing **peer-led outreach** where active female members can mobilize others in their networks.
        - Leveraging high participation rates in farmer and microfinance groups for targeted CSA training and input distribution.
2. **Address Persistent Gender Gaps in Influence and Voice**
    - Despite high participation, women, especially young and senior in MHH report **lower influence and voice**. Leadership and voice remain male-dominated, particularly in Uganda and Kenya. To address this:
        - Integrate **leadership development modules and coaching** for women group members, including negotiation and public speaking skills into farmer group training curricula.
        - Institutionalize **inclusive decision-making mechanisms** within supported groups (e.g., rotating leadership, women-led committees).
        - Incentivize and support women's leadership roles through recognition and project-linked benefits.
3. **Tackle Structural Barriers Like Time Poverty**
    - Women's longer work hours' limit engagement. In addition, women in MHH may face more household and mobility constraints, CRAFT should:
        - Schedule trainings at **convenient times**, provide **childcare** or create **flexible participation options** like modular or mobile-based sessions to accommodate women's schedules.
        - Recognize and **compensate women's time** through stipends, CSA input packages, or certification for completed sessions.
        - Increase support for childcare at training sites and advocate for equitable domestic workload sharing.
        - Explore labor-saving CSA technologies.
        - Require partner sensitization
4. **Monitor and Adapt to Country-Specific Dynamics**
    - Patterns differ significantly by country. For example, Tanzania shows stronger women's participation in civic groups, while Kenya and Uganda show wider male dominance in influence.
        - Programming should be **context-sensitive**, with country teams adapting strategies based on localized gender gaps and strengths.

Table 42: Recommendations for future programming

Recommendation	Target Group	Action
Support women's leadership in groups	Senior & young women	Leadership training, public recognition, gender quotas in group governance
Enhance group-based CSA delivery	All genders	Use high-participation groups (farmer, microfinance, religious) for extension and climate services
Reduce time/mobility barriers	Women in MHH	Schedule flexibility, decentralize training, provide incentives for partners to support attendance
Target young women for resilience-building	Young women	Provide mentorship, create youth-women hybrid groups, emphasize empowerment through CSA

Conclusion

Group membership is a critical empowerment domain with strong relevance to the SNV/CRAFT goal of inclusive climate resilience. While notable gains—especially for women in FHH and young women—signal progress, persistent gender gaps in leadership and influence call for targeted, structural interventions. Going forward, a dual strategy of **amplifying existing strengths** and **closing residual gaps** will ensure that farmer groups serve as truly inclusive platforms for climate adaptation and resilience-building

Table 43: Farmers' participation, leadership and influence in farmer groups by gender and country

	Kenya (%)	Tanzania (%)	Uganda (%)	All Countries (%)
All respondents				
Active member in group (%)				
Agricultural group	65.40	50.28	82.55	70.34
Water users' group	4.86	0.28	6.09	4.55
Forest users' group	6.07	1.13	0.12	2.41
Credit or microfinance group	34.14	9.60	16.98	21.63
Mutual help or insurance group	5.46	21.75	7.96	9.69
Trade and business association group	2.58	1.41	4.10	3.05
Civic or charitable group	5.46	3.67	2.22	3.64
Religious group	41.73	18.36	12.76	24.09
Youth-only group	4.40	1.98	4.57	4.01
Average number of groups participates in (#)	1.70	1.08	1.37	1.43
Influences group decisions to high extent (%)	24.89	34.18	20.14	24.52
Leader in at least one group (%)	24.28	34.46	19.32	23.98
Voice is heard and valued (%)	37.03	22.03	31.97	31.91
% adequate on group membership	**84.83**	**73.73**	**88.64**	**84.48**
% adequate on membership in influential groups	**75.87**	**67.23**	**71.90**	**72.43**
Senior Men				
Active member in group (%)				
Agricultural group	63.98	52.99	77.95	67.87
Water users' group	5.21	0.00	7.09	4.98
Forest users' group	10.43	2.56	0.39	4.47
Credit or microfinance group	34.12	4.27	21.26	22.51
Mutual help or insurance group	8.06	19.66	10.63	11.51
Trade and business association group	3.32	0.85	5.12	3.61
Civic or charitable group	7.58	0.85	2.76	4.12
Religious group	43.13	14.53	14.96	25.09
Youth-only group	1.42	2.56	1.18	1.55

Average number of groups participates in (#)	1.77	0.98	1.41	1.46
Influences group decisions to high extent (%)	29.86	35.04	22.44	27.66
Leader in at least one group (%)	38.39	19.66	37.80	34.36
Voice is heard and valued (%)	28.91	33.33	20.87	26.29
% adequate on group membership	**80.09**	**71.79**	**85.83**	**80.93**
% adequate on membership in influential groups	**72.99**	**67.52**	**72.83**	**71.82**
Senior Women in MHH				
Active member in group (%)				
Agricultural group	65.91	54.90	83.57	71.28
Water users' group	2.27	0.00	5.63	3.26
Forest users' group	5.11	0.00	0.00	1.83
Credit or microfinance group	34.66	13.73	11.74	20.37
Mutual help or insurance group	4.55	25.49	5.63	9.37
Trade and business association group	1.70	2.94	6.10	3.87
Civic or charitable group	6.25	4.90	1.41	3.87
Religious group	43.18	19.61	11.74	24.64
Youth-only group	0.57	0.98	0.94	0.81
Average number of groups participates in (#)	1.64	1.23	1.27	1.39
Influences group decisions to high extent (%)	22.16	37.25	12.21	20.98
Leader in at least one group (%)	38.64	24.51	25.35	29.94
Voice is heard and valued (%)	20.45	41.18	11.74	20.98
% adequate on group membership	**86.93**	**77.45**	**87.79**	**85.34**
% adequate on membership in influential groups	**76.70**	**72.55**	**69.01**	**72.51**
Senior Women in FHH				
Active member in group (%)				
Agricultural group	71.72	46.30	83.75	73.25
Water users' group	9.09	0.00	5.00	5.41
Forest users' group	4.04	0.00	0.00	1.27
Credit or microfinance group	38.38	9.26	13.75	20.70
Mutual help or insurance group	2.02	24.07	9.38	9.55
Trade and business association group	1.01	0.00	3.75	2.23
Civic or charitable group	4.04	7.41	1.25	3.18
Religious group	46.46	18.52	11.25	23.89
Youth-only group	0.00	0.00	1.88	0.96
Average number of groups participates in (#)	1.77	1.06	1.30	1.40
Influences group decisions to high extent (%)	20.20	25.93	27.50	25.16
Leader in at least one group (%)	32.32	20.37	32.50	30.57
Voice is heard and valued (%)	19.19	22.22	26.88	23.89
% adequate on group membership	**90.91**	**74.07**	**91.25**	**88.22**
% adequate on membership in influential groups	**85.86**	**61.11**	**77.50**	**77.39**
Young Men				
Active member in group (%)				
Agricultural group	60.87	28.00	85.71	67.25
Water users' group	7.25	0.00	7.79	6.43
Forest users' group	2.90	4.00	0.00	1.75

Credit or microfinance group	37.68	8.00	15.58	23.39
Mutual help or insurance group	5.80	12.00	5.19	6.43
Trade and business association group	5.80	4.00	1.30	3.51
Civic or charitable group	2.90	0.00	5.19	3.51
Religious group	30.43	16.00	5.19	16.96
Youth-only group	21.74	4.00	12.99	15.20
Average number of groups participates in (#)	1.75	0.76	1.39	1.44
Influences group decisions to high extent (%)	30.43	32.00	23.38	27.49
Leader in at least one group (%)	49.28	20.00	48.05	44.44
Voice is heard and valued (%)	33.33	28.00	24.68	28.65
% adequate on group membership	**79.71**	**52.00**	**93.51**	**81.87**
% adequate on membership in influential groups	**75.36**	**48.00**	**72.73**	**70.18**
Young Women				
Active member in group (%)				
Agricultural group	64.42	50.00	86.00	72.26
Water users' group	2.88	1.79	5.33	3.87
Forest users' group	2.88	0.00	0.00	0.97
Credit or microfinance group	26.92	14.29	21.33	21.94
Mutual help or insurance group	4.81	21.43	6.67	8.71
Trade and business association group	1.92	0.00	1.33	1.29
Civic or charitable group	2.88	5.36	2.00	2.90
Religious group	39.42	25.00	16.00	25.48
Youth-only group	9.62	3.57	14.00	10.65
Average number of groups participates in (#)	1.56	1.21	1.53	1.48
Influences group decisions to high extent (%)	20.19	35.71	18.00	21.94
Leader in at least one group (%)	27.88	25.00	22.67	24.84
Voice is heard and valued (%)	20.19	39.29	16.67	21.94
% adequate on group membership	**88.46**	**80.36**	**89.33**	**87.42**
% adequate on membership in influential groups	**71.15**	**71.43**	**68.00**	**69.68**

Table 44: Testing the significance of gender gaps in group membership, leadership and influence

	Kenya	Tanzania	Uganda	All
Senior men vs Senior women in MHH				
Active member in group (%)				
Agricultural group	-0.3947 (0.3467)	-0.2817 (0.3892)	-1.5264 (0.0638)	-1.2089 (0.1135)
Water users' group	1.4928 (0.0682)	-	0.6367 (0.2623)	1.4037 (0.0804)
Forest users' group	1.9214 (0.0277)	1.6309 (0.0522)	0.9156 (0.1802)	2.4245 (0.0077)
Credit or microfinance group	-0.1102 (0.4561)	-2.5028 (0.0065)	2.7502 (0.0031)	0.8500 (0.1978)
Mutual help or insurance group	1.3992 (0.0813)	-1.0308 (0.1519)	1.9475 (0.0260)	1.1392 0.1274)
Trade and business association group	0.9946 (0.8397)	-1.1484 (0.1260)	-0.4616 (0.3223)	-0.2250 (0.4110)
Civic or charitable group	0.5114 (0.3047)	-1.8360 (0.0339)	1.0008 (0.1587)	0.2112 (0.4164)
Religious group	-0.0106	-0.9981	1.0146	0.1668

	(0.4958)	(0.1597)	(0.1554)	(0.4338)
Youth-only group	0.8254 (0.2048)	0.8706 (0.1925)	0.2527 (0.4003)	1.0911 (0.1377)
Average number of groups participates in (#)	1.0043 (0.1579)	-2.1135 (0.0178)	1.6445 (0.0504)	0.9596 (0.1687)
Influences group decisions to high extent (%)	1.7139 (0.0437)	-0.3386 (0.3676)	2.9013 (0.0019)	2.5384 (0.0056)
Leader in at least one group (%)	-0.0497 (0.4802)	-0.8633 (0.1945)	2.8877 (0.0020)	1.5442 (0.0614)
Voice is heard and valued (%)	1.9153 (0.0281)	-1.1977 (0.1162)	2.6484 (0.0042)	2.0356 (0.0210)
% adequate on group membership	-1.7944 (0.0368)	-0.9547 (0.1704)	-0.6228 (0.2669)	-1.9142 (0.0279)
% adequate on membership in influential groups	-0.8363 (0.2018)	-0.8063 (0.2105)	0.9060 (0.1827)	-0.2487 (0.4018)
Senior men vs Senior women in FHH				
Active member in group (%)				
Agricultural group	-1.3446 (0.0899)	0.8108 (0.2093)	-1.4413 (0.0751)	-1.6732 (0.0473)
Water users' group	-1.2950 (0.0981)	-	0.8508 (0.1977)	-0.2787 (0.3903)
Forest users' group	1.8960 (0.0294)	1.1851 (0.1188)	0.7933 (0.2140)	2.5416 (0.0056)
Credit or microfinance group	-0.7292 (0.2332)	-1.2903 (0.0994)	1.9259 (0.0274)	0.6240 (0.2664)
Mutual help or insurance group	2.0736 (0.0195)	-0.6554 (0.7434)	0.7434 (0.4109)	0.8993 (0.1844)
Trade and business association group	1.1935 (0.1168)	0.6783 (0.2493)	0.6465 (0.2591)	1.1314 (0.1291)
Civic or charitable group	1.1825 (0.1190)	-2.3896 (0.0090)	1.0219 (0.1537)	0.7013 (0.2417)
Religious group	-0.5500 (0.2914)	-0.6618 (0.2545)	1.0739 (0.1418)	0.3973 (0.3456)
Youth-only group	1.1911 (0.1173)	1.1851 (0.1188)	-0.5741 (0.2831)	0.7336 (0.2317)
Average number of groups participates in (#)	0.0300 (0.4880)	-0.5555 (0.2896)	1.1710 (0.1211)	0.6789 (0.2487)
Influences group decisions to high extent (%)	1.7936 (0.0369)	1.1843 (0.1190)	-1.1662 (0.1221)	0.8069 (0.2100)
Leader in at least one group (%)	1.0329 (0.1512)	-0.1078 (0.5429)	1.0936 (0.1374)	1.1507 (0.1251)
Voice is heard and valued (%)	1.8270 (0.0343)	1.4771 (0.0708)	-1.4106 (0.0796)	0.7874 (0.2156)
% adequate on group membership	-2.4091 (0.0083)	-0.3086 (0.3790)	-1.6504 (0.0498)	-2.8124 (0.0025)
% adequate on membership in influential groups	-2.5325 (0.0059)	0.8164 (0.2077)	-1.0613 (0.1446)	-1.8088 (0.0354)
Young men vs Young women				
Active member in group (%)				

Agricultural group	-0.4716 (0.3189)	-1.8630 (0.0331)	-0.0583 (0.4768)	-1.1515 (0.1251)
Water users' group	1.3368 (0.0915)	-0.6658 (0.2537)	0.7267 (0.2341)	1.2598 (0.1042)
Forest users' group	0.0053 (0.4979)	1.5085 (0.0677)	-	0.7429 (0.2289)
Credit or microfinance group	1.4963 (0.0682)	-0.7876 (0.2166)	-1.0353 (0.1508)	0.3657 (0.3574)
Mutual help or insurance group	0.2853 (0.6121)	-1.0029 (0.1595)	-0.4347 (0.3321)	-0.8850 (0.1883)
Trade and business association group	1.3631 (0.0873)	1.5085 (0.0677)	-0.0215 (0.4914)	1.6334 (0.0515)
Civic or charitable group	0.0053 (0.4979)	-1.1748 (0.1218)	1.3175 (0.0945)	0.3650 (0.3576)
Religious group	-1.2053 (0.1149)	-0.8933 (0.1872)	-2.3623 (0.0095)	-2.1506 (0.0160)
Youth-only group	2.2400 (0.0132)	0.0932 (0.4630)	-0.2095 (0.4171)	1.4593 (0.0726)
Average number of groups participates in (#)	0.9649 (0.1680)	-2.0985 (0.0195)	-0.9593 0.1692 ()	-0.3358 (0.3686)
Influences group decisions to high extent (%)	1.5402 (0.0627)	-0.3209 (0.3746)	0.9597 (0.1691)	1.3658 (0.0863)
Leader in at least one group (%)	2.9163 (0.0020)	-0.4852 (0.3144)	4.0260 (0.0000)	4.5024 (0.0000)
Voice is heard and valued (%)	1.9536 (0.0262)	-0.9723 (0.1669)	1.4454 (0.0749)	1.6454 (0.0503)
% adequate on group membership	**-1.5795 (0.0580)**	**-2.6984 (0.0043)**	**1.0252 (0.1532)**	**-1.6529 (0.0495)**
% adequate on membership in influential groups	**0.6065 (0.2725)**	**-2.0596 (0.0214)**	**0.7307 (0.2329)**	**0.1137 (0.4548)**

Each cell contains the t-test statistic and the p-value in parentheses

6. Understanding the extent and key contributors to men and women's (dis)empowerment

6.1 For which indicators are men and women least empowered?

This chapter builds on the previous, seeking to provide a synthesis on the pro-WEAI indicators that are most critical to the SNV/CRAFT project for any redesign or future programming. Gender equality and women's empowerment outcomes were analyzed according to Pro-WEAI outcomes of instrumental agency, intrinsic agency and collective agency. Instrumental agency deals with the role of men and women in household decision-making around production and income, including ownership and access to productive capital. Land is the major asset for farmers and the extent of land rights are essential in enhancing or reducing investment on land. Intrinsic agency deals with women's autonomy, their self-efficacy, attitudes toward gender-based violence, and respect from family members. Collective agency deals with membership in groups as well as membership in influential organizations. Table 37 recaps the gender disparities in meeting adequacy thresholds across 12 Pro-WEAI indicators, focusing on three comparison groups and the statistically significant gender gaps in adequacy.

6.2 Summary of findings

6.2.1 Gendered Patterns in Adequacy: Pro-WEAI Indicator Analysis

Senior Men vs Senior Women in MHH

Among male-headed households, the most consistent and statistically significant gender gaps disfavoring senior women pertain to input in livelihood decisions (All countries: -12.34%, $p < 0.001$). This disadvantage is evident across all countries. Senior women also report lower adequacy in respect among household members (-9.72%, $p < 0.001$), with married women in Kenya particularly affected. Mobility is another domain where senior women are disadvantaged (-6.60%, $p = 0.0082$), especially in Kenya and Tanzania. At the country level, Uganda exhibits a pronounced gender gap in autonomy in income (-21.07%, $p = 0.0001$), while women in Tanzania show greater acceptance of intimate partner violence compared to men.

Conversely, the gender gap in work balance favors senior women (10.15%, $p < 0.001$), and women in Kenya exhibit higher participation in groups than their male counterparts.

Overall, senior women in MHHs are less likely to achieve adequacy in decision-making power, particularly regarding livelihoods. Country-specific disparities include autonomy and control over income (Uganda), respect (Kenya), mobility (Kenya and Tanzania), and attitudes towards intimate partner violence (Tanzania). In contrast, men are notably less adequate in group membership in Kenya and work balance across all countries.

Senior men vs Senior women in FHH

In female-headed households, findings are more mixed. No significant gender gaps were observed in autonomy over income or mobility. However, senior women face large and significant disadvantages in control over use of income and ownership of assets across countries ($p < 0.01$). Other indicators do not exhibit consistent gender patterns.

In Kenya, the only additional significant gender gap against women in FHHs was in self-efficacy ($p < 0.05$). Meanwhile, senior men were significantly less adequate in group membership, including in influential groups, input in livelihood decisions, and work balance ($p < 0.05$).

In Tanzania, gender gaps disadvantaging women were noted in access to and decision-making on financial services, as well as in respect among household members ($p < 0.05$). As in Kenya, Tanzanian men were significantly more inadequate in work balance ($p < 0.01$).

In Uganda, women were significantly less adequate in respect among household members ($p < 0.01$), while men were less adequate in self-efficacy and in attitudes toward intimate partner violence ($p < 0.01$).

In summary, while senior women in FHHs face significant disadvantages in economic empowerment—particularly in asset ownership and income control—they perform better on collective agency indicators. This suggests a nuanced empowerment context where women's engagement in group activities does not necessarily translate into individual agency.

Young men vs young women

Among the younger cohort, gender disparities persist, though patterns vary by country. In Kenya, young women are significantly less adequate in respect from household members ($p < 0.01$), input in livelihood decisions, and mobility ($p < 0.05$). In contrast, young men in Kenya are less adequate in work balance, control over income, and as with senior men; group membership.

Tanzania presents a more gender-equitable picture, with no statistically significant gender gaps against young women. However, young men in Tanzania were significantly less adequate in group membership, including in influential groups. The gender gap in collective agency is particularly large (28.35%, $p = 0.0043$), suggesting a stronger female presence in community groups.

Uganda displays more pronounced gender disparities among youth. Young women are significantly less adequate in input in livelihood decisions and control over income ($p < 0.01$), as well as in attitudes toward intimate partner violence, respect among household members, and ownership of land and other assets ($p < 0.05$).

Table 45: Gender gap in adequacy on the various pro-WEAI indicators by country and gender group

	Kenya	Tanzania	Uganda	All countries
Senior men vs Senior women in MHH				
Intrinsic agency				
Autonomy in income	-0.74% t = 0.1332 (p = 0.4471)	-1.54% 0.1740 (0.4311)	-21.07% 3.6944 (0.0001)	-8.71% t = 2.3485 (p = 0.0096)
Self-efficacy	-2.81% t = 0.5741 (p = 0.2831)	0.78% -0.1150 (0.4543)	6.28% -1.3945 (0.0819)	1.76% t = -0.5845 (p = 0.2795)
Attitudes about intimate partner violence against women	-4.22% t = 0.9599 (p = 0.1689)	-14.25% 2.4287 (0.0080)	4.47% -1.1509 (0.1252)	-2.33% t = 0.8918 (p = 0.1864)
Respect among household members	-18.38% t = 3.6509 (p = 0.0001)	-1.86% 0.2789 (0.3903)	-6.46% 1.4044 (0.0804)	-9.72% t = 3.2091 (p = 0.0007)
Instrumental agency				

Input in productive decisions	-10.88% t = 3.4354 (p = 0.0003)	-16.44% 3.7321 (0.0001)	-11.57% 5.0522 (0.0000)	-12.34% t = 6.9844 (p = 0.0000)
Ownership of land and other assets	2.37% t = -1.1663 (p = 0.1221)	-1.48% 0.5494 (0.2917)	-1.62% 0.8606 (0.1950)	-0.15% t = 0.1247 (p = 0.9008)
Access to and decisions on financial services	3.24% t = -0.7625 (p = 0.2231)	-8.55% 1.3936 (0.0824)	-5.41% 1.3323 (0.0917)	-2.97% t = 1.1175 (p = 0.2640)
Control over use of income	-6.14% t = 1.6209 (p = 0.0529)	-4.22% 0.8207 (0.2063)	7.53% -2.5876 (0.0050)	0.18% t = -0.0820 (p = 0.9346)
Work balance	8.89% t = -2.8245 (p = 0.0025)	12.07% -2.7433 (0.0033)	10.14% -2.7719 (0.0029)	10.15% t = -4.6215 (p = 0.0000)
Mobility/Visiting important locations	-12.48% t = 2.8237 (p = 0.0025)	-15.16% 2.4611 (0.0073)	2.44% -0.7769 (0.2188)	-6.60% t = 2.6486 (p = 0.0082)
Collective agency				
Group membership	6.84% t = -1.7944 (p = 0.0368)	5.66% -0.9547 (0.1704)	1.97% -0.6228 (0.2669)	4.41% t = -1.9142 (p = 0.0559)
Membership in influential groups	-3.72% t = -0.8363 (p = 0.2018)	5.03% -0.8063 (0.2105)	-3.82% 0.9060 (0.1827)	0.68% t = -0.2487 (p = 0.8037)

	Kenya	Tanzania	Uganda	All countries
Senior men vs Senior women in FHH				
Intrinsic agency				
Autonomy in income	6.59% -0.9876 (0.1621)	-9.02% 0.7525 (0.2269)	-8.23% 1.2304 (0.1099)	-2.58% 0.5860 (0.2791)
Self-efficacy	-12.34% 2.0945 (0.0185)	-11.97% 1.4768 (0.0708)	16.18% -3.4154 (0.0004)	2.53% -0.7365 (0.2308)
Attitudes about intimate partner violence against women	-6.25% 1.1919 (0.1171)	1.75% -0.2730 (0.3926)	11.82% -2.9158 (0.0019)	4.12% -1.4292 (0.0767)
Respect among household members	-5.71% 0.2646 (0.3958)	-40.68% 1.8212 0.0355	-20.95% 2.8914 (0.0021)	-22.01% 3.5099 (0.0002)
Instrumental agency				
Input in productive decisions	5.15% -2.0434 (0.0209)	-5.98% 1.4238 (0.0782)	0.32% -0.2613 (0.3970)	1.08% -0.8265 (0.2044)
Ownership of land and other assets	-8.93% 2.7148 (0.0035)	-13.25% 3.1055 (0.0011)	-7.71% 3.1213 (0.0010)	-8.93% 4.9809 (0.0000)

Access to and decisions on financial services	-1.56% 0.2973 (0.3832)	-15.96% 2.1356 (0.0171)	-4.90 1.1176 (0.1322)	-5.91% 1.9302 (0.0269)
Control over use of income	-80.20% 20.8681 (0.0000)	-67.95% 11.2618 (0.0000)	-62.79% 16.3250 (0.0000)	-68.95% 27.3847 (0.0000)
Work balance	7.09% -1.7265 (0.0427)	14.25% -2.5718 (0.0055)	-1.99% 0.4554 (0.3245)	2.89% -1.0407 (0.1492)
Mobility/Visiting important locations	2.74% -0.5701 (0.2845)	4.55% -0.6698 (0.2519)	-2.70% 0.7439 (0.2287)	0.84% -0.3151 (0.3764)
Collective agency				
Group membership	10.81% -2.4091 (0.0083)	2.28% -0.3086 (0.3790)	5.42% -1.6504 (0.0498)	7.23% -2.8124 (0.0025)
Membership in influential groups	12.87% -2.5325 (0.0059)	6.41% 0.8164 (0.2077)	4.67% -1.0613 (0.1446)	5.57% -1.8088 0.0354

	Kenya	**Tanzania**	**Uganda**	**All countries**
Young men vs Young women				
Intrinsic agency				
Autonomy in income	-2.11% 0.2430 (0.4042)	12.99% -0.9082 (0.1841)	3.53% -0.3847 (0.3505)	1.98% -0.3409 (0.3667)
Self-efficacy	-4.67% 0.6427 (0.2606)	12.21% -1.0158 (0.1564)	-1.39% 0.2200 (0.4130)	-1.18% 0.2614 (0.3969)
Attitudes about intimate partner violence against women	4.93% -0.7504 (0.2270)	-16.96% 1.3646 (0.0883)	-10.07% 1.7347 (0.0421)	-5.84% 1.4032 (0.0806)
Respect among household members	-18.52% 2.4798 0.0071	8.29% -0.6778 (0.2502)	-15.56% 2.1973 (0.0146)	-13.32% 2.8050 (0.0026)
Instrumental agency				
Input in productive decisions	-6.72% 1.7071 (0.0448)	-7.14% 1.3695 (0.0874)	-8.03% 2.3243 (0.0105)	-7.28% 3.1367 (0.0009)
Ownership of land and other assets	-1.44% 0.6122 (0.2706)	-4.07% 0.4712 (0.3194)	-4.00% 1.7833 (0.0379)	-3.47% 1.7442 (0.0409)
Access to and decisions on financial services	1.07% -0.1644 (0.4348)	12.36% -1.2084 (0.1153)	-5.22% 0.8668 (0.1935)	-1.57% 0.0387 (0.4846)
Control over use of income	10.7% -1.7397 (0.0419)	0.71% -0.0600 (0.4762)	-16.31% 2.8243 (0.0026)	-4.17% 1.0191 (0.1543)
Work balance	23.57% -4.3965	7.5% -0.8710	7.14% -1.2507	12.57% -3.4326

	(0.0000)	(0.1932)	(0.1062)	(0.0003)
Mobility/Visiting important locations	-13.88% 2.1978 (0.0147)	-2.79% 0.2611 (0.3973)	-2.98% 0.6165 (0.2691)	-6.93% 1.8772 (0.0306)
Collective agency				
Group membership	8.75% -1.5795 (0.0580)	28.35% -2.6984 (0.0043)	-4.17% 1.0252 (0.1532)	5.55% -1.6529 (0.0495)
Membership in influential groups	4.21% 0.6065 (0.2725)	23.42% -2.0596 (0.0214)	-4.73% 0.7307 (0.2329)	0.5% 0.1137 (0.4548)

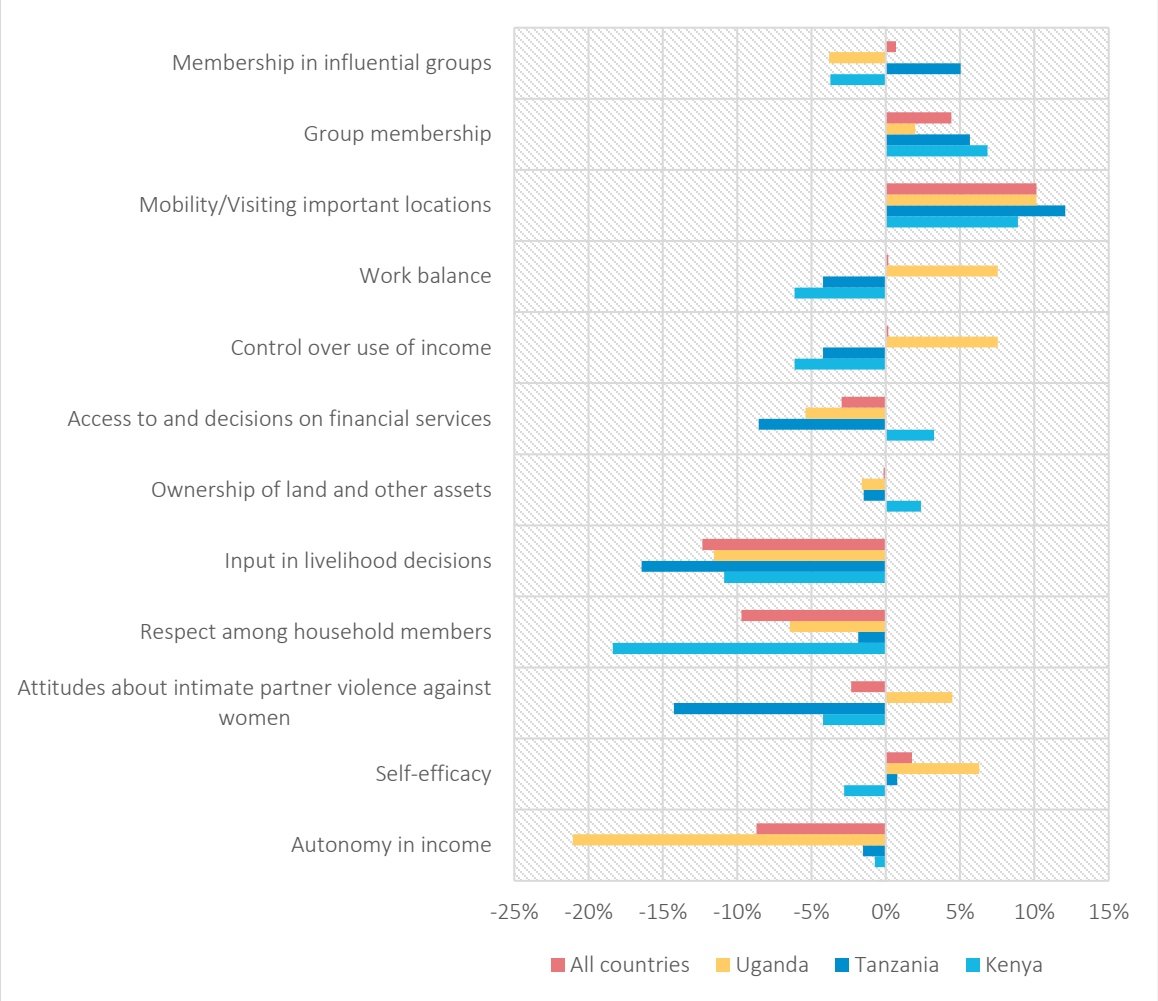
Each cell presents:

- *The difference in mean (women - men),*
- *The t-statistic from the t-test,*
- *The p-value from the two-tailed test (from Pr(\|T\| > \|t\|)), in parentheses.*

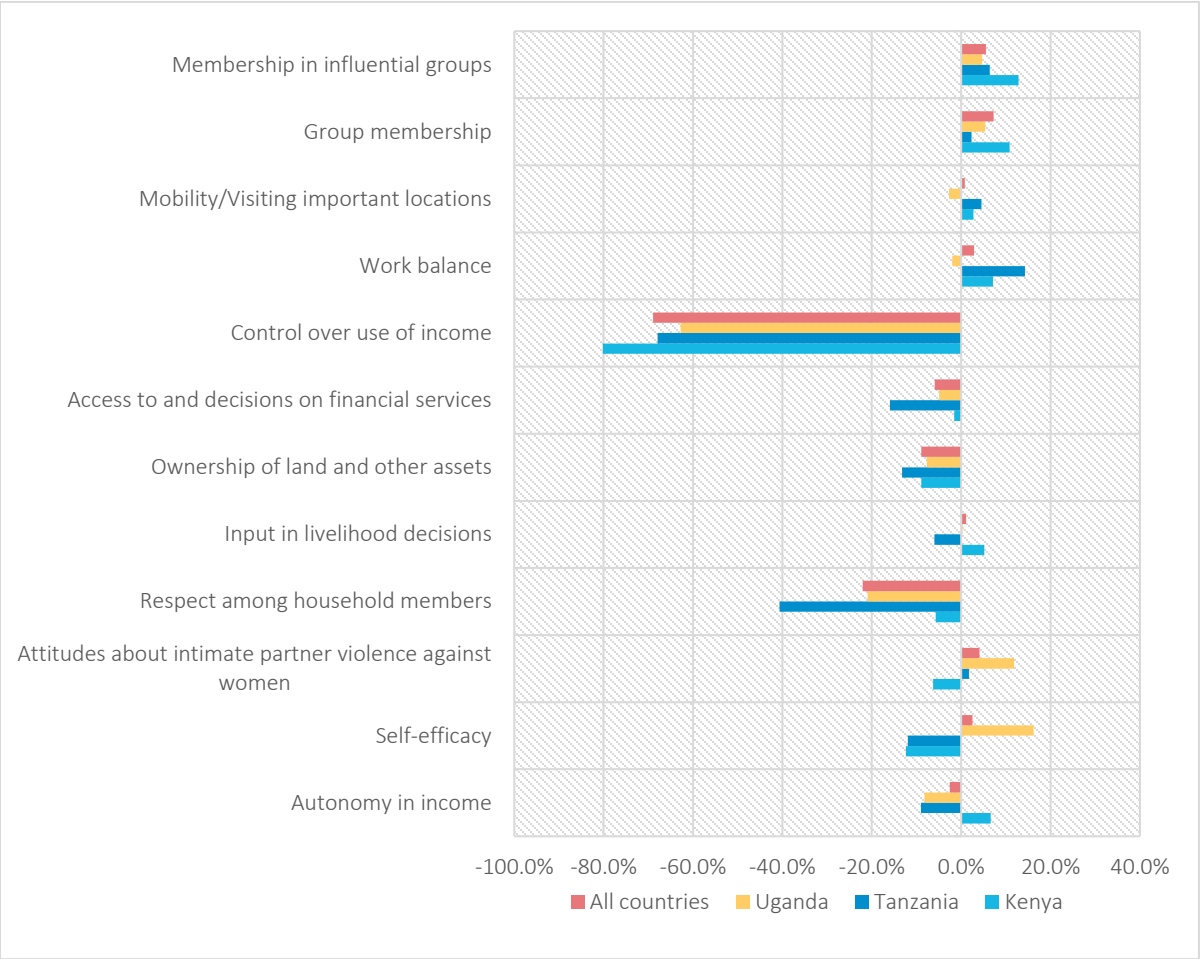
Source: Household survey data

Figure 19: Gender gap (%) in adequacy on the various pro-WEAI indicators by country and gender grouping

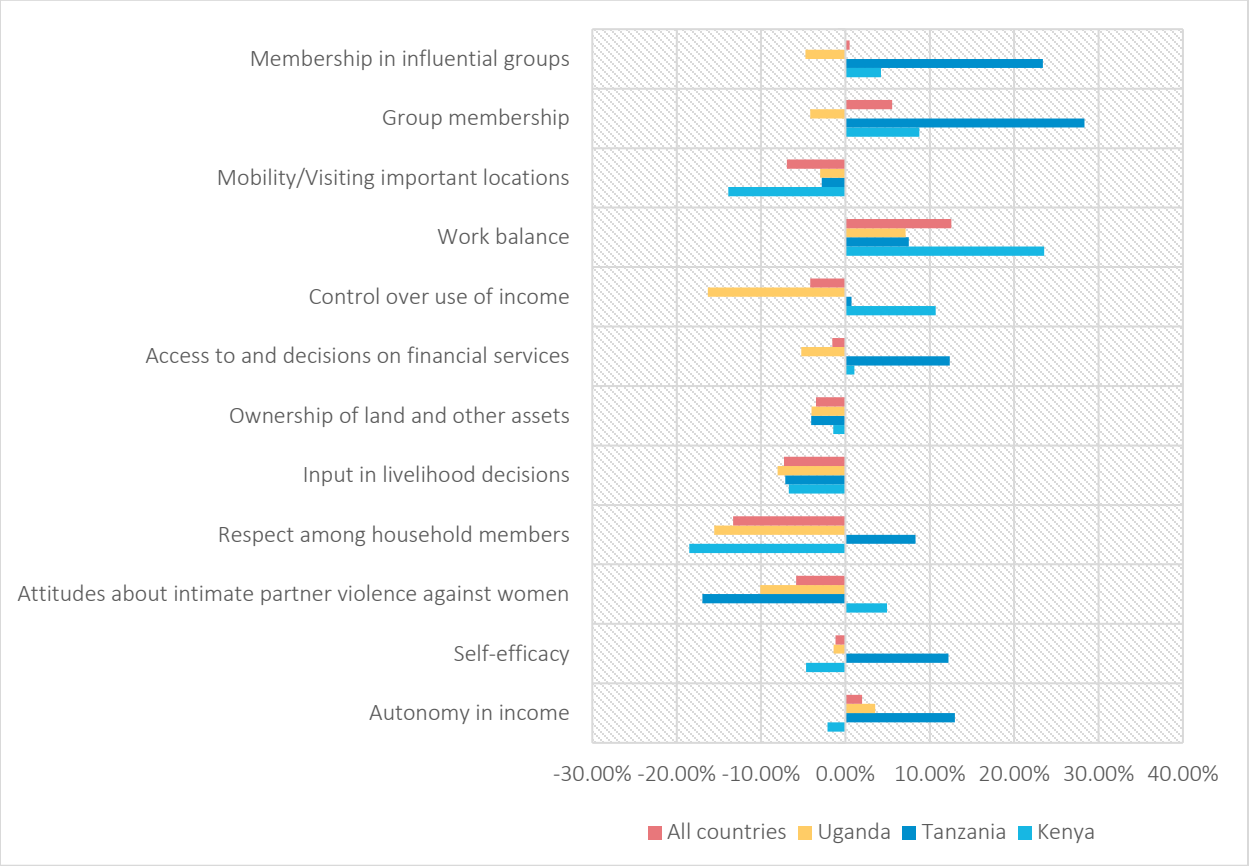
a) Senior men in MHH vs senior women in MHH



b) Senior men in MHH vs senior women in FHH



c) Young men vs young women



6.3 Results of the pro-WEAI analysis

Table 38 shows the results of the pro-WEAI analysis for the CRAFT project. The pro-WEAI score is made of two sub-indices, the three domains of empowerment (3DE) score and the gender parity index (GPI). The 3DE score is weighted 90% when constituting the index while the GPI contributes 10% of the index. The score itself ranges from 0 (total disempowerment) to 1 (total empowerment). Any improvement in the pro-WEAI score hence constitutes an increase in empowerment.

The 3DE score assesses the extent of women's empowerment in the three domains (intrinsic, instrumental and collective agency). It ranges from 0-1, numbers closer to one reflect greater empowerment. A 3DE score is calculated for all respondents, men and women. A man or woman is considered empowered if her 3DE score is 75% or higher. The GPI sub-index measures the inequality in 3DE scores between the primary adult male decision makers and the primary adult female decision makers in the households. A higher number reflects greater gender parity. The GPI reflects the percentage of women who have 3DE scores equal to or greater than those of the primary adult male in their households. For women lacking parity, the average percentage shortfall they experience relative to the males in their households is also known as the average empowerment gap.

Overall pro-WEAI Results Summary

The pro-WEAI results across all respondents (n = 1,018) show a relatively high empowerment environment, with:

- 3DE scores: 0.88 for women and 0.90 for men
- Empowerment scores: 0.77 for women and 0.79 for men
- Percentage achieving empowerment: 71% of women and 74% of men
- Gender Parity Index (GPI): 0.97, indicating small intra-household inequality
- Pro-WEAI score: 0.89 overall

These figures suggest moderate to strong gender empowerment, though gaps remain, especially among sub-groups and within specific countries and business contexts.

By Country Breakdown

Kenya

- Women and men show similar 3DE scores (0.88 vs. 0.91) and empowerment scores (0.77 vs. 0.79).
- 69% of women and 78% of men are empowered.
- GPI: 0.96, with 77% achieving gender parity.
- Pro-WEAI score: 0.89

Tanzania

- Tanzania shows slightly lower empowerment, particularly among women.
- Women's 3DE score is 0.86 and empowerment score is 0.77; only 69% are empowered.
- Men's empowerment is also relatively lower compared to other countries (0.74).
- GPI: 0.97, but gender parity is only 85%.
- Pro-WEAI score: 0.87

Uganda

- Uganda performs best overall: women have a 3DE score of 0.89 and empowerment score of 0.78.
- 73% of women and 76% of men are empowered.
- Gender parity is high (85%) with a GPI of 0.97.
- Pro-WEAI score: 0.90

Variation by Business Case / Value Chain

Kenya

- Starlight (Potato) outperforms others with the highest pro-WEAI scores (0.94), and empowerment levels (83% of women, 92% of men).
- SOPA Millers (Sorghum) and Kaplomboi (Beans) also perform above national averages.
- IMCOS (Green grams) lags behind with lower empowerment (62% of women), and higher empowerment gaps (0.22).

Implication: Value chains linked to potatoes and sorghum show more empowering environments—potentially due to stronger market integration or cooperative structures.

Tanzania

- VIBINJO (Beans) shows the strongest performance (Pro-WEAI 0.92), with 78% of women empowered.
- KIBAIGWA (Sorghum) shows a poor outcome: only 15% of men are empowered, and a very low Pro-WEAI score (0.84).
- JAKMA (Sunflower) has the lowest female empowerment at 53%, and the largest empowerment gap (0.3).

Implication: While some bean-related cases show success, sunflower and sorghum value chains in Tanzania may require targeted interventions due to lower inclusion and structural barriers.

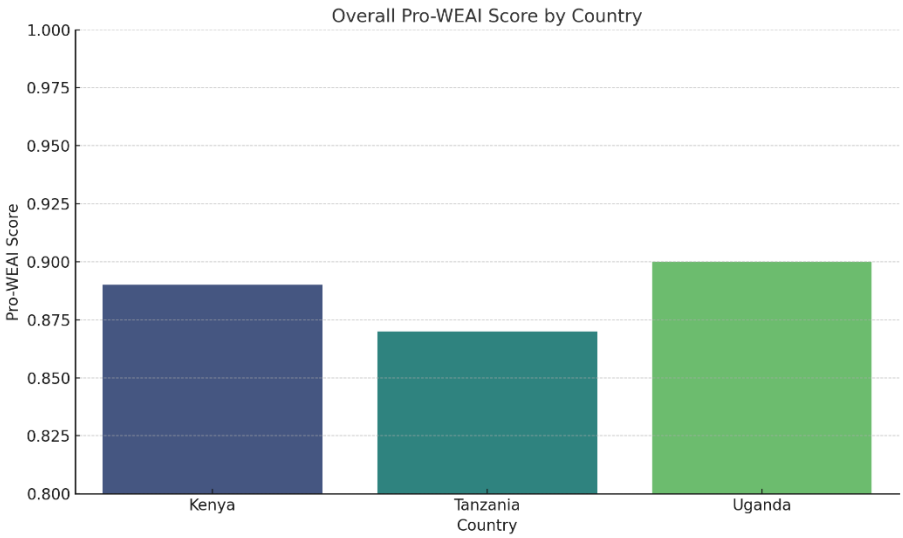
Uganda

- SEBEI SACCO (Sunflower) shows the highest Pro-WEAI (0.93), with 82% of women empowered.
- KISORO (Potato) also performs well, especially among youth (92% empowerment).
- BYEFFE (Soybeans) shows slightly below average female empowerment (72%).

Implication: Uganda's performance is consistently strong across value chains, particularly for youth and sunflower/potato chains—suggesting models worth replicating.

Implications and Insights

1. Business case matters: Empowerment levels vary significantly across value chains, even within the same country. More commercialized or organized chains (like potato and sunflower in Uganda and Kenya) correlate with higher empowerment.
2. Youth perform well: Youth, especially in Uganda and Kenya, often report higher 3DE and Pro-WEAI scores than senior groups—indicating that younger cohorts may be benefiting more from interventions or are more open to change.
3. Gender disparities persist: Despite overall progress, gaps in empowerment achievement and intra-household equality remain—particularly in Tanzania's sorghum and sunflower chains and Kenya's green gram value chain.
4. Targeted support needed:
    - Underperforming chains (e.g., IMCOS, JAKMA, KIBAIGWA) may need customized support, such as women-focused training, market access, or governance reforms.
    - High-performing cases (e.g., Starlight, SEBEI, VIBINJO) can be used as learning models.
5. Importance of context: National averages mask important subnational differences; highlighting the need for tailored interventions by business model, region, and demographic group.



Summary Table: Country-Level Highlights

Country	Overall Pro-WEAI	Highest Performing Case	Lowest Performing Case	Highest Pro-WEAI Score	Lowest Empowerment (%)
Kenya	0.89	Starlight (Potato)	IMCOS (Green grams)	0.94	62% (Women)
Tanzania	0.87	VIBINJO (Beans)	KIBAIGWA (Sorghum)	0.92	15% (Men)
Uganda	0.90	SEBEI SACCO (Sunflower)	BYEFFE FOODS (Soybeans)	0.93	72% (Women)

The bar chart above shows that **Uganda leads** in overall empowerment (0.90), closely followed by **Kenya (0.89)**, while **Tanzania** trails slightly at **0.87**.

Table 46: Pro-WEAI results for all respondents and by country

a) Pro-WEAI results for all respondents and by country

	Entire dataset		Kenya		Tanzania		Uganda	
Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	531	487	207	212	84	80	239	195
3DE score	**0.88**	**0.9**	**0.88**	**0.91**	**0.86**	**0.83**	**0.89**	**0.91**
Empowerment score	0.77	0.79	0.77	0.79	0.77	0.74	0.78	0.79
% achieving empowerment	0.71	0.74	0.69	0.78	0.69	0.57	0.73	0.76
Mean 3DE score for not yet empowered	0.6	0.6	0.62	0.59	0.56	0.59	0.61	0.61
Gender Parity Index (GPI)	**0.97**		**0.96**		**0.97**		**0.97**	
Number of dual-adult households	399		176		59		164	
% achieving gender parity	0.81		0.77		0.85		0.85	
Average intra-household inequality score	0.02		0.03		-0.01		0.02	
Empowerment gap	0.18		0.17		0.23		0.18	
Pro-WEAI	**0.89**		**0.89**		**0.87**		**0.9**	

b) Pro-WEAI results for all senior respondents and by country

Indicator	All countries		Kenya		Tanzania		Uganda	
	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	364	376	140	163	58	63	165	150
3DE score	**0.87**	**0.9**	**0.87**	**0.91**	**0.85**	**0.85**	**0.88**	**0.9**
Empowerment score	0.77	0.78	0.76	0.79	0.78	0.76	0.77	0.79
% achieving empowerment	0.68	0.74	0.66	0.78	0.67	0.62	0.7	0.75
Mean 3DE score for not yet empowered	0.6	0.6	0.61	0.58	0.55	0.6	0.61	0.61
Gender Parity Index (GPI)	**0.97**		**0.96**		**0.96**		**0.97**	
Number of dual-adult households	321		144		48		129	
% achieving gender parity	0.8		0.75		0.84		0.83	
Average intra-household inequality score	0.02		0.03		0		0.01	
Empowerment gap	0.17		0.17		0.22		0.16	
Pro-WEAI	**0.88**		**0.88**		**0.86**		**0.89**	

c) Pro-WEAI results for all youth respondents and by country

Indicator	All countries		Kenya		Tanzania		Uganda	
	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	167	111	67	49	26	17	74	45
3DE score	**0.90**	**0.89**	**0.90**	**0.91**	**0.88**	**0.74**	**0.91**	**0.93**
Empowerment score	0.78	0.79	0.76	0.8	0.74	0.68	0.8	0.82
% achieving empowerment	0.76	0.74	0.75	0.78	0.73	0.41	0.78	0.82
Mean 3DE score for not yet empowered	0.6	0.6	0.62	0.61	0.57	0.56	0.59	0.63
Gender Parity Index (GPI)	**0.97**		**0.96**		**0.97**		**0.98**	
Number of dual-adult households	91		38		13		40	
% achieving gender parity	0.82		0.76		0.83		0.88	
Average intra-household inequality score	0.01		0.04		-0.11		0.03	
Empowerment gap	0.18		0.17		0.18		0.2	
Pro-WEAI	**0.91**		**0.91**		**0.89**		**0.92**	

d) Pro-WEAI results for all Kenyan respondents by business case/value chain

Indicator	IMCOS (green grams)		Kaplomboi (Common beans)		SOPA Millers (Sorghum)		Starlight (Potato)	
	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	65	66	68	70	51	52	23	24
3DE score	**0.85**	**0.86**	**0.88**	**0.93**	**0.9**	**0.92**	**0.93**	**0.97**
Empowerment score	0.74	0.75	0.76	0.8	0.8	0.82	0.83	0.85
% achieving empowerment	0.62	0.68	0.68	0.8	0.75	0.81	0.83	0.92

Mean 3DE score for not yet empowered	0.61	0.56	0.63	0.64	0.6	0.57	0.6	0.58
Gender Parity Index (GPI)	**0.96**		**0.96**		**0.96**		**0.97**	
Number of dual-adult households	59		61		36		20	
% achieving gender parity	0.81		0.72		0.75		0.84	
Average intra-household inequality score	0.02		0.03		0.03		0.03	
Empowerment gap	0.22		0.15		0.15		0.17	
Pro-WEAI	**0.86**		**0.89**		**0.9**		**0.94**	

e) Pro-WEAI results for all Kenyan senior respondents by business case/value chain

	IMCOS (green grams)		Kaplomboi (Common beans)		SOPA Millers (Sorghum)		Starlight (Potato)	
Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	44	47	41	49	37	47	18	20
3DE score	**0.84**	**0.84**	**0.89**	**0.94**	**0.87**	**0.92**	**0.91**	**0.96**
Empowerment score	0.73	0.73	0.75	0.8	0.79	0.82	0.82	0.85
% achieving empowerment	0.59	0.64	0.68	0.84	0.68	0.81	0.78	0.9
Mean 3DE score for not yet empowered	0.61	0.56	0.64	0.65	0.59	0.56	0.6	0.58
Gender Parity Index (GPI)	**0.96**		**0.96**		**0.96**		**0.97**	
Number of dual-adult households	45		43		38		18	
% achieving gender parity	0.81		0.69		0.71		0.8	
Average intra-household inequality score	0.01		0.03		0.04		0.04	
Empowerment gap	0.23		0.13		0.16		0.17	
Pro-WEAI	**0.85**		**0.89**		**0.88**		**0.92**	

f) Pro-WEAI results for all Kenyan youth respondents by business case/value chain

	IMCOS (green grams)		Kaplomboi (Common beans)		SOPA Millers (Sorghum)		Starlight (Potato)	
Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	21	19	27	21	14	5		
3DE score	**0.87**	**0.91**	**0.87**	**0.9**	**0.98**	**0.93**		
Empowerment score	0.77	0.8	0.75	0.79	0.79	0.83		
% achieving empowerment	0.67	0.79	0.67	0.71	0.93	0.8		
Mean 3DE score for not yet empowered	0.62	0.56	0.62	0.64	0.67	0.67		
Gender Parity Index (GPI)	**0.96**		**0.96**		**0.94**			
Number of dual-adult households	15		19		2			
% achieving gender parity	0.8		0.74		0.5			
Average intra-household inequality score	0.06		0.03		-0.04			
Empowerment gap	0.22		0.16		0.11			
Pro-WEAI	**0.88**		**0.88**		**0.97**			

a) Pro-WEAI results for Tanzanian respondents by business case/ value chain

	JAKMA (Sunflower)		KIBAIGWA (Sorghum)		VIBINJO (Common beans)		EAFF	
Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	19	27	23	20	18	14		
3DE score	**0.77**	**0.84**	**0.82**	**0.63**	**0.91**	**0.84**		
Empowerment score	0.72	0.76	0.7	0.6	0.8	0.71		
% achieving empowerment	0.53	0.56	0.57	0.15	0.78	0.64		
Mean 3DE score for not yet empowered	0.51	0.64	0.59	0.57	0.6	0.55		
Gender Parity Index (GPI)	**0.93**		**0.97**		**0.97**			
Number of dual-adult households	13		17		13			
% achieving gender parity	0.77		0.82		0.85			
Average intra-household inequality score	0.08		-0.09		-0.08			
Empowerment gap	0.3		0.2		0.22			
Pro-WEAI	**0.78**		**0.84**		**0.92**			

b) Pro-WEAI results for Tanzanian senior respondents by business case/ value chain

	JAKMA (Sunflower)		KIBAIGWA (Sorghum)		VIBINJO (Common beans)		EAFF	
Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	12	21	15	14	15	12		
3DE score	**0.71**	**0.87**	**0.84**	**0.65**	**0.92**	**0.85**		
Empowerment score	0.74	0.77	0.73	0.61	0.8	0.72		
% achieving empowerment	0.42	0.62	0.6	0.14	0.8	0.67		
Mean 3DE score for not yet empowered	0.5	0.65	0.61	0.59	0.58	0.56		
Gender Parity Index (GPI)	**0.92**		**0.98**		**0.96**			
Number of dual-adult households	13		11		11			
% achieving gender parity	0.71		0.91		0.82			
Average intra-household inequality score	0.15		-0.09		-0.07			
Empowerment gap	0.28		0.22		0.22			
Pro-WEAI	**0.73**		**0.86**		**0.92**			

c) Pro-WEAI results for Tanzanian youth respondents by business case/ value chain

	JAKMA (Sunflower)		KIBAIGWA (Sorghum)		VIBINJO (Common beans)			
Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations			8	6				
3DE score			**0.78**	**0.6**				
Empowerment score			0.65	0.56				
% achieving empowerment			0.5	0.17				
Mean 3DE score for not yet empowered			0.56	0.52				

Gender Parity Index (GPI)	**0.94**
Number of dual-adult households	6
% achieving gender parity	0.67
Average intra-household inequality score	-0.1
Empowerment gap	0.18
Pro-WEAI	**0.8**

a) Pro-WEAI results for Ugandan respondents by business case/ value chain

	BYEFFE FOODS (Soybeans)		KISORO (Potato)		NYEKORAC (Sesame)		SEBEI SACCO (Sunflower)	
Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	76	63	69	58	46	51	34	17
3DE score	**0.89**	**0.9**	**0.89**	**0.92**	**0.91**	**0.94**	**0.92**	**0.88**
Empowerment score	0.77	0.79	0.77	0.8	0.77	0.8	0.86	0.79
% achieving empowerment	0.72	0.75	0.68	0.79	0.78	0.84	0.82	0.65
Mean 3DE score for not yet empowered	0.59	0.59	0.65	0.62	0.59	0.59	0.54	0.65
Gender Parity Index (GPI)	**0.97**		**0.97**		**0.97**		**0.98**	
Number of dual-adult households	57		51		40		12	
% achieving gender parity	0.84		0.8		0.88		0.92	
Average intra-household inequality score	0.01		0.04		0.02		-0.06	
Empowerment gap	0.19		0.13		0.23		0.22	
Pro-WEAI	**0.89**		**0.9**		**0.92**		**0.93**	

b) Pro-WEAI results for Ugandan senior respondents by business case/ value chain

	BYEFFE FOODS (Soybeans)		KISORO (Potato)		NYEKORAC (Sesame)		SEBEI SACCO (Sunflower)	
Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	50	48	51	46	30	37	23	13
3DE score	**0.85**	**0.9**	**0.88**	**0.91**	**0.93**	**0.93**	**0.92**	**0.87**
Empowerment score	0.75	0.78	0.76	0.79	0.79	0.8	0.87	0.79
% achieving empowerment	0.64	0.75	0.67	0.76	0.8	0.84	0.83	0.62
Mean 3DE score for not yet empowered	0.58	0.58	0.64	0.61	0.65	0.6	0.54	0.65
Gender Parity Index (GPI)	**0.96**		**0.97**		**0.99**		**0.98**	
Number of dual-adult households	44		39		29		12	
% achieving gender parity	0.79		0.77		0.92		0.9	
Average intra-household inequality score	0.03		0.03		0		-0.07	
Empowerment gap	0.19		0.14		0.11		0.22	
Pro-WEAI	**0.86**		**0.89**		**0.94**		**0.93**	

c) Pro-WEAI results for Ugandan youth respondents by business case/ value chain

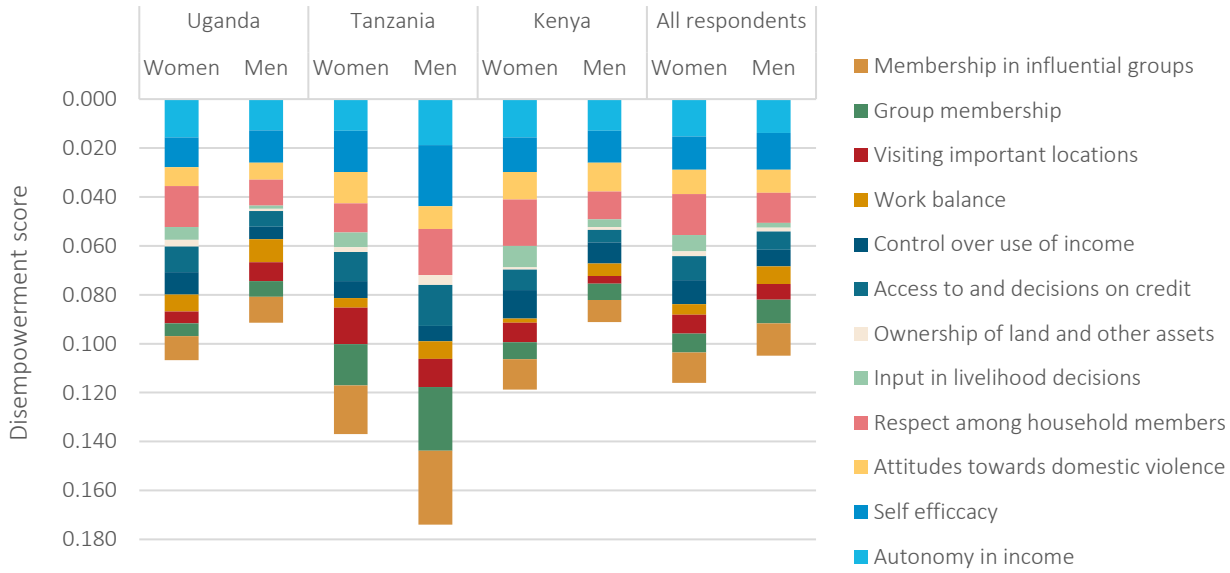
	BYEFFE FOODS (Soybeans)	KISORO (Potato)	NYEKORAC (Sesame)	SEBEI SACCO (Sunflower)

Indicator	Women	Men	Women	Men	Women	Men	Women	Men
Number of observations	26	15	18	12	16	14		
3DE score	**0.96**	**0.9**	**0.91**	**0.97**	**0.88**	**0.94**		
Empowerment score	0.82	0.82	0.78	0.85	0.78	0.8		
% achieving empowerment	0.88	0.73	0.72	0.92	0.75	0.86		
Mean 3DE score for not yet empowered	0.61	0.63	0.67	0.67	0.5	0.58		
Gender Parity Index (GPI)	**0.97**		**0.98**		**0.97**			
Number of dual-adult households	14		12		12			
% achieving gender parity	0.86		0.83		0.92			
Average intra-household inequality score	0.01		0.06		0.03			
Empowerment gap	0.22		0.11		0.33			
Pro-WEAI	**0.96**		**0.91**		**0.88**			

Figure 8 depicts the absolute contribution of each indicator to disempowerment for men and women in the sample. The overall depth of each bar shows the total disempowerment score (1- 3DE), and the different colored bars within show the absolute contribution of each indicator to disempowerment.

Figure 20: Disempowerment score by indicator, gender group, country and business case/value chain

a) All respondents by country

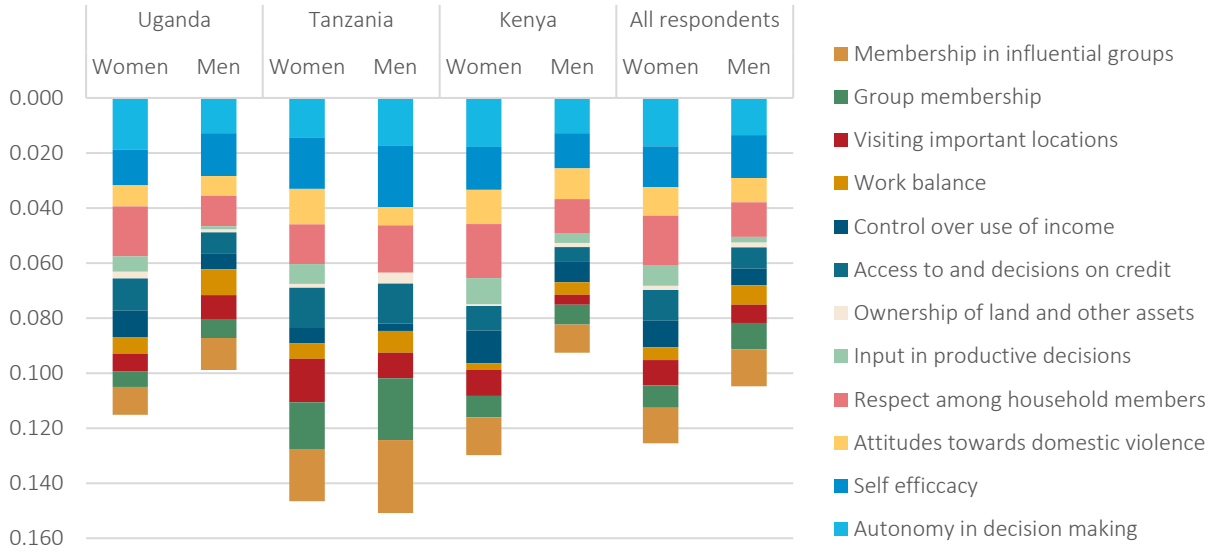


Percentage contribution to the disempowerment score (%) for all respondents by country

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group membership*	*Membership in influential groups*
All respondents	Men	13%	14%	9%	12%	2%	1%	7%	7%	7%	6%	9%	13%
	Women	13%	12%	9%	14%	6%	2%	9%	8%	4%	7%	7%	11%
Kenya	Men	14%	14%	13%	13%	3%	1%	6%	9%	6%	3%	7%	10%

	Women	13%	12%	9%	16%	7%	1%	7%	10%	1%	7%	6%	11%
Tanzania	Men	11%	14%	5%	11%	0%	2%	10%	4%	4%	7%	15%	17%
	Women	9%	12%	9%	9%	4%	1%	9%	5%	3%	11%	12%	14%
Uganda	Men	14%	14%	7%	12%	1%	1%	7%	6%	10%	8%	7%	12%
	Women	15%	11%	7%	16%	5%	3%	10%	8%	7%	5%	5%	9%

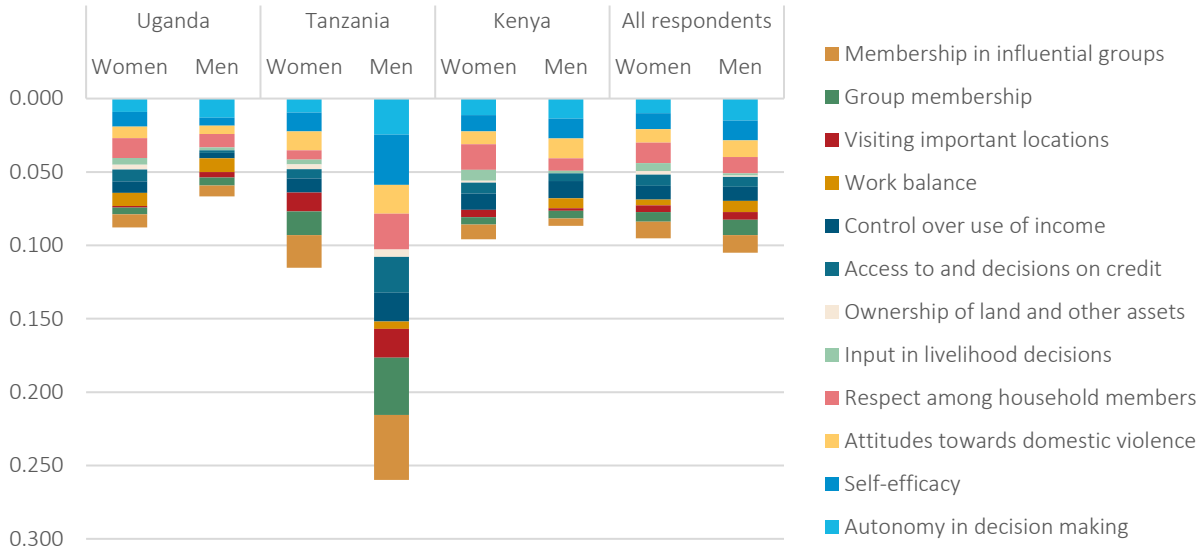
b) All senior respondents by country



Percentage contribution to the disempowerment score (%) for all senior respondents by country

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group membership*	*Membership in influential groups*
All respondents	Men	13%	15%	8%	12%	2%	2%	7%	6%	7%	6%	9%	13%
	Women	14%	12%	8%	14%	6%	1%	9%	8%	4%	7%	7%	10%
Kenya	Men	14%	14%	12%	13%	4%	2%	6%	8%	5%	4%	8%	11%
	Women	14%	12%	10%	15%	7%	0%	7%	9%	2%	7%	6%	11%
Tanzania	Men	11%	15%	4%	11%	0%	3%	10%	2%	5%	6%	15%	18%
	Women	10%	13%	9%	10%	5%	1%	10%	4%	4%	11%	12%	13%
Uganda	Men	13%	16%	7%	11%	1%	1%	8%	6%	10%	9%	7%	12%
	Women	16%	11%	7%	16%	5%	2%	10%	8%	5%	6%	5%	9%

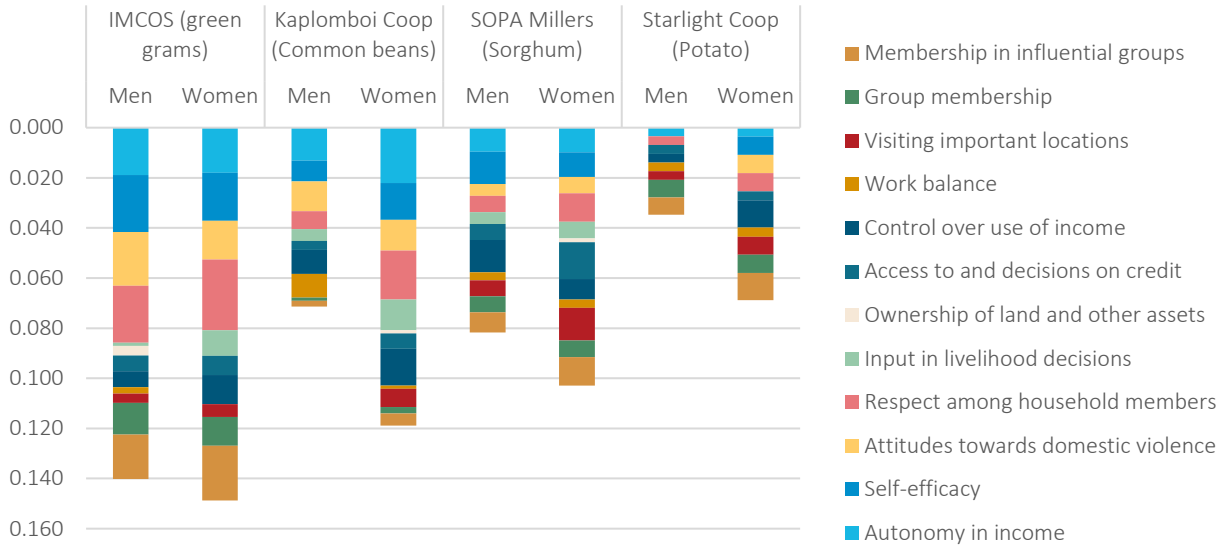
c) All youth respondents by country



Percentage contribution to the disempowerment score (%) for all youth respondents by country

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group membership*	*Membership in influential groups*
All respondents	Men	14%	13%	11%	11%	1%	1%	6%	9%	7%	5%	10%	11%
	Women	10%	12%	9%	15%	6%	3%	8%	10%	4%	5%	7%	12%
Kenya	Men	16%	16%	16%	10%	2%	0%	6%	14%	8%	2%	6%	6%
	Women	12%	12%	9%	18%	8%	1%	8%	12%	0%	5%	5%	10%
Tanzania	Men	9%	13%	8%	9%	0%	2%	9%	8%	2%	8%	15%	17%
	Women	8%	11%	11%	6%	3%	3%	6%	8%	0%	11%	14%	19%
Uganda	Men	19%	8%	8%	14%	3%	0%	3%	6%	14%	6%	8%	11%
	Women	10%	12%	9%	15%	5%	4%	9%	9%	10%	1%	5%	10%

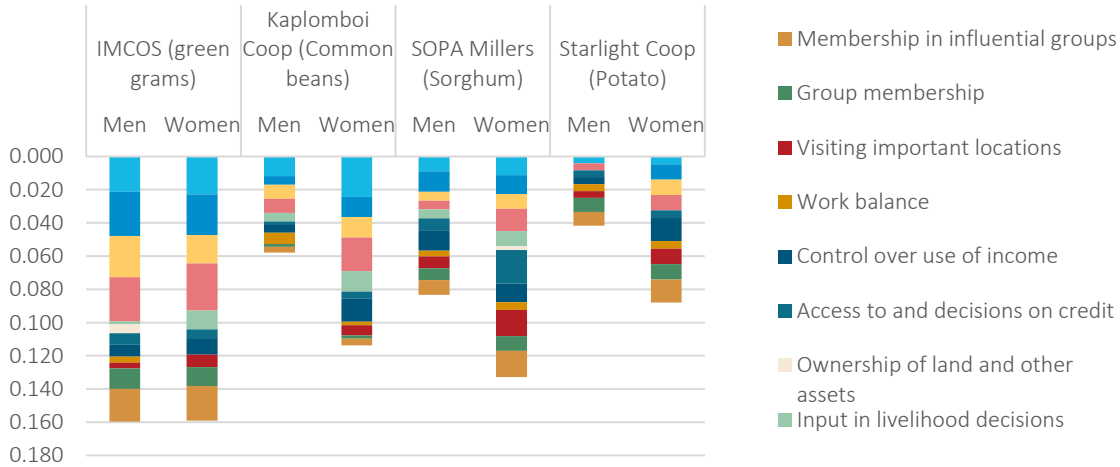
a) *All Kenyan respondents by business case/value chain*



Percentage contribution to the disempowerment score (%) for all Kenyan respondents by business case/value chain

		Autonomy in decision making	***Self-efficacy***	***Attitudes towards domestic violence***	***Respect among household members***	***Input in livelihood decisions***	***Ownership of land and other assets***	***Access to and decisions on credit***	***Control over use of income***	***Work balance***	***Visiting important locations***	***Group membership***	***Membership in influential groups***
IMCOS (green grams)	Men	14%	16%	15%	16%	1%	3%	5%	5%	2%	3%	9%	13%
	Women	12%	13%	10%	19%	7%	0%	5%	8%	0%	3%	8%	15%
Kaplomboi Coop (Common beans)	Men	18%	12%	17%	10%	7%	0%	5%	13%	13%	0%	2%	3%
	Women	19%	12%	10%	16%	10%	1%	5%	12%	1%	6%	2%	4%
SOPA Millers (Sorghum)	Men	12%	16%	6%	8%	6%	0%	8%	16%	4%	8%	8%	10%
	Women	10%	10%	6%	11%	6%	2%	14%	8%	3%	13%	6%	11%
Starlight Coop (Potato)	Men	10%	0%	0%	10%	0%	0%	10%	10%	10%	10%	20%	20%
	Women	5%	11%	11%	11%	0%	0%	5%	16%	5%	11%	11%	16%

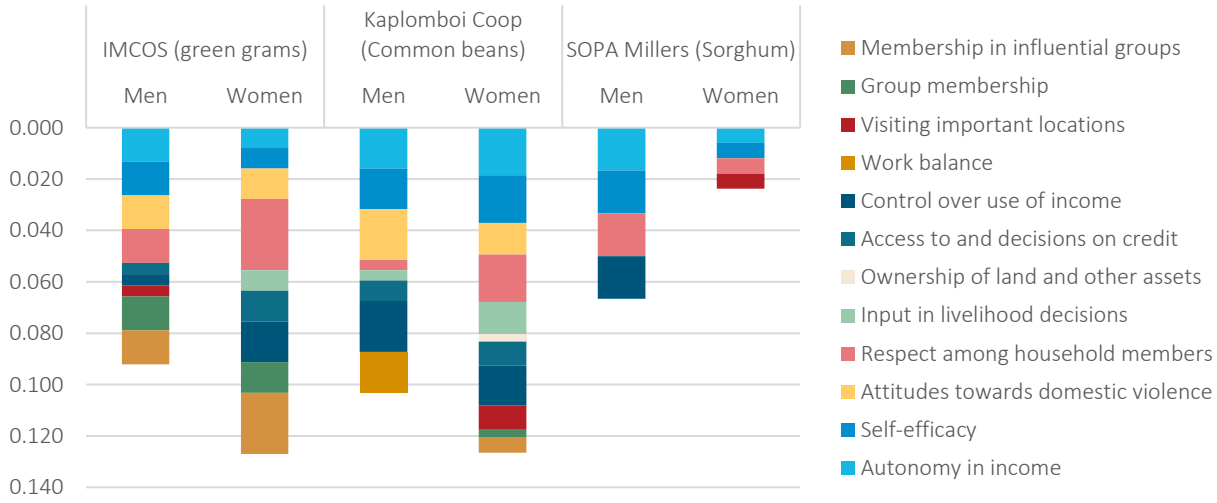
b) All Kenyan senior respondents by business case/value chain



Percentage contribution to the disempowerment score (%) for all Kenyan senior respondents by business case/value chain

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group membership*	*Membership in influential groups*
IMCOS ()green grams)	Men	13%	17%	16%	17%	1%	3%	4%	4%	2%	2%	8%	12%
	Women	14%	15%	11%	18%	7%	0%	4%	6%	0%	5%	7%	13%
Kaplomboi Coop (Common beans)	Men	21%	9%	15%	15%	9%	0%	3%	9%	12%	0%	3%	6%
	Women	21%	11%	11%	18%	11%	0%	4%	13%	2%	5%	2%	4%
SOPA Millers (Sorghum)	Men	11%	15%	6%	6%	6%	0%	9%	15%	4%	9%	9%	11%
	Women	8%	8%	7%	10%	7%	2%	15%	8%	3%	12%	7%	12%
Starlight Coop (Potato)	Men	10%	0%	0%	10%	0%	0%	10%	10%	10%	10%	20%	20%
	Women	5%	11%	11%	11%	0%	0%	5%	16%	5%	11%	11%	16%

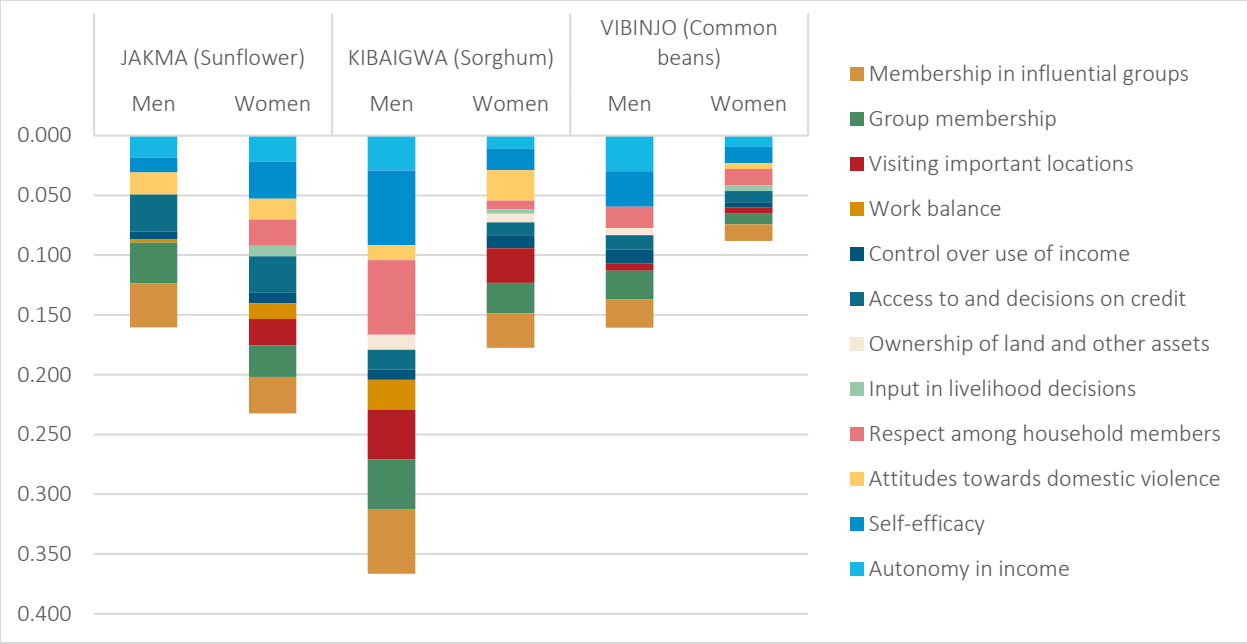
c) All Kenyan youth respondents by business case/value chain



Percentage contribution to the disempowerment score (%) for all youth respondents by business case/value chain

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting Important locations*	*Group Member-ship*	*Membership in influential groups*
IMCOS (green grams)	Men	14%	14%	14%	14%	0%	0%	5%	5%	0%	5%	14%	14%
	Women	6%	6%	9%	22%	6%	0%	9%	13%	0%	0%	9%	19%
Kaplomboi Coop (Common beans)	Men	15%	15%	19%	4%	4%	0%	8%	19%	15%	0%	0%	0%
	Women	15%	15%	10%	15%	10%	2%	7%	12%	0%	7%	2%	5%
SOPA Millers (Sorghum)	Men	25%	25%	0%	25%	0%	0%	0%	25%	0%	0%	0%	0%
	Women	25%	25%	0%	25%	0%	0%	0%	0%	0%	25%	0%	0%

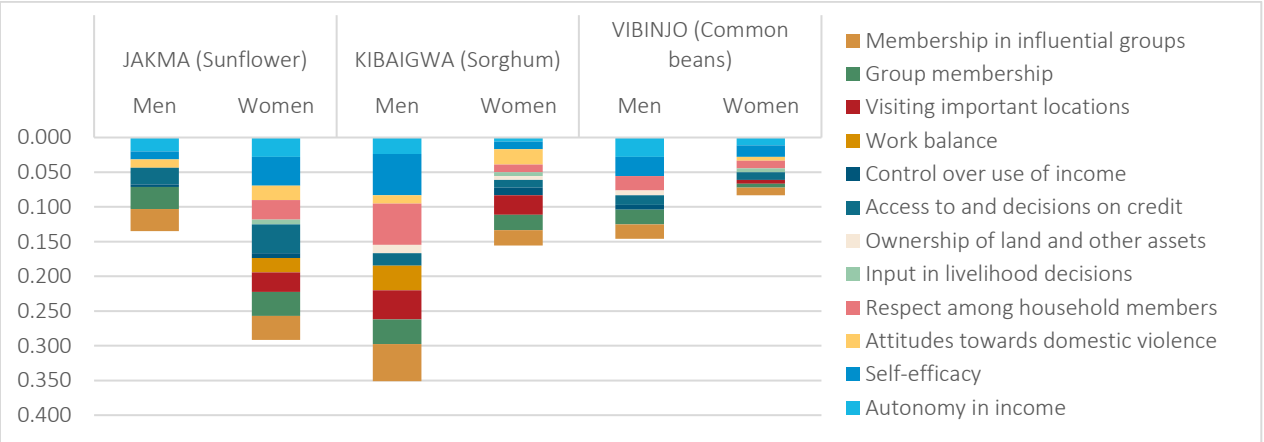
a) All Tanzanian respondents by business case/ value chain



Percentage contribution to the disempowerment score (%) for all youth respondents by business case/value chain

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group Member ship*	*Membership in influential groups*
JAKMA (Sunflower)	Men	12%	8%	12%	0%	0%	0%	19%	4%	2%	0%	21%	23%
	Women	9%	13%	8%	9%	4%	0%	13%	4%	6%	9%	11%	13%
KIBAIGWA (Sorghum)	Men	8%	17%	3%	17%	0%	3%	5%	2%	7%	11%	11%	15%
	Women	6%	10%	14%	4%	2%	4%	6%	6%	0%	16%	14%	16%
VIBINJO (Common beans)	Men	19%	19%	0%	11%	0%	4%	7%	7%	0%	4%	15%	15%
	Women	11%	16%	5%	16%	5%	0%	11%	5%	0%	5%	11%	16%

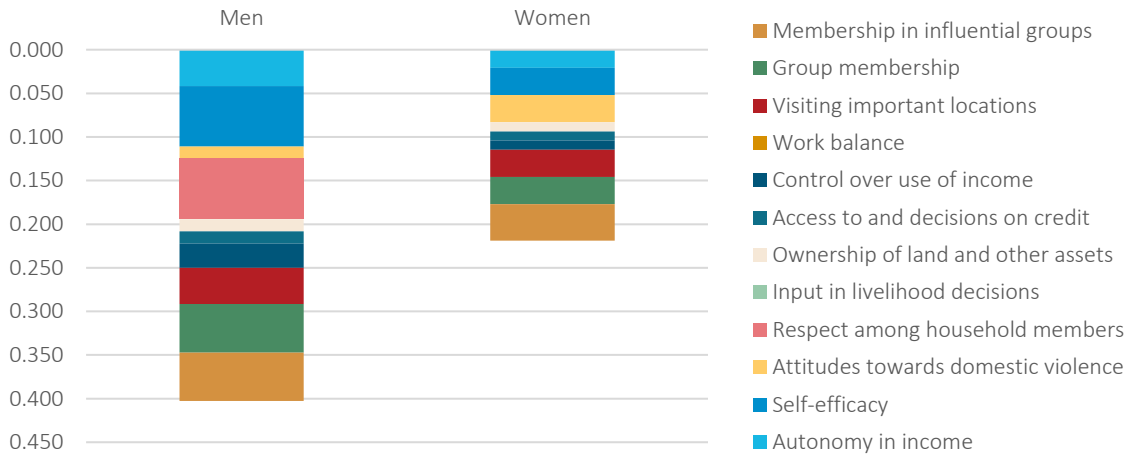
b) All Tanzanian senior respondents by business case/ value chain



Percentage contribution to the disempowerment score (%) for all senior respondents by business case/value chain

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access To and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group member ship*	*Member-ship in influential groups*
JAKMA (Sunflower)	Men	15%	9%	9%	0%	0%	0%	18%	3%	0%	0%	24%	24%
	Women	10%	14%	7%	10%	2%	0%	14%	2%	7%	10%	12%	12%
KIBAIGWA (Sorghum)	Men	7%	17%	3%	17%	0%	3%	5%	0%	10%	12%	10%	15%
	Women	4%	7%	14%	7%	4%	4%	7%	7%	0%	18%	14%	14%
VIBINJO (Common beans)	Men	19%	19%	0%	14%	0%	5%	10%	5%	0%	0%	14%	14%
	Women	13%	20%	7%	13%	7%	0%	13%	0%	0%	7%	7%	13%

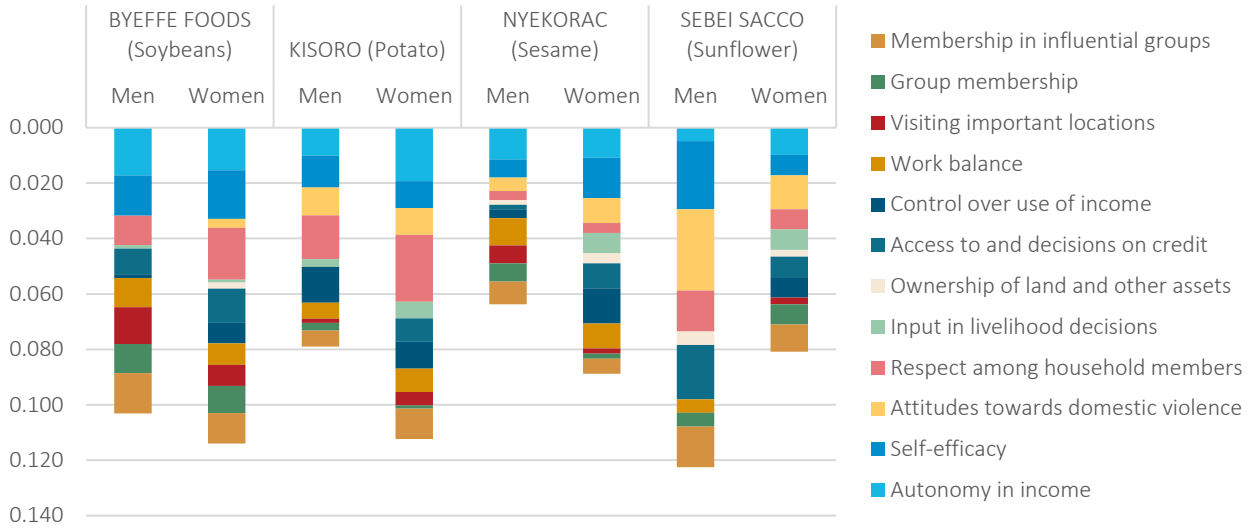
c) Tanzanian youth respondents (Kibaigwa Business Case/Sorghum value chain)



Percentage contribution to the disempowerment score (%) for Kibaigwa Business case/sorghum value chain youth respondents

	Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in Livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group membership*	*Membership in influential groups*
Men	10%	17%	3%	17%	0%	3%	3%	7%	0%	10%	14%	14%
Women	10%	14%	14%	0%	0%	5%	5%	5%	0%	14%	14%	19%

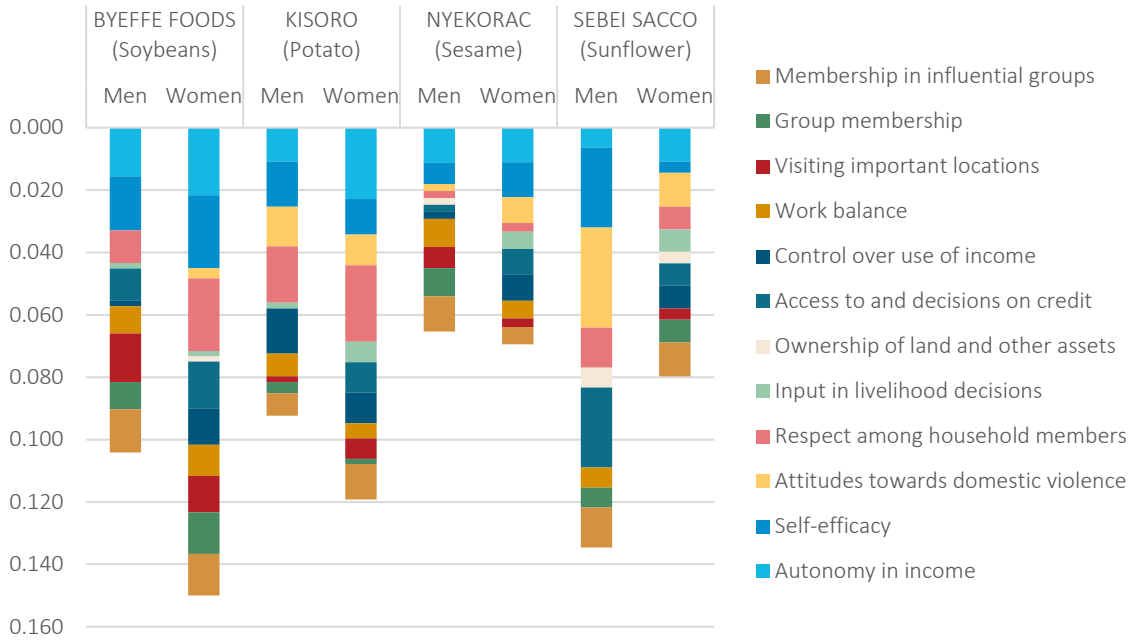
a) All Ugandan respondents by business case/ value chain



Percentage contribution to the disempowerment score (%) for all Ugandan respondents by business case/value chain

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group Member-ship*	*Membership in influential groups*
BYEFFE FOODS (Soybeans)	Men	17%	14%	0%	10%	1%	0%	9%	1%	10%	13%	10%	14%
	Women	13%	15%	3%	16%	1%	2%	11%	7%	7%	7%	9%	10%
KISORO (Potato)	Men	13%	15%	13%	20%	4%	0%	0%	16%	7%	2%	4%	7%
	Women	17%	9%	9%	22%	5%	0%	8%	9%	8%	4%	1%	10%
NYEKORAC (Sesame)	Men	18%	10%	8%	5%	0%	3%	3%	5%	15%	10%	10%	13%
	Women	12%	16%	10%	4%	8%	4%	10%	14%	10%	2%	2%	6%
SEBEI SACCO (Sunflower)	Men	4%	20%	24%	12%	0%	4%	16%	0%	4%	0%	4%	12%
	Women	12%	9%	15%	9%	9%	3%	9%	9%	0%	3%	9%	12%

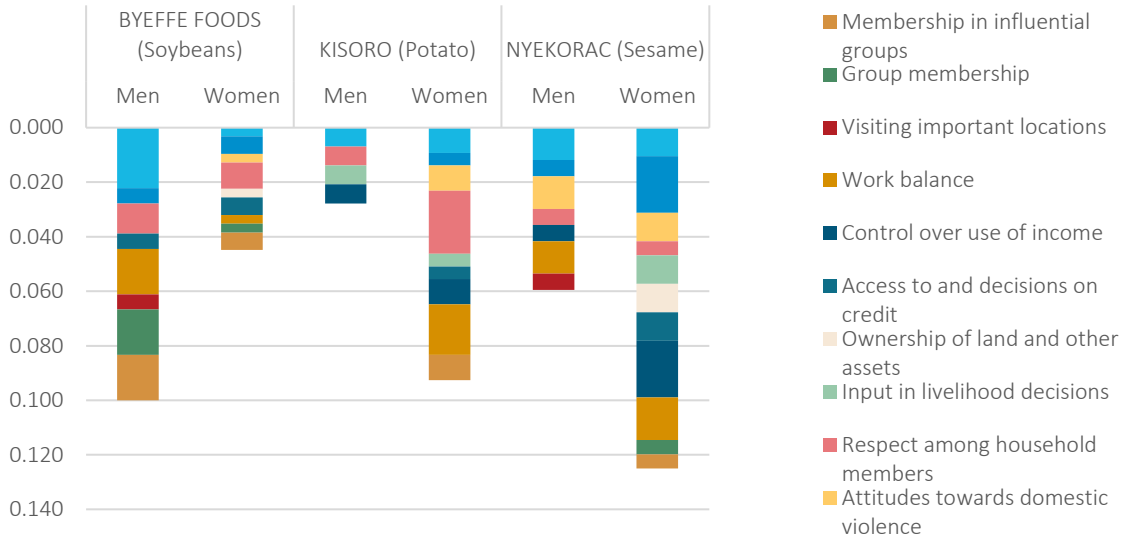
b) All Ugandan senior respondents by business case/value chain



Percentage contribution to the disempowerment score (%) for all senior respondents by business case/ value chain

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group member-ship*	*Member-ship in influential groups*
BYEFFE FOODS (Soybeans)	Men	15%	17%	0%	10%	2%	0%	10%	2%	8%	15%	8%	13%
	Women	14%	16%	2%	16%	1%	1%	10%	8%	7%	8%	9%	9%
KISORO (Potato)	Men	12%	16%	14%	20%	2%	0%	0%	16%	8%	2%	4%	8%
	Women	19%	10%	8%	21%	5%	0%	8%	8%	4%	5%	1%	10%
NYEKORAC (Sesame)	Men	17%	10%	3%	3%	0%	3%	3%	3%	14%	10%	14%	17%
	Women	16%	16%	12%	4%	8%	0%	12%	12%	8%	4%	0%	8%
SEBEI SACCO (Sunflower)	Men	5%	19%	24%	10%	0%	5%	19%	0%	5%	0%	5%	10%
	Women	14%	5%	14%	9%	9%	5%	9%	9%	0%	5%	9%	14%

c) All Ugandan youth respondents by business case/ value chain



Percentage contribution to the disempowerment score (%) for all Ugandan youth respondents by business case/ value chain

		Autonomy in income	*Self-efficacy*	*Attitudes towards domestic violence*	*Respect among household members*	*Input in livelihood decisions*	*Ownership of land and other assets*	*Access to and decisions on credit*	*Control over use of income*	*Work balance*	*Visiting important locations*	*Group Member-ship*	*Membership in influential groups*
BYEFFE FOODS (Soybeans)	Men	22%	6%	0%	11%	0%	0%	6%	0%	17%	6%	17%	17%
	Women	7%	14%	7%	21%	0%	7%	14%	0%	7%	0%	7%	14%
KISORO (Potato)	Men	25%	0%	0%	25%	25%	0%	0%	25%	0%	0%	0%	0%
	Women	10%	5%	10%	25%	5%	0%	5%	10%	20%	0%	0%	10%
NYEKORAC (Sesame)	Men	20%	10%	20%	10%	0%	0%	0%	10%	20%	10%	0%	0%
	Women	8%	17%	8%	4%	8%	8%	8%	17%	13%	0%	4%	4%

Summary of Disempowerment Drivers by Country and Gender

Overall Patterns

Across all countries, the key drivers of disempowerment for both men and women include:

- Autonomy in income decisions
- Self-efficacy
- Respect among household members
- Group membership
- Membership in influential groups

For **women**, additional drivers include:

- Control over use of income
- Access to and decisions on credit

For **men**, disempowerment is also notably linked to:

- Attitudes towards domestic violence, especially in Kenya and Uganda.

Kenya

- Top drivers for women: Respect among household members (16%), autonomy in income (13%), and control over income (10%).
- For men: Autonomy in income and self-efficacy (14% each), and attitudes towards domestic violence (13%).
- Kenya exhibits relatively balanced disempowerment profiles, but control over income and social group access remain weaker areas for women.

Tanzania

- Top drivers for women: Membership in influential groups (14%), group membership (12%), self-efficacy (12%) and mobility (11%).
- For men: Membership in influential groups (17%), group membership (15%), and self-efficacy (14%).
- Tanzania shows a distinct trend where social and institutional dimensions (group membership, influence) are greater contributors to disempowerment than instrumental or intrinsic agency.

Uganda

- For women: Respect among household members (16%), autonomy in income (15%), and access to and decisions on credit (10%).
- For men: Autonomy in income and self-efficacy (14% each), and visiting important locations (10%).
- Uganda has the most gender-symmetric disempowerment drivers but still reflects challenges in household dynamics and mobility.

Variation by Age Group

Seniors

- Women's disempowerment is strongly influenced by respect among household members (up to 18%), autonomy in income, and access to credit.
- For men, self-efficacy and autonomy in income are consistent concerns across all countries.
- Seniors in Kenya and Uganda mirror national patterns, while Tanzanian senior men and women continue to show high disempowerment from limited influence and group membership.

Youth

- In Kenya and Uganda, youth women are most disempowered by lack of respect, autonomy, and influence in group settings.

- Tanzanian youth (especially men in Kibaigwa and JAKMA cases) report the highest disempowerment from lack of membership in influential groups and poor self-efficacy.
- SOPA Millers (Kenya) youth report concentrated disempowerment in a few areas (e.g., autonomy, respect), but with better outcomes on credit access and work balance.

Business Case/Value Chain Deviations

Kenya

- Starlight (Potato): Women and men show more balanced disempowerment profiles, with group membership and income control playing a role but no dominant barrier.
- IMCOS (Green grams): Women face significantly high disempowerment in respect (19%) and group influence (15%), suggesting social barriers are more acute.
- Kaplomboi (Beans): Women's disempowerment stems from multiple moderate-level indicators, implying a more dispersed constraint profile.

Tanzania

- JAKMA (Sunflower): Male disempowerment is heavily driven by lack of group membership and influence (over 40%), while women face mixed barriers across respect, autonomy, and credit access.
- KIBAIGWA (Sorghum): Youth and senior men show high disempowerment from self-efficacy and respect; women's disempowerment is more varied but includes social constraints like group membership.
- VIBINJO (Beans): Offers a relatively positive picture—women report lower disempowerment in autonomy and respect, though group influence still stands out.

Uganda

- SEBEI SACCO (Sunflower): Women's disempowerment is more balanced with top contributors being credit access, group membership, and respect.
- KISORO (Potato): Youth women report high disempowerment in household respect (25%) and income control.
- BYEFFE FOODS (Soybeans): Men's disempowerment is more scattered, but access to income and decision-making over credit are recurrent issues.

Implications

1. Social and institutional disempowerment matters: Membership in groups and social respect are non-material but deeply impactful barriers, especially for women and youth. Interventions must go beyond assets and consider social capital and influence.
2. Tailored approaches by value chain: Disempowerment varies significantly by value chain. For example, green gram and sorghum cases show sharper gender gaps, while potato and sunflower cases offer more balanced outcomes highlighting which business models need more equity-focused design.
3. Youth require distinct support: Youth, especially in Tanzania, face disempowerment from lack of group influence and self-efficacy suggesting a need for leadership-building, mentorship, and inclusion in governance.
4. Respect and Household Dynamics: Respect among household members emerges as a top issue, especially for senior and youth women. Gender-transformative programming that challenges norms and promotes shared decision-making is critical.
5. Access and Control over Financial Resources Still Lags: Across all groups, credit access and control over income remain persistent disempowerment domains—implying a continued need for financial literacy, inclusive financing models, and co-managed accounts.

Shifting Roles, Shared Gains: Gender and Youth Perspectives on Climate-Smart Agriculture in CRAFT Communities

Climate-smart agriculture (CSA) is promoted not only as a pathway to increased resilience and productivity in the face of climate change, but also as a transformative opportunity to address longstanding inequalities within farming communities. This chapter evaluates how CSA practices, technologies, and service delivery models introduced through the CRAFT project have influenced gender and youth roles, particularly among youth- and female-headed farming households in Kenya, Tanzania, and Uganda.

It explores the extent to which CSA interventions have altered labor divisions, decision-making dynamics, and access to productive resources within households and communities. Special attention is paid to how different demographic groups, senior men and women, youth, and persons with disabilities have experienced the introduction and scaling of CSA practices. The chapter also discusses the key barriers and enablers to inclusive CSA adoption, focusing on issues of accessibility, affordability, and the balance between realized benefits and incurred costs.

By analyzing these dynamics through the lens of gender and social inclusion, this chapter provides grounded insights into how CSA interventions can be designed and implemented to be more equitable and responsive to the diverse needs of farming populations.

7. Methodology

This assessment employed a qualitative approach centered on community-level engagement to capture diverse experiences and perspectives. Data was collected through focus group discussions (FGDs) conducted across selected CRAFT business cases in Kenya, Uganda, and Tanzania. Participants were purposively disaggregated into four demographic groups to ensure inclusivity: senior men, senior women, youth (male and female), and persons with disabilities (PWDs).

A semi-structured FGD guide was used to explore participants' experiences with CSA practices and technologies promoted by the project. The discussions covered a range of themes, including:

- Shifts in roles and responsibilities within households and farms
- Barriers and enablers to CSA adoption
- Accessibility and affordability of CSA technologies and services
- Perceived benefits and opportunity costs
- Gender and youth-specific constraints and opportunities

The qualitative data was transcribed, coded, and thematically analyzed to identify patterns across gender, age, and ability groups, as well as contextual differences by country and crop value chain. The findings provide rich insights into user perspectives, based on self-reported experiences and perceptions, complemented by quantitative validation or triangulation through adoption data.

7.1 Summary of findings

7.1.1 Adoption of CSA promoted TIMPS by gender and country

The decision on whether or not to adopt a particular CSA technology or practice is influenced by many idiosyncratic and covariate factors. These factors include the farmer's awareness of the CSA technology or practice, the amount and quality of information at the farmer's disposal, the financial (dis)incentives to adopt, the farmer's time preference, and the level of risk averseness. Overall, the desired scaling-up of CSA science (technologies, practices and services) includes identifying specific practices, knowledge, and technologies within conducive enabling social and economic environments and with institutional and policy arrangements. The scaling-up process for CSA science may occur horizontally by replicating promising/ proven practices and technologies in new geographic areas or target groups or vertically by catalysing institutional and policy change or diagonally by adaptive management within project implementation to reflect emerging reality.

The level of awareness and extent of adoption of Climate-Smart Agriculture (CSA) technologies or practices were assessed using a standardized scale with the following classifications:

0 – Not Aware (The respondent is not aware of the practice);
1 – Aware but Not Adopted (The respondent is aware of the practice but has not adopted it);
2 – Considered but Not Adopted (The respondent has evaluated the practice but chosen not to adopt it);
3 – Adopted Occasionally (The practice has been adopted occasionally or in a limited manner);
4 – Adopted Regularly (The practice is adopted regularly, though not extensively);
5 – Adopted Extensively (The practice is adopted extensively and consistently); and
6 – Fully Integrated (The practice is fully integrated into the respondent's farming operations).

For analysis, responses were re-coded in STATA such that individuals who rated a technology or practice between 0 and 3 were classified as non-adopters, while those who scored between 4 and 6 were

categorized as adopters. The results presented below reflect the percentage of adopters, disaggregated by gender and country.

7.1.2 Adoption of CSA Practices: Gendered and Age-Specific Patterns Across CRAFT Countries

Climate-Smart Agriculture (CSA) offers critical promise in improving agricultural resilience to climate change, enhancing food security, and addressing long-standing inequalities within rural communities. Yet, effective scaling and sustainability of CSA require equitable access and adoption across diverse farmer groups. This section draws on extensive data collected through focus groups and adoption surveys to assess the uptake of CSA practices across **five key demographic groups**: senior men, senior women in male-headed households, senior women in female-headed households, young men, and young women.

Adoption Patterns by Group Across Countries and Technologies

Senior Men

Senior men exhibited **moderate to high CSA adoption rates** across all three countries, especially in Uganda and Kenya. Practices such as **planting in lines (89%), organic manure use (74%)**, **timely harvesting (87.5%)**, and **improved seed varieties (56.2%)** were the most widely adopted. Their adoption was often driven by familiarity with extension services and decision-making autonomy over resources.

However, adoption was **markedly lower in Tanzania**, particularly for structural soil and water conservation methods like terracing and contour ploughing (0%). This suggests that environmental and institutional contexts, rather than just age or gender, significantly influence uptake.

Senior Women in Male-Headed Households

This group showed more **selective adoption**, with a strong presence in Uganda and relatively lower uptake in Kenya and Tanzania. Key practices with higher adoption included **good post-harvest handling (53.7%)**, **intercropping (44.6%)**, and **pest/disease monitoring (55.2%)**. Their access to technologies seemed to be mediated by their spouses, limiting independent adoption, particularly for capital-intensive or physically demanding practices.

Technologies such as **soil testing (7.9%)**, **terracing (8.3%)**, and **drip irrigation (4.6%)** had limited reach. These findings reflect the persistent access and resource barriers that senior women face within male-headed households, where their decision-making roles may be limited.

Senior Women in Female-Headed Households

This group stood out for **high adoption levels**, especially in Uganda, where practices like **crop rotation (82.8%)**, **organic manure (78.6%)**, and **timely harvesting (78.3%)** were widely adopted. Their full control over land and production decisions appeared to enhance uptake, despite facing systemic constraints such as limited labor and capital.

Interestingly, this group was also more likely to adopt technologies like **mulching (64.4%)**, **recommended line spacing (94.8%)**, and **good production practices (50%)**, showcasing their motivation to intensify productivity and adapt to climate variability.

However, adoption in Tanzania was relatively lower, a likely reflection of differing levels of CSA outreach, gender norms, and institutional support.

Young Men

Young men showed the highest overall adoption levels across the board, particularly in Uganda. Practices such as minimum tillage (78.6%), intercropping (71.4%), organic manure (100%), and recommended seed rates (71.4%) had strong traction. They also demonstrated high openness to new innovations such as planting in lines (84.9%) and rhizobia inoculation (70.6%).

The group's agility, risk appetite, and access to extension messages—often delivered through digital platforms or peer networks—were key enablers. Their interest in commercial-oriented practices was evident in their relatively high use of good post-harvest practices (58%) and herbicides (50%).

Yet, despite strong adoption, young men continued to face land access constraints, which may limit their ability to adopt land-intensive technologies like farm ponds (11.8%) or drip irrigation (7.1%).

Young Women

Young women had adoption rates comparable to young men in Uganda but slightly lower overall across countries. In Uganda, they adopted organic manure (77.3%), planting in lines (88.1%), timely harvesting (69.7%), and pest/disease surveillance (55.3%) at high rates. This suggests that, when barriers are addressed, young women are just as likely to adopt.

However, in Kenya and Tanzania, adoption was hindered by structural constraints—land access, decision-making control, financial exclusion, and heavier domestic workloads. For example, practices such as cover cropping (36.7%), appropriate planting techniques (43.3%), and recommended seed rates (40%) were adopted at noticeably lower rates than their male counterparts.

Gender and Youth Differences in CSA Adoption

Statistical tests reveal several significant gender and youth gaps in CSA adoption:

- Senior men vs. senior women (male-headed households):
    - Significant differences in agroforestry, soil testing, and irrigation practices, particularly in Uganda and at aggregate levels.
    - Men consistently adopted more land-intensive technologies, likely due to greater control over land and decision making processes.
- Senior men vs. senior women (female-headed households):
    - Female-headed households showed statistically higher adoption for some practices (e.g., organic manure, crop rotation).
    - However, senior men were more likely to adopt technically advanced and resource-intensive practices, such as mechanization and irrigation.
- Young men vs. young women:
    - Gaps were smaller but still notable, particularly for improved seed varieties (p=0.0019).
    - The widest disparities were in Uganda, where capital constraints limit wide scale adoption by young women.

These differences point to both **structural barriers** (land, finance, norms) and **programmatic blind spots** (youth-targeted CSA delivery not gender-sensitive enough).

Implications and Lessons Learned for SNV/CRAFT

1. **Tailored CSA promotion works**: Youth, especially young men, have responded well to CSA, showing that targeting them with appropriate, scalable technologies can work. However, young women require **explicit empowerment approaches** to close the gap.
2. **Female-headed households are key agents of change:** These women, often overlooked in extension models, demonstrated strong and autonomous CSA adoption. Investing in their access to credit, labor-saving tools, and technical training offers high potential returns.
3. **Land and labor access remain critical bottlenecks**: Practices such as drip irrigation, farm ponds, and terracing are consistently under-adopted among women and youth, not due to lack of interest, but due to high land and capital demands. Future efforts must include **inclusive financing, communal asset models, and group-based land access** strategies.
4. **Bridging the gender knowledge gap**: Women's lower adoption rates for practices like timely planting or rhizobia use signal **information asymmetries**. Strengthening women's participation in training, especially through **peer-led learning**, is essential.

Table 47: Percentage of adopters by gender group and country

Technology or practice	Kenya (%)	Tanzania (%)	Uganda (%)	All Countries (%)
All respondents				
Ridges	—	11.11	56.95	52.67
Minimum tillage	62.50	18.92	58.86	51.72
Intercropping	50.00	16.67	62.35	53.96
Crop rotation	50.00	22.22	64.46	56.67
Cover crops	—	11.11	51.27	43.59
Agroforestry	40.06	5.93	36.53	32.01
Terracing	20.00	2.78	7.98	7.66
Contour ploughing	33.33	5.41	7.59	7.58
Improved seed varieties	49.77	46.33	61.36	54.44
Recommended seed rate	–	11.11	53.16	45.36
Appropriate planting techniques	28.57	13.89	51.27	43.78
Inorganic fertilizer	49.62	47.46	50.00	49.35
Green manure	—	16.67	48.10	42.05
Organic manure	—	100.00	72.61	71.17
Soil testing	6.22	7.86	16.88	11.47
Herbicide use	37.78	48.43	42.64	41.79
Timely planting based on weather advisories	48.86	48.74	58.46	52.78
Pest and disease surveillance and diagnosis	56.45	51.26	58.38	56.47
Drip irrigation	–	–	5.73	5.73
Diffuse light potato store	–	–	3.18	3.18
Good production practices	48.25	50.94	62.60	53.82
Good post-harvest handling practices and technologies	53.57	51.26	60.06	55.85
Crop insurance	3.19	2.20	19.83	9.92
Recommended line spacing	50.00	–	86.92	86.57

Irrigation/rain water harvesting/farm ponds	5.16	37.11	30.43	20.68
Mulching	31.25	–	65.95	64.51
Timely harvesting and proper drying	–	–	74.50	74.50
Mechanization for production	18.82	23.58	29.65	23.56
Planting in lines	–	–	87.57	87.57
Rhizobia inoculum	–	–	57.94	57.94
Farm ponds	–	–	31.78	31.78
Other	1.06	75.00	–	1.50

Senior men

Technology or practice	Kenya (%)	Tanzania (%)	Uganda (%)	All Countries (%)
Ridges	—	36.4	55.9	54.1
Minimum tillage	40.0	50.0	54.0	52.2
Intercropping	50.0	27.3	64.0	57.1
Crop rotation	66.7	45.5	58.8	56.9
Cover crops	—	36.4	54.0	50.8
Agroforestry	47.4	7.7	39.8	36.1
Terracing	—	—	16.0	12.9
Contour ploughing	100.0	—	16.0	14.3
Improved seed varieties	54.0	49.6	61.0	56.2
Recommended seed rate	—	27.3	58.0	52.5
Appropriate planting techniques	50.0	36.4	56.0	52.4
Inorganic fertilizer	50.7	52.9	53.7	52.3
Green manure	—	36.4	48.0	45.9
Organic manure	—	100.0	73.5	74.0
Soil testing	7.6	12.3	15.0	11.8
Herbicide use	37.4	49.1	44.1	42.4
Timely planting based on weather advisories	54.0	45.3	62.7	55.7
Pest and disease surveillance and diagnosis	54.5	52.8	58.5	55.9
Drip irrigation	—	—	6.1	6.1
Diffuse light potato store	—	—	6.1	6.1
Good production practices	49.3	48.1	60.6	52.8
Good post-harvest handling practices and technologies	60.2	56.6	59.3	59.1
Crop insurance	5.7	2.8	14.7	8.6
Recommended line spacing	—	—	83.3	83.3
Irrigation/rain water harvesting/farm ponds	8.1	37.7	25.8	20.6
Mulching	60.0	—	71.3	70.8
Timely harvesting and proper drying	—	—	87.5	87.5
Mechanization for production	17.5	24.5	27.7	22.5
Planting in lines	—	—	89.0	89.0
Rhizobia inoculum	—	—	56.7	56.7
Farm ponds	—	—	23.3	23.3
Other	0.5	50.0	—	0.9

Senior women in male headed households

Technology or practice	Kenya (%)	Tanzania (%)	Uganda (%)	All Countries (%)
Ridges	—	—	49.44	44.00
Minimum tillage	100.00	—	45.45	40.00
Intercropping	—	11.11	52.17	44.64
Crop rotation	—	—	60.42	49.15
Cover crops	—	—	40.91	33.33
Agroforestry	41.48	3.92	29.11	28.31
Terracing	16.67	—	8.89	8.33
Contour ploughing	—	—	4.55	3.64
Improved seed varieties	49.43	54.90	55.87	53.36
Recommended seed rate	—	0.00	45.45	37.74
Appropriate planting techniques	50.00	0.00	40.91	34.55
Inorganic fertilizer	51.14	52.94	47.40	50.11
Green manure	—	0.00	34.09	28.30
Organic manure	—	100.00	56.82	54.17
Soil testing	3.98	6.45	11.74	7.88
Herbicide use	36.36	52.69	37.57	40.27
Timely planting based on weather advisories	47.73	59.14	49.43	50.79
Pest and disease surveillance and diagnosis	53.98	60.22	53.99	55.19
Drip irrigation	—	—	4.55	4.55
Diffuse light potato store	—	—	2.27	2.27
Good production practices	46.59	63.44	58.91	54.52
Good post-harvest handling practices and technologies	52.27	50.54	56.80	53.65
Crop insurance	2.84	1.08	18.93	8.68
Recommended line spacing	—	—	86.67	84.78
Irrigation/rain water harvesting/farm ponds	2.27	39.78	31.78	20.60
Mulching	—	—	63.53	61.36
Timely harvesting and proper drying	—	—	59.46	59.46
Mechanization for production	17.05	29.03	27.91	23.37
Planting in lines	—	—	85.37	85.37
Rhizobia inoculum	—	—	48.89	48.89
Farm ponds	—	—	26.67	26.67
Other	0.56	100.00	—	1.12

Senior women in female headed households

Technology or practice	Kenya (%)	Tanzania (%)	Uganda (%)	All Countries (%)
Ridges	—	—	63.53	58.06
Minimum tillage	—	—	67.86	52.78
Intercropping	100.00	—	68.97	55.26
Crop rotation	66.67	12.50	82.76	67.50
Cover crops	—	—	60.71	47.22
Agroforestry	25.25	5.56	36.88	28.03
Terracing	33.33	—	0.00	2.50

Contour ploughing	—	—	0.00	0.00
Improved seed varieties	39.39	29.63	63.75	50.32
Recommended seed rate	—	—	50.00	38.89
Appropriate planting techniques	—	—	46.43	33.33
Inorganic fertilizer	45.45	29.63	45.37	42.37
Green manure	—	—	53.57	41.67
Organic manure	—	—	78.57	78.57
Soil testing	8.08	8.70	26.88	17.97
Herbicide use	30.30	36.96	38.89	35.04
Timely planting based on weather advisories	46.46	43.48	57.41	50.79
Pest and disease surveillance and diagnosis	56.57	36.96	65.00	58.17
Drip irrigation	—	—	3.57	3.57
Diffuse light potato store	—	—	3.57	3.57
Good production practices	42.42	45.65	61.25	50.00
Good post-harvest handling practices and technologies	44.44	54.35	58.33	52.88
Crop insurance	1.01	4.35	30.30	15.47
Recommended line spacing	100.00	—	94.74	94.83
Irrigation/rain water harvesting/farm ponds	10.10	34.78	22.50	19.47
Mulching	28.57	—	67.50	64.37
Timely harvesting and proper drying	—	—	78.26	78.26
Mechanization for production	16.16	15.22	27.50	19.91
Planting in lines	—	—	88.75	88.75
Rhizobia inoculum	—	—	59.65	59.65
Farm ponds	—	—	49.12	49.12
Other	2.00	100.00	—	2.94

Young men

Technology or practice	Kenya (%)	Tanzania (%)	Uganda (%)	All Countries (%)
Ridges	–	–	67.74	67.74
Minimum tillage	–	–	78.57	78.57
Intercropping	–	–	71.43	71.43
Crop rotation	–	–	71.43	71.43
Cover crops	–	–	57.14	57.14
Agroforestry	33.33	8.00	45.45	35.09
Terracing	–	–	0.00	0.00
Contour ploughing	–	–	0.00	0.00
Improved seed varieties	49.28	44.00	77.92	61.40
Recommended seed rate	–	–	71.43	71.43
Appropriate planting techniques	–	–	71.43	71.43
Inorganic fertilizer	44.93	48.00	61.90	52.23
Green manure	–	–	71.43	71.43
Organic manure	–	–	100.00	100.00
Soil testing	5.80	0.00	16.88	9.94
Herbicide use	46.38	48.00	55.56	50.32
Timely planting based on weather advisories	44.93	28.00	73.02	53.50

Pest and disease surveillance and diagnosis	65.22	36.00	62.34	59.65
Drip irrigation	–	–	7.14	7.14
Diffuse light potato store	–	–	0.00	0.00
Good production practices	40.58	32.00	77.55	51.75
Good post-harvest handling practices and technologies	50.72	40.00	73.02	57.96
Crop insurance	4.35	0.00	14.29	7.64
Recommended line spacing	–	–	82.35	82.35
Irrigation/rain water harvesting/farm ponds	4.35	24.00	40.82	20.28
Mulching	–	–	57.14	57.14
Timely harvesting and proper drying	–	–	81.25	81.25
Mechanization for production	23.19	24.00	36.73	27.97
Planting in lines	–	–	84.85	84.85
Rhizobia inoculum	–	–	70.59	70.59
Farm ponds	–	–	11.76	11.76
Other	—	—	—	—

Young women

Technology or practice	Kenya (%)	Tanzania (%)	Uganda (%)	All Countries (%)
Ridges	—	0.00	55.17	48.48
Minimum tillage	100.00	12.50	72.73	58.06
Intercropping	—	25.00	65.22	54.84
Crop rotation	—	25.00	58.33	50.00
Cover crops	—	—	50.00	36.67
Agroforestry	41.35	5.36	36.67	32.58
Terracing	—	12.50	4.00	6.06
Contour ploughing	—	25.00	9.09	13.33
Improved seed varieties	51.92	41.07	58.67	53.23
Recommended seed rate	—	12.50	50.00	40.00
Appropriate planting techniques	—	12.50	54.55	43.33
Inorganic fertilizer	51.92	42.86	45.60	47.37
Green manure	—	25.00	54.55	45.16
Organic manure	—	—	77.27	73.91
Soil testing	5.77	4.17	16.67	10.93
Herbicide use	42.31	50.00	44.00	44.40
Timely planting based on weather advisories	45.19	52.08	57.60	51.99
Pest and disease surveillance and diagnosis	58.65	52.08	55.33	55.96
Drip irrigation	—	—	9.09	9.09
Diffuse light potato store	—	—	—	—
Good production practices	59.62	47.92	64.08	59.22
Good post-harvest handling practices and technologies	52.88	43.75	60.94	55.00
Crop insurance	—	2.08	21.09	10.00
Recommended line spacing	—	—	82.86	82.86
Irrigation/rain water harvesting/farm ponds	—	39.58	36.89	22.35
Mulching	—	—	63.77	62.86
Timely harvesting and proper drying	—	—	69.70	69.70

Mechanization for production	24.04	18.75	33.01	26.67
Planting in lines	—	—	88.06	88.06
Rhizobia inoculum	—	—	62.86	62.86
Farm ponds	—	—	34.29	34.29
Other	2.88	—	—	2.88

Testing the significance of differences in adoption rates by group and country

Senior men vs senior women in male headed households

Technology or practice	Kenya	Tanzania	Uganda	All countries
Agroforestry	1.1647 (0.1224)	1.1763 (0.1204)	2.4160 (0.0080)	2.7145 (0.0034)
Improved seed varieties	0.8998 (0.1844)	-0.7850 (0.2167)	1.1259 (0.1304)	0.9260 (0.1773)
Inorganic fertilizer	-0.0832 (0.4669)	0.0074 (0.4971)	1.2120 (0.1131)	0.6982 (0.2426)
Soil testing	1.4944 (0.0680)	1.3919 (0.0828)	1.0314 (0.1515)	2.0891 (0.0185)
Herbicide use	0.2181 (0.4138)	-0.5090 (0.3057)	1.2865 (0.0995)	0.6734 (0.2504)
Timely planting based on weather advisories	1.2341 (0.1090)	-1.9608 (0.0257)	2.6211 (0.0046)	1.5115 (0.0655)
Pest and disease surveillance and diagnosis	0.1030 (0.4590)	-1.0454 (0.1485)	0.9765 (0.1647)	0.2529 (0.4002)
Good production practices	0.5278 (0.2990)	-2.1848 (0.0150)	0.2952 (0.3840)	-0.5205 (0.3014)
Good post-harvest handling practices and technologies	1.5656 (0.0591)	0.8536 (0.1972)	0.4879 (0.3130)	1.7015 (0.0446)
Crop insurance	1.3603 (0.0873)	0.8774 (0.1907)	-1.0910 (0.1380)	-0.0211 (0.4916)
Irrigation/rain water harvesting/farm ponds	2.5151 (0.0062)	-0.2947 (0.3843)	-1.1091 (0.1342)	-0.0189 (0.4924)
Mechanization for production	0.1266 (0.4497)	-0.7144 (0.2379)	-0.0308 (0.4877)	-0.3177 (0.3754)

Senior men vs senior women in female headed households

Technology or practice	Kenya	Tanzania	Uganda	All countries
Agroforestry	3.7777 (0.0001)	0.5059 (0.3068)	0.5866 (0.2789)	2.4477 (0.0073)
Improved seed varieties	2.4177 (0.0081)	2.4761 (0.0071)	-0.5556 (0.2894)	1.6823 (0.0464)
Inorganic fertilizer	0.8614 (0.1949)	2.9042 (0.0021)	1.3942 (0.0821)	2.6539 (0.0041)
Soil testing	-0.1524	0.6379	-2.9805	-2.5412

	(0.4395)	(0.2623)	(0.0015)	(0.0056)
Herbicide use	1.2261 (0.1105)	1.3760 (0.0854)	0.8876 (0.1877)	1.9706 (0.0246)
Timely planting based on weather advisories	1.2415 (0.1077)	0.2043 (0.4192)	0.9175 (0.1798)	1.2779 (0.1008)
Pest and disease surveillance and diagnosis	-0.3395 (0.3672)	1.8070 (0.0364)	-1.3194 (0.0939)	-0.6274 (0.2653)
Good production practices	1.1276 (0.1302)	0.2774 (0.3909)	-0.0896 (0.4643)	0.6807 (0.2481)
Good post-harvest handling practices and technologies	2.6191 (0.0046)	0.2557 (0.3993)	0.1779 (0.4295)	1.6975 (0.0450)
Crop insurance	1.9206 (0.0278)	-0.4791 (0.3163)	-3.4899 (0.0003)	-2.9498 (0.0016)
Irrigation/rain water harvesting/farm ponds	-0.5935 (0.2766)	0.3446 (0.3654)	0.5551 (0.2897)	0.3326 (0.3698)
Mechanization for production	0.2986 (0.3827)	1.2776 (0.1017)	0.0391 (0.4844)	0.7637 (0.2227)

Young men vs Young women

Technology or practice	Kenya	Tanzania	Uganda	All countries
Agroforestry	-1.0597 (0.1454)	0.4515 (0.3264)	1.2804 (0.1009)	0.5568 (0.2890)
Improved seed varieties	-0.3392 (0.3674)	0.2437 (0.4040)	2.9248 (0.0019)	1.7319 (0.0420)
Inorganic fertilizer	-0.8981 (0.1852)	0.4254 (0.3358)	2.1251 (0.0174)	0.9772 (0.1645)
Soil testing	0.0076 (0.5030)	-1.0282 (0.1537)	0.0412 (0.4836)	-0.3343 (0.3692)
Herbicide use	0.5254 (0.3000)	-0.1600 (0.4367)	1.4981 (0.0679)	1.1861 (0.8819)
Timely planting based on weather advisories	-0.0341 (0.4864)	-1.9944 (0.0250)	2.0765 (0.0196)	0.3036 (0.6192)
Pest and disease surveillance and diagnosis	0.8646 (0.1942)	-1.3046 (0.0981)	1.0092 (0.1570)	0.7781 (0.7815)
Good production practices	-2.4834 (0.0070)	-1.3029 (0.0984)	1.6746 (0.0480)	-1.4420 (0.0750)
Good post-harvest handling practices and technologies	-0.2769 (0.3911)	-0.3035 (0.3812)	1.6476 (0.0505)	0.5974 (0.2753)
Crop insurance	2.1616 (0.0160)	-0.7193 (0.2372)	-1.1289 (0.1302)	-0.8184 (0.2068)
Irrigation/rain water harvesting/farm ponds	2.1616 (0.0160)	-1.3293 (0.0940)	0.4626 (0.3222)	-0.4811 (0.3154)
Mechanization for production	-0.1280 (0.4491)	0.5205 (0.3022)	0.4498 (0.3268)	0.2803 (0.3897)

7.1.3 Community perspectives on CSA TIMPS adoption

Based on the qualitative findings from focus group discussions across Kenya, Tanzania, and Uganda, the following section evaluates how Climate Smart Agriculture (CSA) practices, technologies, and service provision have affected youth and gender roles and responsibilities within farming communities, the barriers and enablers of adoption and the benefits and costs realized with a focus on youth- and female-headed households (FHHs). The analysis is organized thematically using the FGD sub-questions and highlights differences across CSA technologies, value chains, and country contexts, while contrasting perspectives from senior men and women with those of youth and FHHs.

Are CSA TIMPS reshaping gender and youth roles in smallholder farming?

Climate Smart Agriculture (CSA) TIMPs are gradually reshaping gender and youth roles in smallholder farming across Kenya, Tanzania, and Uganda, though persistent structural barriers remain. While both men and women are engaged in CSA practices, women especially those in female-headed households and youth often shoulder heavier labor burdens without corresponding decision-making power or access to resources. Traditional gender roles still dominate work distribution, particularly in labor-intensive tasks like weeding and post-harvest handling, despite some CSA practices offering labor-saving potential. Youth are increasingly involved in technical aspects but face limited autonomy. Positive shifts have occurred through training, cooperative involvement, and access to tools, yet the benefits remain uneven. To ensure equity, interventions must promote gender-responsive mechanization, community labor models, increased women's voice in planning, and tailored support packages for FHHs and youth.

- **Uptake and use of CSA TIMPS by household members**

Across all three countries, both men and women reported the use of CSA technologies, although the intensity and type of involvement varied. In Kenya, there was widespread household engagement in CSA practices such as agroforestry, improved seed use, conservation agriculture, and integrated soil fertility management. Senior men and women frequently highlighted the shared use of these practices, though they often emphasized a gendered division of labor. In contrast, youth and FHHs often underscored a more equitable or inclusive pattern of use, especially in cooperatives.

In Tanzania and Uganda, women, particularly in female-headed households were often more directly responsible for adopting CSA TIMPs such as improved seeds and fertilizers. However, decision-making and financial responsibilities, like purchasing inputs, often remained with men or senior household members. Youth reported active involvement in CSA adoption, particularly where they had received training, but often lacked autonomy in decision-making.

Country Variation:

- In Kenya, both youth and seniors noted the practical application of CSA TIMPs across the family, especially in cooperatives.
- In Tanzania, CSA uptake was driven by access to training and input distribution facilitated by business champions (e.g., JACKMA, EAF), but affordability of technologies like hand planters remained a barrier.

- In Uganda, line planting, improved storage, and use of rhizobia were noted as key changes, with strong intergenerational participation.

"All our family members are directly using conservation agriculture, we are mostly using ripping and basin agriculture in our gardens." — *Senior men, Conservation Agriculture – SOPA, Kenya*

"Any family member who received skills training will directly involve and guide others on uses of seeds—whether a man, woman, youth, or PWD." — *Youth-Mixed, Improved Seed – Iduwo, Tanzania*

- **Gender participation and work distribution in CSA activities**

CSA adoption has redefined gendered roles but structural constraints remain persistent. While there is general acknowledgment of a division of labor, traditional gender role distribution persists and perceptions on fairness varied significantly. Senior men often reported the distribution as fair, highlighting that traditional gender role division is in fact complementary. Men focused on land preparation and marketing, women on weeding and harvesting. However, senior women and youth, particularly in Kenya and Uganda, frequently contested this view, arguing that women bear a disproportionate burden, especially in labor-intensive tasks such as weeding, threshing, and post-harvest handling. Not surprisingly, in FHHs, women reported doing "everything" in the field, with limited male support. This was echoed across all countries, although some Tanzanian and Ugandan respondents noted improvements driven by communal labor models or gender smart practices.

Differences by CSA TIMP:

- Agroforestry: Men controlled planting and pruning decisions, with women relegated to maintenance and non-decision tasks, especially where land tenure was insecure.
- Improved seeds: Often increased labor demands for precise planting and maintenance; men controlled procurement, women implemented most tasks. Some practices such as surface planting, were lauded for leading to reduction in workloads in potato production.
- Soil fertility management: Gender roles were task-specific, but women often managed more labor-intensive components.

"Men participate more when it comes to marketing of the product because it is where the money is. The men will sell the product, then bring the money home and share with the family according to the needs of the family." — *Senior men, Improved Seed – SOPA, Kenya*

"We women are the ones who did everything in the farm from preparing the farm until harvesting. It is not fair to us, but we can't do anything because these are the men and we are living in their houses." — *Senior women, Improved Seed – Kibaigwa, Tanzania*

"The youth are extensively involved in agroforestry, especially on trees that have higher and quick returns e.g. Avocado. This cuts across both male and female youth." — *Youth-Mixed, Agroforestry – Kaplomboi Cooperative Society, Kenya*

"… planting potatoes using furrows was more labour intensive compared to surface planting which is one of the ISFM practices…" — *Youth-mixed, Integrated Soil Fertility Management_ Starlight Cooperative, Kenya*

- **Changes in farming practices due to CSA adoption**

CSA technologies have altered traditional farming practices across all sites. Key changes include:

- Adoption of line planting, mechanization, reduced tillage, agronomic spacing, intercropping, and use of rhizobia and improved fertilizers.
- Enhanced storage practices (e.g., hermetic bags)
- Harnessing the digital dividend e.g. the use of apps like Plantix for crop management in Kenya.
- Shifts to higher efficiency tools in Tanzania, including ox-ploughs and tractors.
- Increased productivity with smaller plots noted in all countries.

While these changes improved efficiency and yields, they also demanded higher technical precision and labor in some areas, particularly in post-harvest handling.

"The farming has changed... in the past, there were no trees, but now we have planted trees. We do a lot of mulching and spraying after the training we received from the cooperative." — *Senior men, Agroforestry – Kaplomboi Cooperative Society, Kenya*

"Before the project intervention, we were using large farming space with low productivity. Now we intensify the use of small land portions and have high productivity." — *Female-headed household, Improved Seed – Jackma, Tanzania*

"We are now storing our produce and seeds in stores, unlike in the past when we used to store in granaries. This has reduced loss." — *Youth-Mixed, Post-Harvest Handling – Nykorac, Uganda*

- **Workload implications of CSA adoption**

The perception of workload shifts was mixed:

- In Kenya, many reported increased workloads, particularly for women (weeding, spraying, drying), pointing to a persistence of traditional gender roles though mechanization and labour reducing practices has helped manage this to a small extent.
- In Tanzania, both men and women reported increased workload due to precision tasks (spacing, line planting), though mechanization and input access helped reduce burden in some areas. FHHs were particularly burdened.
- In Uganda, reports were mixed. Some noted increased workloads for all family members, especially during planting and weeding; others noted reduced burdens due to tarpaulins, rhizobia, and shared labor.

Youth often experienced new roles in technical or data-driven aspects of farming, but faced structural limits in decision-making. FHHs, while empowered in some cases, remained overburdened where male support or mechanization was lacking.

"Workload has increased for women specifically when planting, preparing land, weeding, spraying, threshing, and drying… most men avoid these jobs." — *Senior women, Improved Seed – Kaplomboi, Kenya*

"Yes, workload increased… especially in managing crops from planting improved seeds to harvesting." — *Senior men, Improved Seed – Vibinjo, Tanzania*

"Workload reduced, especially for women who do the weeding because with the use of rhizobia the growth rate of weed is low." — *Senior men, Rhizobia – Byeffe Foods, Uganda*

- **Household and project-level improvements**

The focus group discussions unearthed some ongoing efforts to mitigate CSA TIMPS induced workload increases both at household and program level. The following strategies were identified:

- Hiring of casual labor: Common across all sites, especially for physically intensive tasks.
- Community support models: "Merry-go-round" systems, particularly in Kenya, were used to share labor among women.
- Technology access: The program through the business champions introduced tools (e.g., ox-ploughs in Tanzania, tarpaulins in Uganda) and promoted practices like line planting to ease labor.
- Training and sensitization: The program has emphasized gender balance and labor sharing during CSA training sessions.

"We now hire some people (casual labour) to help in case the work is too much." — *Senior women, Improved Seed – Kaplomboi Cooperative Society, Kenya*

"The project encouraged us to use minimal tillage and herbicides for weed control." — *Senior men, Improved Seed – Vibinjo, Tanzania*

"Line planting helped to reduce the workload on women." — *Youth-Mixed, Post-Harvest Handling – Okeba Uganda Limited*

- **Implications and Recommendations**
- **Implications**

1. CSA practices are enhancing productivity but also reshaping gender and youth labor dynamics, often intensifying workloads, particularly for women and youth with limited autonomy. A few CSA TIMPS have a labour reducing effect e.g. surface planting in potato or induce a gender shift in roles e.g. threshers, but this doesn't cut across.
2. Structural barriers (e.g., land tenure, financial decision-making) continue to limit equitable participation, particularly for FHHs and youth.
3. The program is beginning to address these burdens through labor-saving technologies, community support models, and training—but gaps remain, especially in scaling, affordability and timing.

- **Recommendations**

Although the program has had some impact on traditional gender roles, these still persevere to a large extent. To address the persistent traditional gender roles and labor burden on women, especially in weeding, spraying, and post-harvest handling, several evidence-backed strategies emerge from the findings:

1. Promote gender-responsive mechanization: Provide subsidized or shared weeding tools, small tractors, or herbicide sprayers targeted for women farmers. Link cooperatives and farmer groups

to government or business-champion supported machinery services, particularly in green gram and potato chains where manual labor is high.

2. Expand access to herbicides and integrated weed management: Train women in safe herbicide use and pair this with access to credit or bulk purchase schemes via cooperatives. Promote cover crops and mulching (as noted in agroforestry) to naturally suppress weeds.
3. Strengthen women's voice in planning and input decisions: Increase women's decision-making role in input procurement, crop selection, and field layout, which are still often male-dominated. Implement couple trainings and community dialogue on shared labor to challenge norms.
4. Invest in community labor models: Scale up "merry-go-round" or rotational labor-sharing models, particularly in areas with strong cooperative presence. Furthermore, encourage youth inclusion to offset women's time poverty.
5. Target female-headed households with bundled services: Bundle CSA inputs (improved seed, fertilizer), technical support, and cash-for-labor programs for FHHs to reduce both economic and time burdens. In addition, leverage digital tools (e.g., Plantix app in Kenya) for low-cost, time-saving crop management.
6. Promote local champions of gender equity in labour distribution

Equity in accessing CSA-driven income opportunities: a gender and youth perspective

This section explores the extent to which Climate Smart Agriculture (CSA) practices and technologies (CSA TIMPs) have generated equitable income-generating opportunities, particularly for youth and female-headed households (FHHs), across Kenya, Tanzania, and Uganda. Drawing on qualitative evidence from focus group discussions, the analysis reveals that CSA TIMPs have opened up new livelihoods through commercialization, mechanization, value addition, and agro-input services. Youth have increasingly taken on roles in service provision, technology use, and agro-enterprise, while FHHs are engaging in agro-processing, small-scale sales, and local marketing. However, benefits are not evenly distributed. Labor-saving innovations have contributed to the displacement of certain groups, especially casual workers, elderly individuals, and persons with disabilities (PWDs) from traditional farming tasks. This section identifies both the enablers and constraints in equitable CSA adoption, outlines variations across countries, value chains, and practices, and offers targeted recommendations to improve inclusion and mitigate unintended negative impacts on vulnerable groups.

- **In what ways has CSA created new earning opportunities and who benefits?**

  Overall, CSA TIMPs have generated a wide range of income-generating opportunities across all demographic groups; men, women, youth, and casual laborers. However, youth and female-headed households particularly benefited where CSA practices promoted commercialization, value addition, mechanization, or service provision.

  In Kenya, mechanization (e.g., use of threshers, tractors) and agroforestry stood out. Youth accessed new roles in mechanized operations and value chains (e.g., operating threshers, agroforestry-based sawing jobs), while women and FHHs earned income from selling by-products (e.g., sawdust, firewood, fruits). In addition, youth and men benefitted from service-based roles like spray hire services, packaging, threshing, and soil testing. While FHHs were seen actively producing and selling quality seeds and inputs.

"Agroforestry...generated employment in providing construction and fencing materials...and producing herbs and compost..." — *Youth, Kaplomboi Cooperative Society*

In Tanzania, improved seed use and fertilizers opened up opportunities in **seed multiplication, agro-input supply**, and **casual labor for planting and harvesting**. Youth invested in **seedling supply** and **transport services**, while **FHHs engaged in organic manure preparation and agro-dealer services**. "Integrating agroforestry has increased income and employment opportunities to youth through investing in seedling multiplication and supply." — *Youth, EAF*

In Uganda, CSA practices created substantial job opportunities through **value addition, factory work, transportation (e.g., boda boda services), agro-input sales, and animal rearing**. **Women and FHHs** were especially prominent in value addition and agro-processing.

"Employment opportunities for women, men and youth...value addition to the soybean; we mill it to make flour for sale..." — *Multiple FGD respondents, Okeba Uganda Limited.*

- **Ways youth and FHHs have harnessed income generating opportunities**

Youth and FHHs have harnessed these opportunities by engaging in entrepreneurial activities, establishing service provision businesses, participating in marketing and aggregation, and diversifying into livestock.

The FGDs in Kenya for instance revealed that youth have become service providers; offering soil testing, agro-inputs, spraying and have taken advantage of Farmer Service Centers (FSCs). FHHs contributed to fruit sales and marketing of sawdust, while men ventured into wood processing and firewood sales.

"We are working as distributors, in Farmer Service Centres, as casual laborers and we are making organic inputs for sale." — *Youth, Starlight Cooperative, Kenya*

In Tanzania, male youth farmers in particular are offering motorbike services to transport inputs and produce, have opened agrovet shops, and are undertaking casual work especially during line planting, harvesting and threshing on farms in response to increased acreage under cultivation and rising demand for labour.

"Some of us are opening agrovet centers... we are transporting seeds from one farmer to another by motorbike." — *Youth, EAF*

In Uganda, FGDs pointed to notable participation by FHHs in value addition especially in the soybean value chain, produce shops, social networks for producing and marketing quality declared seed, agrovet shops for selling agrochemicals. Youth and men have diversified income sources through livestock and transport services.

"Led to diversification through selling herbicides and pesticides... one of our members has an agro-input shop." — *Senior Woman, Nyekorac, Uganda*

"Some farmers are sales agents of Rhizobia and are earning income out of it" — *Senior Men, Byeffe Foods, Uganda.*

- **Are any groups being displaced from work due to CSA TIMPs?**

CSA adoption has displaced some vulnerable groups, particularly casual laborers, elderly, women, and PWDs, due to increased mechanization or labor-saving technologies. In Kenya, while some saw no displacement, others noted loss of casual jobs (e.g., weeding, threshing) due to herbicide use and machinery. FHHs previously dependent on maintaining own woodlots and selling firewood were reported to have been displaced by agroforestry.

"Women... displaced from work as a result of herbicide use for weeding and use of threshers." — *Youth, IMCOS*

For Tanzania, although job creation has reportedly outweighed displacement, the elderly and women engaged in the casual labour force faced difficulties with physically demanding tasks such as planting with ropes and stretching lines. Mechanization (e.g., planters, herbicide spraying) have further reduced casual labor demand.

"Some activities...become difficult for women to perform efficiently for a long time." — *Youth, Jackma*

Similarly, in Uganda, the elderly and PWDs were explicitly mentioned as being left out due to new planting and spraying practices requiring physical ability or precision.

"Yes, disabled people are displaced and old people when it comes to planting and spraying." — *Youth & Senior Women, Nyekorac*

- **What is being done to reduce income and job displacement effects?**

The FDGs didn't reveal any ongoing efforts to mitigate the income and job displacement effects of CSA promotion and adoption. Participants however, suggested retraining, inclusive CSA design, and alternative job creation as mitigation strategies.

Suggestions from Kenyan participants included training women and casual workers to operate machinery and offer services; promoting value addition and off-farm roles (e.g., marketing, grading) for inclusivity.

"Train women how to use machines so they can become mechanization service providers." — *Youth, IMCOS*

In Tanzania some FHHs have upgraded along the value chain into new roles such as input sales agents for especially seed and called for this to be taken to scale.

"Create new opportunities which relate to the farming technology such as being an agent of selling improved seeds." — *Female-household-head, Vibinjo*

Recommendations from Ugandan FGD participants included designing accessible tools (e.g., motorized sprayers), assigning less strenuous roles (e.g., rope placement) to elderly/PWDs, and expanding the scale of operations to generate employment.

"… design a machine for spraying that everyone can use." — *Senior Woman, Nyekorac*

- **Implications and Recommendations**

Implications

While CSA TIMPs have positively impacted youth and FHHs by opening up diversified and resilient income opportunities, there are uneven benefits. For instance, youth are leveraging digital, mechanical, and service roles more effectively than older cohorts. FHHs are capitalizing on agro-processing, input sales, and value addition but face structural constraints in mechanized operations. On the other hand, casual laborers, PWDs, and the elderly risk exclusion unless CSA roll-out is explicitly inclusive.

There are variations by country and CSA TIMP however,

- Kenya excelled in agroforestry and mechanization services for income diversification.
- Tanzania emphasized upgrading women and youth into improved seed multiplication and sales roles and as fertilizer sales agents with moderate displacement risks.
- Uganda showed strong gains in value addition, albeit with pronounced concerns for PWDs and the elderly.

Recommendations

1. Train vulnerable groups (FHHs, PWDs, elderly) in CSA service delivery, especially mechanized and advisory roles.
2. Design CSA tools (planters, sprayers) with universal accessibility.
3. Promote inclusive Farmer Service Centers where women and youth can engage as agents and distributors.
4. Incorporate displacement assessments in CSA scaling plans and develop mitigation strategies.
5. Encourage private sector to support youth- and female-led CSA enterprises via seed capital or inputs.

Appropriateness of CSA TIMPS across land holdings and gender group

This section evaluates the appropriateness of Climate Smart Agriculture (CSA) technologies, innovations, and management practices (CSA TIMPs) from a gender and youth-inclusive perspective, with emphasis on the experiences of youth and female-headed households (FHHs) across Kenya, Tanzania, and Uganda. Findings from focus group discussions reveal that while CSA TIMPs are generally adaptable to diverse land sizes, their design and labor requirements often limit accessibility for women, persons with disabilities (PWDs), and elderly farmers. Practices such as agroforestry and pesticide application pose challenges for FHHs with limited land or labor resources, while elderly users increasingly rely on others for physically demanding tasks. Youth show readiness to adopt these practices but are constrained by affordability and access to land or mechanization. This section identifies country- and practice-specific gaps and offers targeted recommendations to enhance the inclusivity of CSA interventions.

- Were CSA TIMPs suited to the various land size holdings of men and women?

Overall, most respondents across all countries reported that CSA TIMPs are appropriate for varying land sizes, including smallholder plots typically held by women and youth. However, agroforestry and commercial practices were sometimes seen as better suited to larger land holdings, limiting uptake by small-scale farmers, particularly FHHs and youth. The majority of FGD participants in Kenya agreed that CSA TIMPs like improved seeds and soil fertility management are scalable to any land size. Agroforestry, while beneficial, was noted by youth and senior men/women in Kaplomboi to require larger plots for commercial viability.

"Limitation is only when agroforestry is for commercial purposes… For small farms it's basically short-term fruit trees." — *Youth, Kaplomboi Cooperative.*

In Tanzania there was strong consensus that technologies are suitable for all land sizes, including FHHs' typically smaller plots. However, perceptions were that commercial use of fertilizers was more practical for farms over 1 acre.

"The use of fertilizers is suitable for all farmers, however, for business farmers it is good to have a land size of 1 acre and above." — *Senior Man, EAF*

Similar to their regional counterparts, in Uganda, the respondents uniformly reported CSA TIMPs like improved seed, good agronomic practices, and post-harvest handling as appropriate across farm sizes.

"Suitable for all land size holdings." — *Youth, Okeba Uganda Ltd.*

- Does the design or application method enable unencumbered use by all users (men, women, youth, seniors, PWDs)?

While CSA TIMPs are generally seen as gender-neutral in principle, their practical application often excludes vulnerable groups, especially PWDs, elderly farmers, and women in physically demanding roles (e.g., pesticide application, line planting, tree pruning).

For instance, in Kenya, senior women and youth noted that tree pruning in agroforestry and soil fertility management are challenging for the elderly and PWDs. Women and PWDs often outsource labor for tasks requiring strength or technical tools.

"As the trees become taller it becomes difficult for old women and old men to manage the trees... PWDs are also disadvantaged." — *Senior Woman, Kaplomboi*

In Tanzania, some technologies (e.g., improved seeds) were broadly accessible, but pesticide application was cited as a gendered barrier. Participants also noted that mental illness and certain physical disabilities made tasks like line spacing difficult.

"It depends on the type of disability… mental illness makes it difficult to follow spacing requirements." — Female Head, EAF

Likewise, in Uganda, youth and women noted that line planting, hole digging, and weeding present participation barriers for PWDs and seniors. Some CSA activities, however, like post-harvest handling (excluding threshing) were considered more inclusive.

"PWDs may not conveniently use the CSA especially line planting and weeding, digging holes." — *Youth, Okeba Uganda Ltd.*

- What is needed to make CSA TIMPs more appropriate for all users?

Participants across all countries proposed technological, institutional, and training-based interventions to enhance CSA TIMP inclusivity for youth, women, FHHs, elderly, and PWDs.

Kenyan participants proposed

- Financial access for PWDs and vulnerable groups
- Decentralized input and service provision through Farmer Service Centres and youth engagement
- Agroforestry design adaptation to gendered needs (tree variety and management training)

"To decentralize service provision of tools and inputs… promote Farmer Service Centres and link youth to distributors." — *Youth, Starlight Cooperative*

In Tanzania, the FGD respondents proposed

- Simplified pesticide application technologies for women and PWDs
- Linkages between farmers and service providers for technical support

"Introduce simple and easy technology on pesticide application for all groups of people." — Female Head, Vibinjo

The recommendations from Ugandan participants included:

- Mechanized planters and threshers to reduce manual labor
- Small-sized sprayers tailored for women
- Block farming models for more efficient input and service delivery

"Motorized sprayers/small-sized sprayers that can be carried by women." — *Senior Woman, Okeba Uganda Ltd.*

- Implications and Recommendations

Implications

The evaluation highlights that while CSA TIMPs are generally technically adaptable to various land sizes, their practical usability varies significantly by gender, age, and ability. FHHs and youth often benefit from flexibility and lower capital requirements, but face barriers related to land access, affordability, and physical labor.

- **Senior men and women** perceive CSA practices as beneficial but increasingly rely on younger household members or hired labor.
- **Youth and FHHs** are open adopters but **constrained by labor demands, physical design, and resource access**.
- **PWDs and the elderly** are most at risk of exclusion without intentional design adjustments.

Recommendations

1. Design CSA tools for universal use, including motorized and ergonomic equipment.
2. Decentralize CSA support services through localized hubs (e.g., Farmer Service Centres).
3. Facilitate access to microfinance or post-harvest payback models for PWDs and low-resource users.
4. Incorporate training and community sensitization to foster youth–senior collaboration and inclusive practices.
5. Adapt CSA interventions to agro-ecological conditions and farm sizes to support smallholders, especially FHHs.

Acceptability of CSA TIMPs

This section assesses the acceptability of Climate Smart Agriculture (CSA) technologies, innovations, and management practices (CSA TIMPs) through the lens of gender and youth inclusion, focusing particularly on youth and female-headed households (FHHs). Based on qualitative findings from Kenya, Tanzania, and Uganda, CSA TIMPs are largely seen as culturally appropriate and aligned with community values. However, some persistent beliefs and generational perceptions, such as restrictions on youth land ownership, and doubts about fertilizer use (including foliar sprays and rhizobia), may subtly inhibit adoption. Female and youth participants generally express support for CSA, but note that traditional attitudes may still influence access, control, or decision-making. Perceptions of compromised taste or quality were rare but present, particularly among users of improved seeds and soil inputs. The findings underscore the need for targeted sensitization and participatory varietal selection to improve long-term acceptability and uptake.

- Are there cultural constraints to men or women's ownership, use, or marketing of CSA TIMPs?

Across all countries, **cultural constraints were generally minimal**. In Kenya, Tanzania, and Uganda, most respondents, including youth, senior men and women did not identify major traditional or religious prohibitions against CSA TIMPs. However, **indirect or structural constraints** were reported, especially concerning **land ownership and access among youth**, and **beliefs around foliar sprays and pest/disease implications**.

FGDs in Kenya didn't unearth any cultural resistance to CSA TIMPS including improved seed or conservation agriculture. However, youth and FHHs reported indirect constraints, particularly beliefs about land ownership and tree planting.

"Perceptions that youth should not be given land ownership rights, limits the extent to which youth indulge in agroforestry." — *Youth, Kaplomboi*

"The community has completely accepted improved seed… we are more interested in development." — *Senior Man, SOPA Millers*

In Tanzania, participants from all demographic groups consistently reported no cultural constraints. There was one outlier belief noted however, low market value for beans from improved seed, which could deter uptake among FHHs relying on legume sales.

"Societies believe that common beans planted with improved seed do not have markets." — Female Head, *Vibinjo*

In Uganda, while most groups reported no direct barriers, some cultural skepticism about fertilizer use persist.

"In our culture, it is said that fertilizers make land lose its fertility." — *Youth, Nyekorac*

There was no evidence of formal or informal sanctions—social, religious, or economic—being imposed on users of CSA TIMPs across the three countries. Respondents across gender and age categories noted that use of CSA is seen as a sign of modernization and development rather than a source of stigma.

- Does the CSA TIMP compromise a preferred attribute (e.g. taste, colour, texture, processing)?

In general, participants indicated that CSA TIMPs maintained or enhanced desirable crop and product qualities. However, some reported that chemical inputs like foliar sprays and certain improved seed varieties affected taste and texture, with youth and FHHs most sensitive to marketability and household preferences.

In Kenya, the positive attributes of improved seed (e.g., faster cooking, better market prices) were widely appreciated. Concerns around taste and chemical effects were limited to youth using foliar applications.

"Angaza seed has no gas, cooks faster and fetches good prices." — *Senior Woman, Kaplomboi*
"Excessive use of foliar chemicals affects taste of potatoes." — *Youth, Starlight Cooperative*

In Tanzania, there were no issues reported with taste or texture; improved varieties were considered fully acceptable by all groups.

"No compromise; improved varieties are accepted." — *Youth, Kibaigwa*

In Uganda, while many saw improved seeds as enhancing food quality, some reported loss of sweetness or texture, particularly when using rhizobia. These are beliefs that may have to be debunked through research especially if they are widely held and their restraining effect on adoption is high.

"Yes, improved seed is less sweet compared to the local." — *Senior Woman, Byeffe Foods*
"There is a change in taste when rhizobia are applied." — *Senior Man, Byeffe Foods*

- Implications and Recommendations

Implications

- Cultural acceptance is broad, but not uniform: While CSA TIMPs are largely seen as culturally appropriate across Kenya, Tanzania, and Uganda, indirect socio-cultural constraints persist,

particularly for youth and FHHs. Notably, land ownership norms, generational perceptions, and myths about input use (e.g., fertilizer degrading soil fertility) may limit adoption, even in the absence of formal prohibitions.

- Youth and FHHs are especially vulnerable to subtle barriers: Youth face community skepticism over land rights and long-term tree planting (e.g., agroforestry). FHHs, often responsible for food preparation and marketing, are sensitive to changes in crop taste, cooking quality, and perceived marketability. These concerns can reduce their enthusiasm for certain CSA practices (e.g., use of foliar fertilizers, rhizobia).
- Limited evidence of social sanctions enables open promotion: The absence of widespread social sanctions or taboos presents an opportunity for broad-based CSA promotion. Community openness to agricultural innovation can be leveraged through inclusive extension strategies, especially if messages address underlying beliefs and value systems.
- Perceived quality trade-offs could undermine long-term uptake: Although rare, reports of changes in taste, texture, and sweetness—especially in staple crops—highlight the need to consider consumer preferences in CSA technology design and promotion. Ignoring such attributes may lead to eventual disuse or resistance, especially among women and elderly users.

Recommendations

- Implement community sensitization campaigns to address cultural myths. This would entail developing targeted messaging, via local leaders, youth champions, and extension agents, etc. to dispel common misconceptions (e.g., fertilizer harms land, improved seed is "unnatural"). Continue investments in ToT led peer-to-peer learning to normalize CSA TIMPs among hesitant groups, especially women and young farmers.
- Promote participatory selection of varieties and technologies. Involve women, youth, and senior farmers in field trials, tasting panels, and CSA demo sites to ensure sensory, culinary, and market preferences are integrated into CSA promotion. In addition, emphasize dual-benefit crops (nutrition + marketability) to appeal to FHHs.
- Facilitate inclusive land access mechanisms for youth. This might include partnering with local governments, elders, and cooperatives to create youth-friendly leasing models or inheritance sensitization dialogues that ease intergenerational land access tensions. Furthermore, embed agroforestry and perennial CSA training in youth programs with short-cycle options where land tenure is insecure.
- Design CSA messaging that acknowledges women's roles in post-harvest and consumption. Recognize that FHHs often make decisions based on cooking time, taste, fuel efficiency, and market value. Consequently, tailor CSA promotion materials to show how technologies enhance food quality and household welfare, not just yields.
- Monitor perceptions over time to address emerging resistance. Include qualitative acceptability indicators (e.g., satisfaction with product taste, processing difficulty) in CSA monitoring frameworks. In addition, track feedback from marginalized users; especially PWDs, elderly, and FHHs, to continually adapt CSA packages.

Inclusive targeting and training for climate-smart agriculture: gender and youth perspectives

The evaluation found that while efforts to promote CSA TIMPs across Kenya, Tanzania, and Uganda have included youth and women, significant gaps remain, especially in targeting female-headed households

(FHHs). Trainings were generally accessible in terms of location and timing, particularly in Uganda and parts of Tanzania, but domestic responsibilities still limited women's participation. While youth-friendly approaches, such as using youth ToTs and flexible schedules were observed, deliberate and consistent targeting of youth and FHHs was lacking in several cases. The inclusion of female trainers played a crucial role in increasing women's comfort and participation, yet this practice was inconsistently applied, especially in some Tanzanian sites. Mixed-gender trainings, though intended to be inclusive, sometimes stifled the voices of youth and women. Differences emerged across countries, business cases, and CSA TIMPs, with improved seeds and post-harvest technologies being more equitably disseminated than practices like conservation agriculture. Overall, while foundational structures for inclusive CSA training exist, greater intentionality, disaggregation, and gender-responsive planning are needed to close remaining gaps.

This section of the evaluation examines how CSA TIMPs were introduced and disseminated within farming communities, particularly among youth and female-headed households (FHHs), and how these training approaches were designed to accommodate their specific needs. It also contrasts these findings with the experiences of senior men and women and draws comparisons across the three countries, business cases, and value chains.

- Awareness and learning channels for CSA TIMPs

CSA TIMPs were disseminated through a wide array of channels across all three countries. Common methods included training by extension agents and ToTs, farmer field schools (FFS), cooperative societies, demonstration plots, media (particularly radio), and peer to peer learning.

In Kenya and Uganda, cooperatives and peer-to-peer learning were especially influential among youth, while in Tanzania, village meetings and farmer groups played a central role. Female-headed households often relied on interpersonal communication channels (peers or community leaders), which highlights a potential accessibility gap if formal methods (e.g., extension agents) do not target them deliberately.

Youth and FHHs often discovered CSA TIMPs through informal networks (e.g., peers, friends, and youth ToTs), indicating higher dependence on social connections than on structured outreach. In contrast, senior men and women typically relied more on formal channels (e.g., cooperatives, extension officers, and radio).

"I found my friend making lines in the garden and I asked them what to do." - *Youth, soybean, Uganda*

"We learned through the parish councilor and our group." - *senior men, improved seed, Uganda*

- Gender and youth-responsiveness of the training design

Efforts were made across countries to make training accessible and inclusive in terms of time, location, and language. In Kenya and Uganda, training sessions were held in local communities, and time was often set after household chores. In Tanzania, the approach of letting participants arrange their own training schedules was praised, especially by senior women.

Despite these efforts, a recurring concern, particularly among women, including female-headed households (FHHs), was that training schedules often conflicted with domestic responsibilities, highlighting a persistent tension between accessibility and traditional gender roles. For example, senior women in the Starlight Cooperative noted that afternoon sessions, though initially agreed upon, proved unsuitable as

they were often too fatigued to participate effectively. This observation was acknowledged by the ToTs, underscoring the need for greater flexibility and continuous feedback to ensure that scheduled training times are not only preferred but also practical for women participants.

Youth were offered flexibility in timing and occasionally organized into groups with youth-specific ToTs to promote engagement. Further, some trainings considered women's schedules and included gender awareness content. However, child-care considerations were not broadly mentioned, indicating a gap in comprehensive inclusion strategies.

"Training was friendly to all and accommodated the needs of each participant including men, women, and youth." - *senior woman, improved seed, Tanzania*

"I think the training is not friendly to women...they are supposed to be at home...and also at the training venue." - *senior man, conservation agriculture, Kenya*

- Inclusion of female trainers

There was a strong presence of female trainers across most business cases, especially in Kenya and Uganda, which was appreciated for fostering inclusivity and relatability. However, gaps were noted in Tanzania, particularly in Vibinjo, where some FHHs reported that "all trainers are men," which may limit engagement by women and youth.

FHHs and youth often emphasized the importance of female trainers for comfort and relatability. Notably, senior men generally did not comment on trainer gender, suggesting this issue is more salient for marginalized groups.

"No, all trainers are men." - *FHH, improved seed, Vibinjo, Tanzania*

"Female trainers were always included." - *multiple groups, Uganda*

- Deliberateness of group targeting for trainings

Across all three countries, efforts were made to deliberately invite different groups (men, women, youth, PWDs). However, this was not uniform. While senior men often perceived the training as inclusive, youth and women, particularly FHHs, frequently noted the lack of tailored invitations. Many trainings remained mixed-gender, which was reported to suppress the voices of women and youth.

Some business cases such as Kaplomboi in Kenya and EAF in Tanzania demonstrated structured efforts like using youth ToTs or working through farmer groups to reach specific demographics.

"Women would like targeted trainings to allow them to express themselves freely." - *senior woman, improved seed, Kenya*

"The invitation was deliberate...trainers brought youth to encourage participation." - *Youth, improved seed, SOPA Millers, Kenya*

- Differences across CSA TIMPs, business cases, and countries

CSA TIMPs like improved seed and post-harvest handling tended to have better outreach across all demographics due to their perceived practical value. Innovations like conservation agriculture and rhizobia application had less penetration among FHHs, suggesting a need for differentiated messaging and demonstrations.

Business Cases:

- Kenya (Kaplomboi and SOPA): Showed more inclusive youth outreach through youth-led sensitization.
- Tanzania (Jackma and Kibaigwa): Had stronger inclusion of senior women but less in FHH inclusion.
- Uganda (Okeba, Byeffe): Displayed balanced gender sensitivity but still struggled with FHH targeting.

Country-Level Comparison:

- Kenya had more structured approaches via cooperatives and youth groups.
- Tanzania emphasized local leadership and group approaches but was inconsistent in FHH inclusion.
- Uganda leaned heavily on community-level coordination and public invitation but less on tailored messaging.

- Implications and Recommendations

Implications:

- Inadequate targeting of FHHs may limit the full realization of CSA TIMP adoption benefits, especially in areas requiring household-level labor or investment.
- Mixed-gender training, while inclusive on paper, may silence the needs and feedback of youth and women.
- Female trainers play a vital role in creating an inclusive training environment but are not consistently deployed.

Recommendations:

1. Expand female trainer representation in all countries, especially for business cases like Vibinjo.
2. Tailor training invitations: Use group-specific invitations for youth and FHHs to promote voice and comfort.
3. Address domestic work constraints: Align training with local gender norms and provide options like on-site childcare or flexible sessions.
4. Disaggregate training modules to allow more targeted learning (e.g., women-only or youth-only sessions for complex or culturally sensitive CSA TIMPs).
5. Strengthen monitoring systems to ensure inclusion is implemented beyond intent.

Affordability of CSA TIMPs: A gender and youth-inclusive analysis

The evaluation revealed a strong willingness across all demographic groups to adopt Climate-Smart Agriculture (CSA) TIMPs due to their perceived benefits. However, affordability remains a key barrier, particularly for youth and female-headed households (FHHs). While senior men and women were more likely to afford CSA inputs through cooperative support and established networks, youth and FHHs faced limited access to financial resources and struggled with the high costs of inputs like improved seed and fertilizers. Financing mechanisms such as SACCO loans, group purchases, and pay-after-harvest arrangements were reported, especially in Kenya and Uganda, but these were unevenly accessible. Respondents recommended expanded subsidies, loan facilities, and community-based input services to address cost barriers. The findings highlight the need for more targeted, inclusive financing models and localized delivery systems to ensure equitable adoption of CSA technologies.

- **Willingness to pay for CSA TIMPs**

Across Kenya, Tanzania, and Uganda, participants generally expressed a willingness to pay for CSA TIMPs due to their observed benefits, such as increased productivity, income, and resilience. However, despite this willingness, financial capacity, particularly among youth and FHHs emerged as a significant barrier to actual adoption.

Senior men and women across the three countries generally affirmed their readiness to pay, citing the tangible advantages of CSA innovations. On the other hand, youth and FHHs, while acknowledging the benefits, were more constrained by limited financial capital. In Tanzania and Uganda, some FHHs explicitly stated their inability to afford inputs like improved seed and fertilizer due to household economic hardship.

"Yes, because of the benefits. Benefits outweigh disadvantages." – *Youth-Mixed, Improved seed, SOPA, Kenya*

"We are not willing to pay for improved seed due to economic status and the standard of living at the household level." – *FHH, Improved seed, EAF, Tanzania*

"Some of the requirements are too expensive to buy e.g., fertilizers, improved seed, pesticides." – *Senior women, Okeba, Uganda*

- **Existing financing and payment options**

Different payment and financing models have been introduced to facilitate access to CSA TIMPs. However, awareness and access vary widely by demographic and country. Kenya showed more innovation in financing, including SACCO loans, group purchasing (bulk buying), "check-off" systems with cooperatives, and use of recycled seed generations to cut costs. Tanzania provided input loans and allowed payment after harvest in several cases. However, many still relied on upfront cash payments. Uganda mostly leveraged "pay-after-harvest" models, particularly through local cooperatives, making CSA TIMPs somewhat more accessible to capital-constrained groups.

Youth and FHHs often had limited awareness or access to these schemes, despite their potential relevance. In contrast, senior men, especially those in cooperative leadership roles, had greater leverage and benefit from group-based or institutional arrangements.

"Starlight through their SACCO supports farmers get agricultural loans at a fair interest…seed with milk delivery shares as collateral." – *Youth-Mixed, Soil Fertility Management, Starlight, Kenya*

"To pay after harvesting." – *Senior woman, Improved seed, Jackma, Tanzania*

"Farmers got seeds that were on a pay after harvest arrangement." – *Senior man, Post-harvest handling, Okeba, Uganda*

- **Suggestions to improve affordability**

Participants offered practical suggestions to reduce the cost burden and improve affordability of CSA TIMPs:

- Subsidies for high-cost inputs like certified seeds, fertilizers, and soil testing services.
- Pay-after-harvest models institutionalized through MOUs with cooperatives.
- Youth-specific initiatives, such as training youth councils to produce and distribute seedlings locally.
- Strengthen last-mile delivery, especially for agroforestry materials like seedlings.
- Establish communal demonstration plots and tree nurseries for shared access and cost reduction.

FHHs and youth emphasized the need for loan arrangements with flexible repayment, better access to credit, and decentralization of input stores. Senior women in Uganda, in particular, called for seed donations for elderly farmers and price reductions for hybrid seeds.

"Farmers should be given inputs on loan and be left to pay after harvest." – *Kaplomboi, Kenya*

"Reduce last mile challenges...ToTs to act as agents and introducing collective aggregation." – *Youth-Mixed, Soil Fertility Management, Starlight, Kenya*

"Provision of friendly loans...not like the other loans like 'kausha damu.'" – *Senior woman, Improved seed, Kibangwa, Tanzania*

"Loans for those who can't afford should be provided and deducted from the harvest." – *Youth-Mixed, Good agronomic practices, Okeba, Uganda*

- **Comparative insights by demographic, TIMP, and country**

Overall, the CSA TIMPs involving improved seeds and post-harvest handling were more accessible, while agroforestry and soil fertility management had higher upfront costs, limiting adoption by youth and FHHs. Comparing across countries; Kenya had stronger cooperative-based financing and youth-targeted solutions. Conversely, Tanzania, used cash discounts and after-harvest terms, but these were less structured or inclusive, while Uganda showed more consistent application of "pay-after-harvest" approaches, though affordability remained an issue for inputs like fertilizers and pesticides.

The intergenerational analysis indicates that youth were more entrepreneurial in approach but lacked capital. On the contrary, senior men had stronger cooperative ties and financial leverage, while senior women were willing to adopt CSA TIMPs but needed time- and cost-sensitive interventions.

When senior women in marital households are compared with FHHs; findings indicate that FHHs were more vulnerable financially and expressed deeper affordability challenges than senior women within male-headed households. Tailored mechanisms for FHH inclusion remain underdeveloped.

- **Implications and Recommendations**

Implications:

- Broad willingness to pay does not translate into ability to pay, especially among youth and FHHs.
- Financing models exist but require scaling, targeting, and awareness-raising to benefit marginalized groups.
- Inequitable access to credit and pricing options risks reinforcing gender and age-related disparities in CSA adoption.

Recommendations:

1. Scale up pay-after-harvest arrangements, particularly targeting youth and FHHs.
2. Subsidize key inputs and soil testing services to ease entry barriers.
3. Strengthen SACCOs and cooperatives to serve as financing intermediaries with inclusive eligibility criteria.
4. Train and engage youth in seedling production, agro-input aggregation, and last-mile distribution.
5. Formalize MOU-based payment structures for tools, inputs, and services across all business cases.

Accessibility of CSA TIMPs

The evaluation highlights significant disparities in access to CSA TIMPs across gender and age groups. While senior men and women often had regular access, due in part to cooperative membership and established networks, youth and female-headed households (FHHs) faced considerable challenges. These included strict eligibility criteria (e.g., membership fees, ID requirements), long distances to service points (up to 60 km in some Kenyan and Tanzanian cases), and a lack of information or financial resources. Access was generally better in Uganda due to localized delivery through village agents and mobile aggregation. While service delivery was largely considered transparent, youth occasionally reported feeling excluded. Participants recommended decentralizing services, training local agents, and simplifying access conditions to close the inclusion gap.

- **Conditions for Access and Barriers to Eligibility**

Access to CSA technologies and services often depends on factors such as membership in cooperatives, land ownership, financial capacity, or possession of national IDs. These requirements can disproportionately exclude youth and FHHs, who are less likely to meet such conditions. Senior men and women, particularly those already embedded in cooperatives, generally reported fewer difficulties meeting criteria. Youth and FHHs faced more obstacles, especially around membership fees, lack of collateral, lack of land ownership, or for youth- the required documentation (e.g., national ID in Tanzania).

"One must have resources – e.g. finance, land." – *Youth-Mixed, Improved seed, SOPA Millers, Kenya*

"There are few conditions… such as collateral and ID." – *Youth-Mixed, Iduwo, Kibaigwa, Tanzania*

"You must have money or cash." – *Various, Uganda*

- **Frequency and reliability of access**

While many participants reported having access to CSA TIMPs, youth and FHHs were more likely to say they could rarely access services when needed, or had to schedule in advance, ask for permission, or wait due to limited availability. Senior men and women in Uganda and Tanzania commonly stated they "always have access." Youth and FHHs frequently cited limited or delayed access, especially where access points or equipment were shared.

"I rarely have access when I need it." – *Youth-Mixed, Agroforestry, Kaplomboi, Kenya*

"I have to ask permission to use it." – *Senior woman, Improved seed, Kibaigwa, Tanzania*

"It is available only during certain hours." – *Youth-Mixed, SOPA, Kenya*

- **Other barriers to use beyond eligibility**

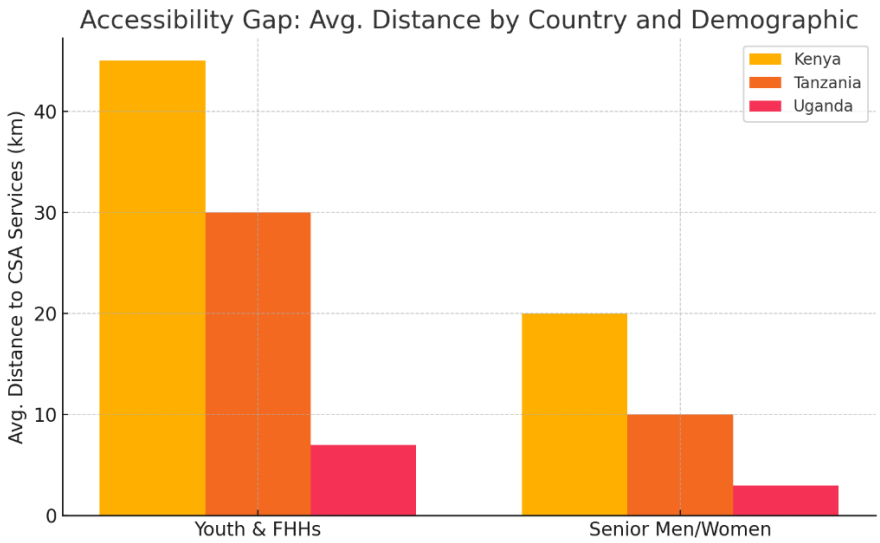
Beyond eligibility requirements, several contextual and systemic barriers were noted: Long distances to service points, lack of information, and financial limitations were the most cited issues. FHHs and youth also lacked access to capital or mobility, and women were disproportionately affected by lack of identification documents (e.g., NIDA in Tanzania).

"Lack of proper/adequate information… equal access to all." – *Mixed, Kibaigwa, Tanzania*

"Financial capital constraints, knowledge… and market access." – *Youth, SOPA, Kenya*

"Most women don't have NIDA numbers." – *Senior woman, Vibinjo, Tanzania*

- **Physical Proximity and Distance to CSA Services**



Access distances varied significantly. In **Kenya and Tanzania**, distances as high as **40–60 km** were reported by youth and FHHs. In **Uganda**, access was often within **2–7 km**, especially where input aggregation or village agent models were used. **Youth and FHHs** in remote or under-resourced areas experienced severe last-mile access challenges.

"60 kilometers – in Nauru town." – *Youth-Mixed, Soil Fertility, Starlight, Kenya*

"55 km." – *FHH, Improved seed, EAF, Tanzania*

"Less than a kilometer – seed brought to trading center." – *Senior woman, Byeffe, Uganda*

- **Methods used to bring CSA closer to end users**

Efforts to localize service delivery included: **use of youth and women groups** to establish local nurseries, QDS multiplication sites or facilitate sales. Additionally, **Farmer Service Centers (FSCs)** and **lead farmers/ToTs** were also capacitated to aggregate demand and distribute inputs. In Uganda and Tanzania **village agents and mobile phone orders** were also reported.

"Kaplomboi youth farmers established a tree nursery." – *Senior woman, Kaplomboi, Kenya*

"Telephones are utilized… to bring services closer." – *Senior man, Vibinjo, Tanzania*

"Seed is delivered in their community." – *Senior woman, Okeba, Uganda*

- **Bias and transparency in service delivery**

Service delivery was largely perceived as transparent and equitable, but some youth in Kenya expressed concerns over favoritism in seed distribution. In Uganda, men were more aware of pricing, indicating a gender gap in market access and purchasing control.

"Service delivery is transparent." – *Multiple groups, Uganda*

"Only men mostly know the prices." – *Senior woman, Okeba, Uganda*

"Youth feel discriminated in seed distribution." – *Youth, SOPA, Kenya*

- **Recommendations to improve accessibility**

Participants across the countries proposed the following to enhance accessibility:

- Decentralize access points (e.g., local agro-shops, parish-level services)
- Increase local production and distribution of CSA inputs
- Train youth and community agents to deliver CSA technologies
- Introduce mobile-based ordering and information platforms
- Subsidize transport or deliver services through door-to-door models
- Link farmer groups to suppliers and credit facilities

"Seed's production should be available in the community." – *Senior woman, Kibaigwa, Tanzania*

"Form strategic partnerships to overcome last-mile challenges." – *Youth, Soil Fertility, Starlight, Kenya*

"Extend services nearer to the parish level." – *Senior woman, Okeba, Uganda*

- Implications and Recommendations

Implications:

- Accessibility is uneven and shaped by systemic disadvantages linked to age, gender, geography, and group membership.
- Youth and FHHs are especially vulnerable to service delays, distance, and exclusion.
- Without targeted strategies, CSA adoption risks reinforcing existing inequities.

Recommendations:

1. Decentralize CSA service points, especially for remote and vulnerable groups.
2. Promote youth-led and FHH-led rural agent models to bridge last-mile delivery.
3. Simplify eligibility criteria and reduce documentation burdens.
4. Improve access to mobile-based ordering and information systems.
5. Ensure participatory and gender-sensitive planning for input distribution.
6. Strengthen cooperative inclusivity by waiving or scaling membership requirements for youth and FHHs.

Post-adoption support and complementary services for CSA TIMPS: gaps and opportunities for youth and female-headed households

The evaluation found that while some farmers, particularly senior men and women affiliated with cooperatives had access to after-adoption services such as extension support and market information, **youth and female-headed households (FHHs)** often lacked consistent follow-up. In Kenya and Tanzania, many youths reported being excluded from business-oriented support and post-training services, while FHHs sometimes accessed services through donor-linked projects. Uganda stood out for its relatively inclusive provision of post-adoption support, including financial literacy, marketing advice, and agronomic guidance. However, across countries, training on how to transform CSA TIMPs into business or service opportunities remained uneven. To enhance adoption, there is a need to institutionalize after-service delivery, prioritize inclusion, and expand training in agribusiness and market access, especially for youth and FHHs.

- Access to after-adoption services

Access to post-adoption support such as extension advice, market information, and technical assistance varied across countries, value chains, and user groups. In Kenya, senior men and women were more likely to report receiving follow-up services through cooperative agronomists and ToTs. However, youth and FHHs frequently reported gaps in ongoing support or perceived exclusion from market-related services. In Tanzania, most participants across demographics reported access to extension services, although youth noted inconsistent timing and support. In Uganda, access was strongest and most consistent, with both youth and senior women reporting ongoing advice, market linkages, and pest/post-harvest management support.

"We have field staff and an agronomist who checks on us time and again." – *Senior men, Kaplomboi, Kenya*

"No, we don't receive any adoption services from anyone." – *Senior men, SOPA, Kenya*

"We were informed about market, about pest handling." – *Senior women, Okeba, Uganda*

"Advice is given, but not in the right time." – *Senior woman, Kibaigwa, Tanzania*

- Training on business use and service-linked skills

Training on how to turn CSA TIMPs into economic or service opportunities was provided to some groups, especially those linked with cooperatives or targeted programs. However, such training was inconsistent across regions and more accessible to senior members than to youth or FHHs. In Kenya, some senior men and women received guidance on agroforestry business models or marketing improved seed products, but youth often relied only on awareness events or field days, not systematic capacity-building. In Tanzania, support was more inclusive, with some FHHs citing training and supervision from partners like CRAFT. However, some reported that suppliers only sold products without training. In Uganda, training covered a broad range: financial literacy, marketing, and technical application of TIMPs, benefiting youth, FHHs, and senior adults alike.

"Yes, they train us how trees can be used to generate income... but not how to market the products." – *Senior woman, Kaplomboi, Kenya*

"Suppliers only sell product." – *Senior woman, Vibinjo, Tanzania*

"Trainings on financial literacy and planting methods were given." – *Senior woman, Okeba, Uganda*

Group	Kenya	Tanzania	Uganda
Senior Men	Extension support via co-operatives	Received consistent follow-up	Extensive advice and marketing info
Senior Women	Trained on marketing and value use	Access to training and services	Strong support including financial literacy
Youth	Limited post-training support	Timing and access inconsistent	Received diverse trainings, though not universal
FHHs	Rarely cited access to post-promotional services	Reported receiving EAF-led support	Included in market/extension initiatives

- Implications and Recommendations

Implications:

- After-adoption services are not equitably distributed. While senior members benefit from structured cooperative systems, youth and FHHs rely on less consistent channels.
- Gaps in business and value-chain training reduce the potential of CSA TIMPs to serve as livelihood-enhancing technologies for marginalized groups.
- Inadequate market information and limited service linkages especially constrain youth and FHHs from scaling CSA innovations.

Recommendations:

1. Institutionalize after-service delivery for all users, especially youth and FHHs, through cooperatives and decentralized ToT networks.
2. Expand business development training as a core part of CSA TIMP deployment.
3. Ensure youth and FHHs access market information, including digital and mobile-based advisories.
4. Foster public-private partnerships to support agripreneurship linked to CSA tools and inputs.
5. Monitor inclusivity of extension and after-adoption services to close persistent delivery gaps.

Household decision-making and autonomy in CSA TIMPS adoption

The evaluation revealed that decision-making power over the adoption and use of CSA TIMPs remains largely male-dominated, particularly in Kenya and Uganda. While youth and female-headed households (FHHs) occasionally reported autonomy, especially where women were widowed or owned land, the broader pattern showed that final authority over CSA-related decisions rested with male heads of household. This included key areas like input purchases, maintenance, and most critically, control over proceeds and marketing decisions. Tanzanian groups, especially FHHs reported more equitable household

dynamics and greater participation in decisions. Disagreements often arose over how to use CSA-related income, with women and youth typically sidelined. The findings underscore the importance of embedding gender-transformative approaches in CSA programming to strengthen autonomy and inclusive benefit-sharing.

- Participation in decision-making on CSA TIMPs

Participation in decisions regarding the purchase, use, and maintenance of CSA technologies typically occurred at the household level across all three countries. However, final decision-making authority often rested with male heads of household, with youth and women, especially FHHs varying in their autonomy depending on household structure, land ownership, and marital status. In Kenya, decisions were framed as family discussions, but men retained the final say, especially regarding purchasing and marketing. Youth and women contributed to discussions but lacked authority unless widowed or owning their own land. In Tanzania, several groups, especially FHHs reported shared or independent decision-making, with less evidence of male dominance. Youth and women generally felt more included. In Uganda, while households often claimed joint decision-making, men dominated financial and marketing decisions, particularly on seed selection, labor hiring, and use of proceeds.

"Decision-making mostly favors men... Women are only involved in management." – *Youth, Agroforestry, Kaplomboi, Kenya*

"These are female-headed families where women are in control of all decisions." – *FHH, Jackma, Tanzania*

"Joint decisions are made... but men take lead in marketing." – *Senior woman, Okeba, Uganda*

- Household disagreements and who has the final say

Disagreements around CSA TIMPs often centered on seed variety selection, input purchase amounts, and most frequently, the use of proceeds from sales. In nearly all countries, men had the final say, though FHHs and widows occasionally exercised full autonomy. In Kenya, women and youth reported being overruled by male household heads, especially regarding benefit sharing. In Tanzania, some households experienced joint planning, but tensions arose over crop choice or input allocation. In Uganda, marketing, division of harvest, and land allocation were recurrent sources of conflict. Women sometimes used personal savings to bypass household-level opposition.

"Men have the final say. For widows who own their land, the decision is theirs." – *Senior woman, Kaplomboi, Kenya*

"As a woman you want to pay school fees, while your husband wants the money for his own uses." – *Senior woman, Kibaigwa, Tanzania*

"Use of sugar to mix rhizobia causes disagreement... Women use their savings to buy sugar." – *Senior woman, Byeffe, Uganda*

Table 48: Comparative analysis of decision making by gender and country

Group	Kenya	Tanzania	Uganda

Senior Men	Dominate decisions, often have the final say	More balanced household dynamics	Take lead in marketing and income decisions
Senior Women	Consulted but rarely have the final say (unless widowed with land rights)	Participate equally in some households	Consulted; conflict arises over use of proceeds
Youth	Dependent on parents if unmarried; decisions limited to use only	Some autonomy in group settings	Often excluded from financial decisions
FHHs	Few cases; greater autonomy if land-owning	High autonomy, especially in cooperatives	Involved in all decisions but face influence from extended family

- Implications and Recommendations

Implications:

- Male dominance in decision-making persists, especially regarding control over finances and proceeds from CSA TIMPs.
- Youth and FHHs are disadvantaged where land ownership or marital status limits their voice in CSA technology use and benefit-sharing.
- Household tensions may undermine technology uptake, particularly when perceived benefits are not equitably distributed.

Recommendations:

1. Promote joint decision-making models within CSA extension services.
2. Target FHHs and youth with training that includes negotiation, record keeping, and financial literacy.
3. Use CSA promotion as an entry point for broader gender-transformative household dialogues.
4. Document and scale successful inclusion models, especially from Tanzanian cooperatives and Ugandan farmer groups.
5. Incorporate intra-household dynamics into CSA adoption assessments and M&E systems.

Who reaps the rewards? Gendered and youth perspectives on CSA benefits

The evaluation revealed that while CSA TIMPs provide clear agronomic and economic benefits, such as increased yields, income, labor savings, and improved food security; the extent to which different groups control and benefit from these gains varies significantly. Senior men and women, particularly those integrated into cooperatives or savings groups, reported the most consistent improvements in livelihoods. Youth and female-headed households (FHHs) also experienced benefits but faced barriers in fully controlling or reinvesting proceeds due to limited access to land, decision-making power, and formal support structures. In Uganda and Tanzania, examples of household dialogue and women-centric value chains (e.g., soybean) enabled more equitable benefit sharing. However, the overall pattern highlights the need to embed financial inclusion, intra-household dialogue, and gender-responsive planning in CSA

programming to ensure that women and youth can translate CSA adoption into lasting livelihood improvements.

- Advantages of CSA TIMPs over traditional practices

Across all three countries, participants reported clear agronomic and economic benefits from using CSA TIMPs compared to traditional practices. These benefits included higher yields, improved food security, shorter maturity periods, improved quality, and reduced workload, with context-specific advantages in each country. In Kenya, CSA practices such as row planting, agroforestry, and integrated soil fertility management (ISFM) led to increased income, reduced costs, and improved household nutrition and energy access. In Tanzania, CSA TIMPs like drought-tolerant varieties and sunflower processing improved productivity under stress, food safety, and income generation. In Uganda, users cited faster drying, higher yields, improved crop uniformity, and resilience to drought, with additional impacts on labor-saving and household nutrition (e.g., soya-based diets).

"Reduced time spent cultivating beans." – *Kenya*
"We can now afford school fees from the income." – *Tanzania*
"Short maturity period, drought resistant... big in size." – *Uganda*

- Improvements in social and economic status

The application of CSA TIMPs has contributed to tangible improvements in livelihoods, including higher household income, ability to invest in assets, such as better homes, livestock, and expanded land, support for children's education, and entry into new business ventures, particularly in Tanzania and Uganda

These changes were more consistently reported by senior men and women, but youth and FHHs also noted gains when able to access complementary services (e.g., training, aggregation, or cooperative structures).

"High incomes have increased our lifestyle… and we can now send children to good schools." – *Kenya*

"We are now having some chicken and goats." – *Tanzania*

"Improved health of family members through drinking soya milk and porridge." – *Uganda*

- Women's control over benefits derived from CSA TIMPs

Findings on women's ability to control the benefits were mixed. While no formal mechanisms existed in many cases, there were encouraging examples of informal support structures: In Kenya, chamas, VSLAs, and SACCOs helped women pool proceeds from CSA-related sales for savings and reinvestment. In Tanzania, some households held joint discussions on income use, with women reporting access to microfinance and small business opportunities. In Uganda, some communities reported that women were considered the primary beneficiaries of specific crops (e.g., soybean), with household dialogue determining the share for sale vs. retention.

However, youth and FHHs were less likely to report explicit support for benefit control, and often relied on informal negotiations within households.

"There are groups like VSLAs and SACCOs where women input money into the group for savings." – *Youth, Kenya*

"We are putting our money to bank and now we have business." – *Senior Woman, Tanzania*

"When soybean is harvested we discuss… the main beneficiary is the woman." – *Senior Man, Uganda*

Table 49: Comparison of how men and women access and control benefits across countries

Group	Kenya	Tanzania	Uganda
Senior Men	Benefit from yield gains; often control sales	Participate in joint decisions in some households	Recognize women's role in use of soybean benefits
Senior Women	Report increased income, reduced workload; benefit from VSLAs	Improved food access and business potential. Report full control when not co-managing with spouses	Improved health and food quality noted. Access benefits but not always supported in control or reinvestment
Youth	Experience productivity benefits but limited control over income	Access training but not always proceeds	Value labor-saving but rely on elders for income decisions
FHHs	Gain income autonomy in some areas; constrained by land access	Report full control	Access benefits

- Implications and Recommendations

Implications:

- CSA TIMPs are generating positive returns across demographics but control over benefits remains unequally distributed, especially among youth and women.
- Support structures (like VSLAs, SACCOs, and joint income planning) enhance autonomy, but are not universally available or utilized.
- Women's benefit control is more recognized where household dialogue and financial literacy support are present.

Recommendations:

1. Scale up financial inclusion models (e.g., VSLAs, SACCOs) specifically for women and youth engaged in CSA.
2. Integrate benefit-sharing training into CSA adoption efforts, including intra-household negotiation.
3. Expand gender-responsive monitoring to track control and reinvestment of CSA benefits.
4. Promote household dialogue models to improve transparency and co-decision-making.
5. Strengthen women's market access and price awareness through digital extension tools.

Support systems for CSA TIMPs adoption: barriers and enablers for inclusive uptake

The evaluation revealed that while support systems such as extension services, input subsidies, and training exist across Kenya, Tanzania, and Uganda, their reach and effectiveness are uneven, particularly for youth and female-headed households (FHHs). Senior men and women benefited more consistently from cooperative-based support, while youth and FHHs often lacked access to critical inputs, timely training, and financing. Participants identified a wide range of support gaps: input affordability, equipment access, and physical distance from service points. However, encouraging signs emerged, including the role of CRAFT and government programs in offering subsidized seed, agronomic guidance, and post-harvest support. Youth and FHHs called for decentralized service delivery, tailored agro-loans, village-level input shops, and stronger cooperative engagement. Addressing these gaps is essential for equitable and sustained CSA adoption.

- Barriers to CSA TIMPs adoption

Across all three countries, farmers cited multiple structural and economic barriers limiting CSA adoption. Common themes included financial constraints and cost of inputs, particularly for improved seeds and fertilizers; limited land access (especially for youth and FHHs), climate stress, pest pressure, and lack of mechanization, limited access to extension services and poor infrastructure; and cultural norms restricting women's access to land and decision-making

Notably, in Kenya, participants noted lack of mechanization, ISFM input scarcity, and land size as key issues. In Tanzania, cost and distance of accessing inputs, insufficient extension agents, and intra-household conflicts emerged as major barriers. In Uganda, labor intensity, post-harvest technology gaps, and low seed awareness were critical constraints.

"Pests and diseases destroy our trees… There's no equipment like tractors or rippers." – *Youth, Kenya*

"Distance of purchasing improved seeds." – *FHH, Tanzania*

"Use of good agricultural practices such as machines is a problem to most farmers." – *Youth, Uganda*

- Sources of support for CSA TIMPs adoption

Support received varied by group and geography. While senior men and women affiliated with cooperatives benefited more consistently, youth and FHHs accessed fewer institutional supports. The main types of support included:

- Trainings from CRAFT, cooperatives, and extension officers
- Input subsidies (e.g. certified seeds, tree seedlings)
- Market linkages and CSA-related group activities
- Family labor support, especially for FHHs
- Loan access (e.g. SACCOs, VSLA, PDM funds)

Country specific analysis indicates that in Kenya, cooperatives offered training, early warning systems, and check-off services. Participants in the FHHs only FGDs however, didn't report such access. In Tanzania, CRAFT facilitated access to ox-ploughs, CSA trainings, permanent market linkages, and input subsidies. In

addition, the FGDs emphasized joint family support. In Uganda, CRAFT and government projects (e.g., PDM) supported training, seeds, and QDS production. FHHs relied heavily on family and group-based support.

"We got extension services and advice, but still need input shops nearby." – *Youth, Tanzania*

"Trainings from CRAFT and inputs from government." – *Senior woman, Uganda*

"Family members provide labor." – *Senior men/women, Uganda*

- What more can be done? voices from the ground

Participants across all demographics called for enhanced and decentralized support systems to address persistent adoption barriers. Top requests included:

- More frequent and tailored trainings on CSA practices
- Subsidized inputs and equipment, including pay-after-harvest schemes
- Agro-loans for youth and FHHs
- Improved extension service delivery
- Village-based input shops and service centers
- Greater involvement of local institutions and cooperatives

The context varied by country. Participants in Kenya requested market linkages, youth-managed tree nurseries, input kits, and household-level extension. In Tanzania, the FGD participants emphasized timely input distribution, media-based awareness, and reliable agro-dealers. In Uganda, the FGD participants prioritized increased loan access, post-harvest equipment (e.g., tarpaulins), and fair input pricing.

"CRAFT should support youth in establishing tree nursery beds." – *Youth, Kenya*

"Open village shops to reduce input distances." – *Youth, Tanzania*

"Provide seed and allow payment after selling." – *Senior woman, Uganda*

Table 50: Comparative analysis of support systems by group

Group	Kenya	Tanzania	Uganda
Senior Men	Access to cooperatives, training, early warning info	Support from family & extension services	Received training, PDM inputs
Senior Women	Some received seedlings, training via cooperatives	Trained on PHH, access to ox-plough, local extension	Received seed, PHH training, relied on family labor
Youth	Limited land, tools; requested loans & nursery support	Noted lack of training continuity; wanted local input shops	Struggled with mechanization, requested timely seed delivery
FHHs	Notably affected by access, often unsupported	Reported distance and input cost as key barriers	Relied on family; supported QDS work; requested fair pricing

- Implications and Recommendations

Implications:

- Access to CSA inputs and services is uneven, with youth and FHHs disadvantaged despite showing interest.
- Training and market linkages improve adoption but must be localized and inclusive.
- Sustainable adoption requires support that goes beyond technology provision, including financial, institutional, and relational support.

Recommendations:

- **Decentralize input supply systems through farmer service centers and village-based agents.**
- **Target youth and FHHs with tailored financial products like agro-loans and input credit.**
- **Invest in cooperatives and SACCOs to offer bundled services (training, finance, inputs).**
- **Engage men and women jointly in support delivery to reduce intra-household exclusion.**
- **Monitor and adapt support models by gender, age, and vulnerability category.**

8. Institutionalising Inclusion: GESI Commitments in the Strategies and Structures of CRAFT Supported Business Cases

As gender and youth inclusion become increasingly recognized as strategic imperatives in sustainable agribusiness, the integration of GESI (Gender Equality and Social Inclusion) principles into the institutional frameworks of agricultural enterprises is both timely and essential. This chapter explores the extent to which CRAFT-supported agribusinesses in Kenya, Uganda, and Tanzania have embedded GESI considerations into their long-term vision, strategies, and internal governance systems. By examining formal structures such as internal policies, operational procedures, budgets, and organizational systems, this analysis offers insights into how deeply gender and youth inclusion are institutionalized within these enterprises. The chapter highlights the strategic positioning of GESI as more than a compliance requirement—framing it as a core business practice that influences decision-making, organizational culture, and long-term planning.

8.1 Methodology

To evaluate the institutional integration of GESI within selected CRAFT business cases, a qualitative approach was employed. A GESI institutional integration checklist was developed, guided by international good practices and contextualized to the agribusiness environments in East Africa. The checklist focused on five key domains: (1) vision and strategy; (2) internal policies and guidelines; (3) organizational structures and roles; (4) systems and procedures; and (5) budgetary and resource allocation for GESI.

Data collection involved key informant interviews (KIIs) with business leaders and senior managers of a purposive sample of CRAFT-supported enterprises across the three implementation countries. These interviews aimed to capture perceptions, experiences, and institutional commitments toward GESI, as well as practical examples of how inclusion is operationalized.

Although a document review of company policies and strategic plans would have enriched the analysis by providing objective verification of institutional claims, this step was not undertaken due to time and access constraints. As a result, the findings are based on self-reported data and perceptions gathered through interviews.

8.2 Findings from the GESI Integration Assessment

This section presents the findings of GESI institutionalisation across six domains, using data drawn from four business cases: Starlight Cooperative (Kenya), Sebei SACCO (Uganda), JAKMA (Tanzania), and Kibaigwa (Tanzania). The findings explore both formal institutional arrangements and informal practices that shape inclusion.

8.2.1 Vision and Strategy

A majority of the business cases had some degree of commitment to GESI embedded within their strategic documents. Starlight Cooperative and JAKMA demonstrated the strongest integration of GESI into their strategic visions. Starlight rated their documents as being aligned to a high extent with GESI principles. Their mission, for instance, references inclusion of all vulnerable members of the community, and leadership intentionally applies gender-sensitive practices, including HR decisions and board composition guidelines.

In contrast, Sebei SACCO's integration was assessed as low, with a manager noting, "*GESI appears as a sub-topic… not a major topic.*"

Implication for CRAFT: While most cases show rhetorical commitment to inclusion, the lack of detailed KPIs, timelines, and indicators points to a need for capacity building in strategy operationalization.

8.2.2 Internal Policies and Guidelines

There was notable variation in the development and adoption of policies that support inclusion. Starlight Cooperative had the most complete set of documentation, including HR manuals, governance manuals, codes of conduct, and a gender action plan. Sebei SACCO had more fragmented documentation. It lacked specific policies on safeguarding, health and safety, and workplace discrimination, though it did maintain an HR manual and an employee handbook. The absence of a formal GESI policy in Sebei SACCO was acknowledged by management, who requested support: "We need you to give us advice on how we can integrate this as a standalone… as part of the way we do business."

Lessons Learned: Documents alone do not guarantee inclusion but provide critical institutional scaffolding. The presence of such policies tends to be higher in more mature or women-led businesses.

8.2.3 Organizational Structures and Roles

Organizational structures supporting inclusion were strongest where intentional action had been taken to ensure diversity on boards and staff teams. In Starlight, board representation includes women and youth, with regional elections designed to ensure geographic and gender balance. There is also a Women's Council that has board representation, and consideration is being given to establishing a youth advisory structure.

Sebei SACCO's structure had gender and age representation in the board, but no dedicated staff or working group for GESI. The manager noted that while GESI was considered during service provider contracting ("we include women, youth, and PWDs"), it lacked formal targets or accountability frameworks which risks a drift into tokenism rather than actual transformative action.

Recommendation: With three months left, business cases without representation structures (e.g., Kibaigwa) should be supported to form at least one GESI advisory group, even informally.

8.2.2 Systems and Procedures

Among the strongest indicators of institutionalisation are the processes in place to make inclusion real in everyday decisions. These include recruitment practices, harassment prevention, and performance management.

Starlight's systems were highly responsive. Recruitment guidelines ensure tribal and gender balance, and the cooperative offers job flexibility, maternity leave, and risk-responsive accommodations. They have procedures for workplace harassment and have applied them in real cases—illustrated by a credible incident involving an external contractor, which was escalated to legal authorities. As the GM shared: "*We suspended the staff immediately until we got a clearance from authorities.*"

Sebei SACCO, while aware of these principles, lacked many formal systems, such as flexible working or mental health support. However, they reported strong commitment to anti-harassment protocols embedded in their audit and employee manuals.

Implication: Written systems backed by consistent implementation build staff trust and reduce exposure to litigation and reputational damage.

8.2.5 Budgeting and Resource Allocation

All four business cases reported allocating some resources toward GESI, but this was rarely detailed or tracked separately. Kibaigwa and JAKMA both indicated moderate allocation levels. Starlight, while reporting a GESI budget, admitted these funds are not explicitly tracked: "*We include these under community activities and HR, but not as standalone GESI budget lines.*"

Sebei SACCO had the weakest budget transparency in this domain. Despite the willingness of leadership to be inclusive, there is little documentation on how much or where funds support these goals.

Lesson Learned: Without clear GESI budget lines or financial tracking, it's difficult to measure impact or scale up successful initiatives.

8.2.6 Capacity Building for GESI Integration

Capacity building is the backbone of effective institutionalisation. Without informed, trained, and sensitised teams, even the best policies risk remaining on paper. In assessing the capacity of CRAFT-supported business cases to mainstream GESI, a mixed picture emerges—marked by progress in some areas and persistent limitations in others.

Starlight Cooperative, for example, exhibits a growing awareness and partial investment in GESI learning. The organization has not developed a structured training plan for GESI, but the general manager reported regular informal coaching and learning-by-doing. They also maintain a welfare group and a women's council that supports informal knowledge exchange and peer support, especially among women staff members Sebei SACCO, in contrast, acknowledged the need for support in developing both GESI-specific training and internal expertise. As noted in the manager's own words, "*That is why we need GESI… with your support, we need you to give us advice on how we can integrate this as a standalone part of the way we do business*"

Only JAKMA reported any formal training in GESI, having engaged a consultant-led session involving nine staff (5 men, 4 women). This training focused on reviewing the gender policy and raising awareness of equality standards. While the initiative was well-received, it was a one-off event, and the broader organizational understanding remains at a moderate level.

On the other hand, Kibaigwa, despite having multiple inclusive policies, had not invested in training during the review period. Their stated level of staff GESI expertise remained "to a limited extent," with no dedicated GESI focal person or team.

Lessons Learned:

- Policy alone is insufficient: The gap between written commitments and real-world action is largest where training and knowledge support are absent.
- Peer-led and experiential learning are key, especially where financial or logistical constraints make formal training difficult.

- Organisations with structured inclusion roles or councils, like Starlight's Women's Council, demonstrate stronger informal institutionalisation—even without formal GESI teams. Although Sebei SACCO has similar councils, their role in informing policy action may need to be cultivated.

8.2.7 Implications for SNV/CRAFT

These findings reveal a mixed picture of GESI institutionalisation. While commendable efforts exist—particularly in women-led or Agriterra-mentored cooperatives, most business cases fall short of full integration. Weaknesses are particularly acute in budgeting, procedural tracking, and translating policy into practice.

For SNV/CRAFT:

- GESI has gained visibility, but there remains a gap in translating principles into internal systems.
- Youth-led and women-led enterprises (e.g., Starlight) tend to embed GESI more naturally.
- Capacity support and follow-up are essential for reinforcing policy adoption.

8.2.8 Recommendations

Actions for immediate implementation:

1. Targeted technical assistance: Support Sebei SACCO and Kibaigwa to draft simplified, context-appropriate GESI policies and integrate them into their business plans.
2. Leadership coaching: Provide one-on-one GESI coaching to board members and managers to deepen understanding and operationalization.
3. Document templates: Share simplified, localized templates for safeguarding, workplace harassment, and recruitment to accelerate uptake.
4. Capacitate champions: Train one board member and one staff member in each lagging business case to serve as GESI focal persons.
5. On-demand GESI clinic: Facilitate virtual or in-person "GESI clinics" where cooperatives can seek real-time support from SNV or trained peers.
6. Curated toolkit dissemination: Distribute simplified, pictorial GESI training materials that staff can reference beyond the life of the project.

For Future Programming:

1. Institutionalized learning pathways: Integrate GESI into onboarding, refresher courses, and performance reviews.
2. Digital learning hub: Create a mobile-accessible GESI knowledge platform with learning modules, case studies, and templates.
3. Peer exchange forums: Foster cross-case learning by establishing regional GESI learning circles facilitated by SNV or local champions.

8.3 Conclusion

The journey toward institutionalizing inclusion within CRAFT-supported business cases illustrates both the promise and challenge of mainstreaming gender and social inclusion in agribusiness. While organizations like Starlight set a strong precedent, many others are at the start of this path. The final months of CRAFT provide a crucial opportunity to consolidate progress, provide final nudges to lagging partners, and prepare the ground for sustainable post-project integration.

Inclusion, when fully embedded, ceases to be an add-on. It becomes the DNA of how businesses think, operate, and grow.

9. SNV CRAFT Business champion agency

This report section synthesizes findings from interviews and structured data collected from several agribusiness SMEs and cooperatives across Kenya, Uganda, and Tanzania supported under the SNV/CRAFT programme. It highlights leadership capacity, access to training, decision-making structures, and business development challenges and opportunities.

9.1 Governance and Decision-Making

All the business champions have instituted functional governance structures with decision-making largely committee-based across all interviewed agribusiness SMEs/cooperatives. However, satisfaction with decision-making varies from moderate to high, depending on board capacity and responsiveness. Leaders such as those at IMCOS and Starlight Cooperative acknowledged support by Agriterra and their line ministries to revamp governance capacities but also expressed the need for more strategic capacity and technical training for board members especially in regard to new cohorts. Common challenges included slow board decisions and high aversion to risk (SEBEI SACCO, IMCOS) and limited technical knowledge among some board members (KDPGCUL)

9.2 Leadership Training and Development

There was mixed presence of formal training plans: some cooperatives like SEBEI SACCO and Starlight reported having corporate training plans in place, while others (e.g., KDPGCUL) have ad hoc or informal strategies. The majority of the business leaders reported moderate to high access to relevant training with some leaders such as the Chairperson of Starlight Cooperative reporting "extremely high" access. The key training needs cited include financial management**,** proposal writing and fundraising, conducting market research and sourcing markets.

9.3 Access to Credit

Business leaders considered trends in their company's access to credit compared to pre CRAFT days with regard to availability, adequacy, affordability and timeliness. SEBEI SACCO cited using a different approach – i.e. internal capitalization through its membership rather than seeking credit and hence refrained from assessing itself on this measure. Responses varied for the other business cases; IMCOS faces moderate access, with inadequacy being a frequent concern. Conversely, Starlight Cooperative reported good access in terms of availability, affordability, and adequacy. The key challenges to agency in this area included severe collateral constraints especially for small cooperatives, lengthy and complex loan processes, title deed risks and member hesitancy to secure loans for the cooperative were common (IMCOS).

9.4 Business growth goals and progress

Most business champions highlighted a high capacity to reach their goals, although contextual challenges remain. Starlight Cooperative's goals included acquisition of land and expansion of certified potato seed production. SEBEI SACCO articulated aiming at diversifying supported commodity value chains to include rice in addition to expansion in membership. On the other hand, IMCOS aimed at installation of value addition machinery despite electricity and space issues. Challenges to meeting stated goals included

dependence on unreliable seed varieties (e.g., Hysun for SEBEI SACCO) and inadequate irrigation solutions despite climate impacts.

9.5 Market Research and Business Positioning

Compared to baseline, efforts at market intelligence don't appear to have significantly changed. Only a few agribusiness SMEs/cooperatives reported conducting structured market research. Those that do (e.g., Starlight) are able to better align with local demand and identify new value chains (like dairy or certified seed expansion). Some of the business opportunities identified by the business champions included expansion of product lines (sorghum, rice, dairy), demand-driven certified seed production and export readiness for staple crops

9.6 Shifts in Perceptions on Women in Leadership

Six years into SNV/CRAFT, emerging evidence suggests a slow but discernible shift in attitudes toward women's roles in business leadership and public life, though deeply rooted gendered perceptions still persist. A follow-up sample, albeit small (7 out of 56 business leaders), offers insight into the current state of belief systems among local business influencers aka CRAFT business champions.

Mixed Views on Gender and Leadership:

When asked about inherent leadership qualities, the majority of respondents rejected the belief that men are naturally better business leaders than women, signaling a potential softening of stereotypical views that conflate leadership competence with masculinity. However, some participants remained neutral, and at least one still affirmed this belief, suggesting that while progress has been made, gender-essentialist thinking continues to hold sway in certain circles.

This trend reflects global patterns identified in leadership and gender studies: progress is often incremental and non-linear, with social norms evolving unevenly. Research shows that exposure to women in leadership roles, especially those perceived as competent and effective, can reduce gender bias over time—but such shifts require consistent reinforcement through visibility, mentorship, and institutional support.

Women in Business and Child Welfare Perceptions:

On the belief that women's participation in business undermines child welfare, the majority either disagreed or expressed neutrality, revealing underlying ambivalence. The persistence of this perception, despite decades of evidence showing that women's economic participation often improves child outcomes (e.g., through increased household income, improved education, and healthcare access), highlights the tenacity of cultural narratives that conflate caregiving exclusively with women's roles.

This indicates that attitudes are not always shaped by data or exposure alone, but by deeply embedded gender norms and expectations about family and work. Where neutrality exists, it may reflect discomfort, uncertainty, or a desire to avoid social disapproval—hallmarks of shifting, but not fully transformed, norms.

Conclusion and Implications

The findings underscore a critical inflection point: while direct rejection of outdated gender beliefs is more common, residual biases and silent agreement continue to create a "glass border," less visible than a glass ceiling but just as limiting. To further promote inclusive leadership:

- Continued engagement with male allies in leadership is essential.
- Narratives that reframe women's leadership as beneficial to both family and community welfare should be amplified.
- Neutrality should be understood not as a lack of opinion, but as an opportunity to intervene with data-driven advocacy and real-life role models.
- These perception shifts matter, as attitudes often precede—or hinder—behavioral and structural change.

9.7 Recommendations

The critical needs identified across the board included the need for strategic and financial training, infrastructure for value addition (processing facilities, irrigation), institutionalization of inclusion policies, and continued support beyond SNV project timelines. In light of these, the following recommendations are proposed:

1. Capacity building for board and cooperative management to enhance decision-making speed and strategic foresight.
2. Tailored financial solutions with reduced collateral burdens, possibly backed by guarantee mechanisms.
3. Development and adoption of formal gender and youth inclusion policies, with accompanying action plans.
4. Institutional support for market research and intelligence sharing across cooperatives.
5. Encourage peer learning and cooperative networking

10. Effectiveness of GESI Interventions in CRAFT Project: Baseline and End-line Analysis

This chapter assesses the effectiveness of Gender Equality and Social Inclusion (GESI) interventions within the CRAFT project, focusing on participation in value chains, leadership and voice, and shifts in inter-household power relations. A comparative analysis between baseline and end-line outcomes provides insights into the impacts of the interventions.

10.1 Participation in value chains

Baseline data indicated significant gender disparities in service access, with men initially benefiting more than women and youth across most services. At the end-line, notable changes occurred, reflecting improved inclusivity in several service areas:

Table 51: Percentage farmers reached (%)

Service	Baseline			End-line		
	Men	Women	Youth	Men	Women	Youth
Seed and other inputs distribution	51.1	43.2	25.5	77.0	23.0	43.0
Soil testing services	72.5	27.5	0.0	72.0	28.0	25.0
Weather information services	0.0	0.0	0.0	46.0	54.0	33.5
Insurance services	60.0	40.0	60.0	41.0	59.0	35.0
Aggregation and off-take services	45.3	48.9	35.8	48.0	52.0	36.0
Financial services	44.6	52.1	25.9	63.0	37.0	47.0
Training and extension services	45.5	47.8	31.8	48.0	62.0	40.5

- **Seed and Inputs Distribution:** Women's access decreased significantly (43.2% to 23.0%), indicating potential implementation gaps or constraints. Youth access, however, improved markedly (25.5% to 43.0%).
- **Soil Testing:** Little change occurred from baseline to end-line, suggesting persistent barriers or limited attention to this service.
- **Weather Information:** Marked improvement in accessibility was recorded (from 0% to 54% for women and 33.5% for youth), demonstrating the successful introduction of tailored information services.
- **Insurance:** Women's access significantly increased (40% to 59%), highlighting successful gender-targeted efforts.
- **Financial Services:** Increased for men (44.6% to 63%) and youth (25.9% to 47%), but decreased for women (52.1% to 37%), suggesting uneven benefits across groups.
- **Training and Extension Services:** Significant gains were recorded for women (47.8% to 62.0%) and youth (31.8% to 40.5%), demonstrating effective inclusive training strategies.

10.2 Leadership and voice

Despite some improvements, the overall influence, leadership, and voice metrics remained low across countries and cohorts, with only 25% indicating strong influence and 24% reporting leadership positions.

Senior men consistently reported higher levels of influence, leadership, and voice compared to senior women in male-headed households (MHH). Senior women in female-headed households (FHH) showed parity with senior men, except in Kenya. Youth outcomes varied, with young women in Tanzania experiencing slightly better outcomes, while young men in Kenya and Uganda had significantly higher leadership roles and voice perceptions.

10.3 Inter-household power relations

Analysis using the Pro-WEAI indicators at baseline and end-line revealed significant positive shifts (Table 52):

- Control over Income: Notable gains among adult women (69% to 86%) and young women (55% to 74%).
- Input into Productive Decisions: Considerable improvement for all groups, particularly young women (49% to 91%) and adult women (58% to 83%).
- Ownership of Land and Assets: Dramatic increase across all cohorts, notably adult women (63% to 91%) and young women (50% to 92%).
- Financial Services Decisions: Significant advancements, particularly among women (36% to 72%) and young women (27% to 77%).
- Work Balance: Improvements for adult women (42% to 87%) and young women (46% to 87%) were substantial, indicating successful efforts in reducing women's workloads.
- Group Membership: Modest improvements indicate strengthened collective agency, particularly among adult and young women (both increasing to 87%).

The 3DE (Three Domains of Empowerment) scores highlighted general increases in empowerment at end-line, with notable reductions in disempowerment scores (Table 53). For example, the percentage of women achieving empowerment increased from 38% to 71%, demonstrating significant progress attributable to GESI interventions (see table and figure).

Table 52: Percentage who were adequate in select pro-WEAI indicators at baseline and end-line

		Baseline				Endline			
Domain	Indicator	Adult men (35+)	Adult women (35+)	Young men (18-34)	Young women (18-34)	Adult men (35+)	Adult women (35+)	Young men (18-34)	Young women (18-34)
Intrinsic agency	-								
Instrumental agency	Control over use of income	81	69	73	55	86	86	78	74
	Input into productive decisions	83	58	75	49	96	83	98	91
	Ownership of land and other assets	70	63	52	50	96	91	96	92
	Access to and decisions on financial services	21	36	22	27	76	72	77	77
	Work balance	72	42	62	46	80	87	74	87
Collective agency	Group membership	83	83	67	67	81	87	82	87

Table 53: Pro-WEAI results at baseline and end-line by study participating business case/ value chain

	All study BCs				Nyekorac, Sesame value chain, Uganda				Sebei SACCO, Sunflower value chain, Uganda				IMCOS, green grams value chain, Kenya				JAKMA, Sunflower value chain, Tanzania			
	Baseline		Endline		Baseline		Endline		Baseline		Endline		Baseline		Endline		Baseline		Endline	
	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M
Number of observations	706	602	531	487	65	45	46	51	56	58	34	17	72	32	65	66	57	51	19	27
3DE score	**0.63**	**0.76**	**0.88**	**0.90**	**0.74**	**0.84**	**0.91**	**0.94**	**0.76**	**0.86**	**0.92**	**0.88**	**0.91**	**0.73**	**0.85**	**0.86**	**0.05**	**0.89**	**0.77**	**0.84**
Disempowerment score (1 – 3DE)	0.37	0.25	0.77	0.79	0.26	0.16	0.77	0.8	0.24	0.14	0.86	0.79	0.09	0.27	0.74	0.75	0.95	0.11	0.72	0.76
% achieving empowerment	0.38	0.50	0.71	0.74	0.55	0.69	0.78	0.84	0.61	0.69	0.82	0.65	0.79	0.38	0.62	0.68	0	0.71	0.53	0.56
% not achieving empowerment	0.62	0.50	0.29	0.26	0.45	0.31	0.22	0.16	0.39	0.31	0.18	0.35	0.21	0.63	0.38	0.32	1	0.29	0.47	0.44
Mean 3DE score for not yet empowered	0.43	0.52	0.60	0.60	0.42	0.48	0.59	0.59	0.40	0.56	0.54	0.65	0.59	0.57	0.61	0.56	0.05	0.63	0.51	0.64
Mean disempowerment score (1 – 3DE)	0.57	0.48	0.40	0.40	0.58	0.52	0.41	0.41	0.60	0.44	0.46	0.35	0.41	0.43	0.39	0.44	0.95	0.38	0.49	0.36

10.4 Conclusions and Recommendations

CRAFT's GESI interventions demonstrated clear effectiveness in enhancing women's and youth's participation, access to key services, and improving intra-household empowerment indicators. However, persistent gender disparities in leadership and decision-making, uneven service uptake, and unintended negative consequences such as reduced access for women in some services highlight areas for further intervention. Future programming should sustain tailored and adaptive support mechanisms, reinforce leadership capacity-building for women and youth, and address structural and cultural barriers to ensure equitable and sustainable outcomes.

10.5 Lessons learnt and recommendations

10.5.1 Synthesis of Lessons Learnt

Across the CRAFT project, efforts to integrate gender and youth considerations have generated valuable insights. The most significant empowerment outcomes emerged in contexts where targeted capacity strengthening was paired with supportive institutional frameworks and inclusive service models. Agribusinesses that prioritized gender-responsive leadership and promoted climate-smart agriculture (CSA) through accessible financing and tailored technologies tended to achieve greater equity outcomes. Nonetheless, persistent structural barriers such as limited land tenure rights for women, constrained financial access for youth, and the disproportionate unpaid care burden on senior women continue to limit inclusive participation. These challenges underscore the enduring influence of social norms and structural inequality. Notably, the combination of community-specific approaches, deliberate engagement of male champions, and multi-sectoral collaboration proved instrumental in fostering attitudinal change and enhancing the agency and economic roles of women and youth in agricultural value chains.

The subsequent section distills these insights into a synthesis of key lessons learnt across the core thematic areas of this evaluation.

Inventory of GESI Interventions and Knowledge Products

- Integration is strongest where GESI aligns with core business goals: Business cases that internalized inclusion as a means to enhance productivity, innovation, or customer base demonstrated more consistent uptake.
- GALS emerged as a catalytic tool for shifting intra-household and community norms, though its long-term use depends on building local capacity and linking to community structures.
- Gender-sensitivity in farmer engagement, training, and technology delivery is achievable when tailored to time availability, literacy, and decision-making roles of women and youth.
- The inclusion of youth and persons with disabilities requires more targeted approaches, generic inclusion efforts often miss their specific barriers related to capital, voice, and mobility.
- Business champions matter: Enterprises with leadership committed to gender and youth inclusion advanced faster and more meaningfully in their GESI integration.

Women and youth participation in CRAFT commodity value chains

- Delivery models matter: Services integrated into contractual relationships (embedded delivery) proved more effective in reaching women and youth than stand-alone or externally brokered services.
- Participation without ownership is insufficient: The transition from inclusion as beneficiaries to inclusion as agro-entrepreneurs is necessary for sustained empowerment.
- Tailored support is critical: Women and youth-specific constraints (e.g., literacy, collateral, mobility) require differentiated support in service design and delivery.
- Youth are not a homogeneous group: Young women face unique challenges that must be addressed through tailored interventions rather than generic youth inclusion efforts.
- Peer-led models work: Locally trained ToTs and service agents offer scalable, context-specific models for inclusive service delivery—if adequately resourced and formalized.

Gender and youth empowerment in CRAFT value chains

- Household structure influences empowerment trajectories: FHHs and YHHs provide greater autonomy but face greater economic vulnerability, while women in MHHs remain structurally disempowered despite shared farming roles.
- Access alone is insufficient: Interventions that provide inputs or training without addressing intra-household power dynamics do not yield sustained empowerment.
- Targeted platforms matter: Women- and youth-only groups facilitated voice and visibility but require deeper institutionalization to shift leadership outcomes.
- CSA interventions can be empowering, but also burdensome: Without gender-sensitive design, climate innovations risk reinforcing labor burdens for women and youth.
- Young women in MHHs are doubly marginalized: They often face both gendered disempowerment and exclusion from youth-focused programming that assumes autonomy.

Understanding the Extent and Key Contributors to Men's and Women's (Dis)empowerment

- Empowerment is context- and crop-specific: Soybean and sunflower offered better pathways for women and youth inclusion due to lighter capital requirements and better group-based service models.
- Household structure is a strong determinant: FHHs and YHHs exhibited more decision-making autonomy but suffered from weaker access to finance and market linkages.
- Women in MHHs are consistently the most disempowered: Their marginalization is rooted in both structural norms and intra-household power asymmetries.
- Male disempowerment also exists, especially linked to overwork, exclusion from services, and debt vulnerability—especially among young men.
- Group participation and CSA exposure improve empowerment, but benefits are greater when linked to actual income control and leadership.

Shifting roles, shared gains: gender and youth perspectives on climate-smart agriculture in craft communities

- Inclusion depends on CSA design and delivery: Gender- and youth-responsive CSA interventions—including timing, cost, and delivery channel—were more effective in reaching marginalized groups.
- Access is shaped by intra-household dynamics: Women's and youth's capacity to adopt CSA practices is closely linked to decision-making power, not just availability of technologies.
- Household structure is a determinant of agency: FHHs and YHHs generally demonstrated higher autonomy in CSA-related decisions but required targeted support due to limited financial and social capital.
- Community attitudes influence adoption: Where CSA messaging was framed around household welfare and community resilience, resistance to women and youth participation diminished.
- Labor implications must be explicitly addressed: Without intentional design, CSA technologies can reinforce or increase the labor burden for women and youth.

Business Champion's agency

- Governance improvements require both structure and strategy: Functional committees exist, but effectiveness is tied to strategic competence and leadership training.
- Leadership agency is limited by access to credit and technical support: Without affordable financing and market intelligence, even well-governed cooperatives struggle to grow.
- Normative change is underway but fragile: While stereotypical views of gender and leadership are declining, neutrality and residual bias persist, indicating the need for ongoing norm-shifting efforts.
- Market positioning remains weak: Most cooperatives lack structured market intelligence, limiting their ability to identify and act on business opportunities.
- Inclusion is more rhetorical than institutionalized: Despite growing awareness, few cooperatives have formal GESI policies or embedded inclusion strategies.

Institutionalizing inclusion: GESI commitments in the strategies and structures of craft supported business cases

- Leadership commitment is foundational: Women- and youth-led enterprises more readily embrace and institutionalize GESI principles when leadership is sensitized and invested in inclusion.
- Policy is not practice: Formal documents are critical scaffolding but require systems, trained staff, and resourced implementation to have real-world impact.
- Budget tracking is essential for sustainability: Inclusion without allocated and visible resources is unlikely to survive post-project transition.
- Informal structures matter: Councils, welfare groups, and community-based advisory bodies can help embed GESI even in the absence of formal teams.
- Capacity building must be continuous: One-off trainings are insufficient; enterprises need learning pathways that institutionalize GESI awareness and practice.

10.5.2 Recommendations

Sustaining and amplifying the impacts of CRAFT's gender and youth-responsive interventions requires a coordinated, system-wide approach. National policy frameworks should advance reforms that secure equitable access to land, finance, and climate-smart agricultural extension for women and youth, supported by robust monitoring and enforcement mechanisms. Development actors have a critical role in fostering long-term institutional capacity, particularly through support for youth entrepreneurship and mechanisms that reinforce accountability for gender and social inclusion. Agricultural extension services should integrate gender-sensitive pedagogy, address structural time burdens, and actively include youth and women as both recipients and providers of knowledge. Agribusinesses are encouraged to embed inclusive practices in leadership, supply chains, and benefit distribution. Moreover, all stakeholders must commit to proactive outreach and tailored programming for structurally excluded groups—such as female-headed households, persons with disabilities, and minority communities—to ensure that resilience efforts are truly inclusive and transformative. The following are the specific recommendations per thematic area.

Inventory of GESI interventions and knowledge products

This inventory confirmed that inclusive agribusiness practices are not only feasible but yield tangible benefits when aligned with business incentives and supported by technical and institutional systems.

The next step is ensuring that GESI becomes standard business practice, not a project add-on. Below are the recommendations to that effect:

For Policy Makers:

- Embed GESI standards into public-private partnerships and CSA scale-up strategies by requiring gender budgeting, inclusive service design, and measurable impact indicators.
- Incentivize agribusinesses to adopt GESI policies through tax benefits, certification schemes, or preferential procurement.

For Development Partners:

- Support long-term institutionalization of tools like GALS and inclusive farmer field schools through partnerships with local CSOs and government extension.
- Ensure that GESI capacity building targets not only field staff but also senior leadership and boards of cooperatives and agribusinesses.
- Provide innovation grants or catalytic capital to youth- and women-led agribusinesses, emphasizing inclusive CSA solutions.

For Extension Departments:

- Institutionalize inclusive training modules and materials into national curricula for extension officers, with refresher courses on youth and gender mainstreaming.
- Design outreach schedules and methods (e.g. mobile extension, community-based agents) that consider time and mobility constraints of women and marginalized farmers.

For Agribusinesses:

- Develop and implement GESI action plans that align with core business functions such as input provision, aggregation, marketing, and financial services.
- Prioritize recruitment and promotion of women and youth into leadership and decision-making positions within enterprises and cooperatives.
- Invest in customer segmentation and service design to meet the specific needs of women and young farmers—such as micro-input packages, digital CSA advisory, and flexible financing.

Women and youth participation in CRAFT commodity value chains

CRAFT demonstrated that targeted investments and strategic delivery models can enable meaningful participation of women and youth in CSA value chains. While extension services reached many marginalized groups, the next frontier lies in transforming participants into producers including in high-end or high performing value chain roles, decision-makers, and service providers. Deepening structural reforms, embedding inclusion into value chain design, and aligning policy and private sector incentives will be essential for unlocking the full potential of inclusive agribusiness in a climate-vulnerable future.

For Policy Makers:

- Institutionalize gender and youth integration in CSA financing schemes, ensuring quotas and targeted subsidies for women and youth-led enterprises.

- Embed inclusive agribusiness criteria into public-private partnership guidelines and cooperative regulations.
- Co-finance rural infrastructure (e.g., mechanization depots, aggregation centers) that reduces time burdens for women and improves youth engagement.

For Development Partners:

- Invest in inclusive CSA innovation accelerators targeting women and youth across service nodes (e.g., seed multipliers, weather info agents, aggregators).
- Scale up gender- and youth-responsive bundled service hubs, integrating finance, inputs, advisories, and market access under accessible platforms.
- Fund long-term, intersectional norm-change interventions, especially for women in male-headed households and marginalized youth.

For Extension Departments:

- Institutionalize peer-led extension models, formalizing the role of ToTs and equipping them with certification, microgrants, and refresher training.
- Partner with financial institutions and farmer groups to deliver financial literacy bootcamps, especially targeting rural women and young first-time borrowers.
- Develop participatory planning structures between farmer groups and district extension/meteorological offices to embed sustainability in information services.

For Agribusinesses:

- Shift inclusion strategies from access to ownership of service roles by investing in women and youth as service providers, not just recipients.
- Use GESI-disaggregated service uptake data to monitor equity in access, inform business planning, and guide incentive structures.
- Document and scale successful peer-led service delivery models, using them as knowledge assets across business cases and sectors.

Gender and youth empowerment in CRAFT value chains

CRAFT's pro-WEAI assessment underscores that while targeted interventions can catalyze empowerment among women and youth, particularly in FHHs and YHHs, significant structural and normative barriers persist, especially within MHHs. Addressing these disparities requires a deliberate shift from isolated inclusion efforts to embedded, intersectional empowerment strategies that recognize voice, autonomy, and economic power as interlinked components of climate-resilient agrifood systems. The section below highlights key recommendations by actor.

For Policy Makers:

- Mandate integration of gender- and youth-disaggregated empowerment indicators (e.g., pro-WEAI) into national agricultural monitoring systems.
- Reform land tenure and inheritance laws to enable secure asset ownership for women and youth, especially in MHHs.
- Institutionalize quotas for women and youth leadership in cooperatives and agricultural boards, with legal enforcement mechanisms.

For Development Partners:

- Expand support for intersectional empowerment programming, including tailored support for young women in MHHs and widows.
- Invest in community norm-change campaigns linked to CSA adoption, emphasizing equitable workload sharing and joint decision-making.
- Strengthen social accountability mechanisms to ensure women and youth have ongoing platforms for voice and grievance redress.

For Extension Departments:

- Deploy GESI-trained extension agents who can engage households holistically and facilitate intra-household dialogues on decision-making and income control.
- Incorporate pro-WEAI indicators into extension outreach to monitor empowerment beyond technical adoption.
- Use youth-led and female ToT (training-of-trainers) models to reach marginalized groups and reshape perceptions of who leads agricultural innovation.

For Agribusinesses:

- Conduct empowerment audits using pro-WEAI to identify gaps in inclusion within value chains and service delivery.
- Institutionalize gender and youth inclusion policies with measurable KPIs for leadership, resource access, and benefit sharing.
- Support enterprise development for youth and women, including start-up financing, input bundling, and market access pathways tailored to FHHs and YHHs.

Understanding the extent and key contributors to men's and women's (dis)empowerment

CRAFT's empowerment assessment reveals that gender- and youth-inclusive agribusiness is achievable, but must be deliberately engineered across value chains and household types. While meaningful gains were observed in certain contexts, particularly in soybean and sunflower value chains in Uganda and Kenya, persistent inequalities remain, especially for women in MHHs and youth with limited capital. The following recommendations align with addressing these disparities to ensure multi-layered, structural solutions that go beyond access to target agency, voice, and equitable benefit sharing across the agricultural system.

For Policy Makers:

- Institutionalize empowerment-sensitive targeting in national agricultural and climate programs, using disaggregated indicators such as pro-WEAI scores.
- Invest in value chain-specific inclusion policies, especially in crops with high gender and youth exclusion (e.g., sesame, potato, sorghum).
- Support policies enabling joint decision-making and income control through legal recognition of women's roles in family farming enterprises.

For Development Partners:

- Design and finance tailored empowerment pathways, focusing on young women in MHHs and male youth in resource-poor YHHs.
- Scale CSA interventions in high-empowerment value chains (e.g., soybean and sunflower) while piloting inclusion strategies in more exclusive crops.
- Co-develop community norm-change initiatives with local leaders to address persistent stereotypes about women's financial decision-making.

For Extension Departments:

- Adopt household-differentiated extension models, engaging men and women jointly in MHHs while building resource access for FHHs and YHHs.
- Monitor extension effectiveness not only by reach, but by shifts in pro-WEAI indicators such as decision-making power and income autonomy.
- Recruit and support young female extension workers to serve as role models and improve communication with marginalized groups.

For Agribusinesses:

- Embed empowerment audits into cooperative and SME development, using pro-WEAI data to inform service design and equity tracking.
- Provide contractual, not just group-based, access to CSA markets for FHHs and YHHs to increase autonomy and income.
- Diversify leadership pipelines by establishing mentorship and quotas for youth and women in cooperative boards and business units.

Shifting roles, shared gains: gender and youth perspectives on climate-smart agriculture in craft communities

CRAFT's CSA interventions have demonstrated the potential for inclusive climate-resilient farming when gender and youth considerations are embedded in both design and delivery. However, persistent disparities in adoption and benefit distribution underline the need for contextualized, intersectional, and institutionally supported strategies. Achieving equitable climate resilience requires moving beyond access toward agency, ensuring that women and youth not only adopt CSA but shape its future in East Africa's agrifood systems. The following are proposed recommendations for various actors.

For Policy Makers:

- Mandate gender and youth targeting criteria in CSA subsidy programs, technology roll-outs, and public extension schemes.
- Prioritize the financing and dissemination of CSA technologies that are affordable, labor-saving, and accessible to women and youth.
- Ensure CSA strategies integrate norm-change and behavior communication components, promoting shared household responsibilities and decision-making.

For Development Partners:

- Fund and scale gender- and youth-responsive CSA pilots, with embedded participatory learning, inclusive cost-benefit analysis, and voice from marginalized groups.

- Support community-based digital advisory platforms tailored to literacy and connectivity levels of women and youth.
- Design programs that actively engage male champions and local leaders to reduce cultural resistance to inclusive CSA uptake.

For Extension Departments:

- Train and deploy gender-balanced, youth-inclusive extension teams, especially using local ToT (training of trainers) models embedded within communities.
- Align CSA training with household typologies, ensuring targeted content for FHHs, MHHs, and YHHs that addresses their unique needs and barriers.
- Monitor and report on equity outcomes in CSA adoption, not just adoption rates, to ensure inclusion is tracked and improved.

For Agribusinesses:

- Offer bundled CSA services (e.g., inputs, weather services, finance) designed specifically for women and young producers, including flexible payment models.
- Include women and youth in CSA technology feedback loops and product design processes to ensure innovations meet diverse needs.
- Adopt contract farming and aggregation models that explicitly accommodate producers from FHHs and youth-led enterprises.

Business Champion's agency

CRAFT's support to business champions has laid critical groundwork for inclusive agribusiness development. While governance structures have improved and gender perceptions are evolving, institutional gaps in financial access, strategic foresight, and GESI mainstreaming remain significant. Addressing these will require a concerted, multi-stakeholder approach to consolidate gains and transform inclusive leadership from rhetoric to reality. Below are the proposed recommendations towards that end.

For Policy Makers:

- Support the development and enforcement of cooperative governance standards, including mandatory training for board members on strategic leadership and inclusive decision-making.
- Promote public-private partnerships to co-finance value chain infrastructure, including processing units and irrigation systems tailored to smallholder-led cooperatives.
- Incentivize cooperatives to adopt gender and youth inclusion policies through certification schemes or preferential access to public programs.

For Development Partners:

- Provide long-term capacity development support for cooperative boards, focusing on strategic planning, financial management, market development, and GESI integration.
- Facilitate the design of collateral-free financing instruments, backed by guarantee funds or blended finance, to address access-to-credit barriers.

- Scale up peer learning networks and business champion forums to foster cross-country exchange and shared learning on inclusive governance.

For Extension Departments:

- Partner with cooperatives to deliver customized leadership and business training modules, addressing both technical and soft skills needed for inclusive enterprise growth.
- Promote regular market intelligence dissemination, including crop pricing, demand forecasts, and regional trade trends to strengthen cooperative planning.

For Agribusinesses/Cooperatives:

- Institutionalize strategic training plans for leadership, including onboarding programs for new board members and refresher courses for existing ones.
- Formalize and operationalize gender and youth inclusion policies, backed by measurable targets and internal accountability structures.
- Invest in routine market research and client segmentation, enabling data-driven diversification and positioning in competitive value chains.

Institutionalizing inclusion: GESI commitments in the strategies and structures of craft supported business cases

CRAFT's investment in promoting GESI-friendly business practices reveals both momentum and gaps in institutionalization. Enterprises like Starlight Cooperative have set positive precedents, but broader success hinges on translating principles into policies, and policies into resourced, monitored practice. As the project nears completion, immediate technical assistance and longer-term learning structures will be critical to solidifying these gains. When inclusion becomes embedded in systems, not just activities, it transforms from a project objective into a business imperative. The following are the recommendations for different actors:

For Policy Makers:

- Develop national GESI integration standards for cooperatives and agribusinesses, including minimum requirements for inclusion policies, representation, and safeguarding procedures.
- Incentivize compliance through preferential access to government contracts, grants, or licenses for enterprises with demonstrable GESI systems.

For Development Partners:

- Provide technical assistance for GESI policy development, including simplified templates for safeguarding, recruitment, and workplace conduct.
- Fund institutional coaching programs that pair enterprises with GESI mentors for tailored strategy operationalization.
- Establish virtual GESI clinics and toolkits, allowing businesses to access just-in-time support and learning materials, even post-project.

For Extension Departments:

- Embed GESI systems thinking in training and certification programs for cooperative and agribusiness leaders, especially around compliance, HR practices, and representation.
- Coordinate with agribusinesses to track GESI investment and impact, supporting evidence-based improvement and reporting.

For Agribusinesses:

- Designate at least one GESI focal point within the enterprise, with clear terms of reference and performance indicators.
- Integrate GESI into strategic and operational plans, with specific KPIs, accountability frameworks, and dedicated budget lines.
- Foster inclusive organizational cultures through board-level diversity, staff mentorship, and routine learning on gender, youth, and inclusion.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