

## Supplementary

### Annex I: Barrier and Risk Table for Climate Smart Agriculture

Barriers and Risks			Menu of selected public instruments		
Risks and key Stakeholder Group	Underlying Barriers, including additional gendered barriers	Increased Probability of occurrence and severity of impact on women;	Policy Risk Reduction Instruments	Risk Transfer Instruments	Financial Compensation Instruments
1. Production Risk: Risks associated with adoption of new farming practices in a changing socio-economic and physical environment  Key Stakeholder Group: Farmers growing food and cash crops on less than 1 ha of land on average, and have household income of \$ 1,500 a year	Limited awareness of the impact of climate change and knowledge of CSA practices	Lower access to information about climate change and knowledge	Raise awareness about climate-induced risks		Challenge grant to climate and weather information providers to develop appropriate information services for women farmers
	Limited access to climate-resilient farm inputs and new and/or improved technologies such as solar-powered irrigation pumps.	Gender gap in membership in farmer associations to generate economies of scale to procure inputs and technologies	Assess gender differentiated preferences to access climate information and select media accordingly		Tax breaks to facilitate the entry of new equipment and farming input suppliers
	Limited agricultural extension services	Lower access to extension services, compounded by lower mobility due to security concerns or adversarial social norms	Leverage new ICTs to provide access to relevant information. Leverage the supply chain of agribusinesses; inter-sectoral cooperation; partnership with civil society		Challenge grant to CSA information providers to develop appropriate services for women farmers

			Capacity development of extension agents on the gender information gap and possible remedial measures; Train women farmers on how to leverage ICT to access relevant climate smart agriculture information		
	Limited capacity to interpret and apply climate and weather information to adjust farming practices	Information might privilege crops cultivated by male farmers and overlook crops and farming practices of greater economic importance to women (horticulture, etc.)	Develop crop specific training and support demonstration activities  Ensure that training and demonstration activities cover priority crops for women farmers		
	Limited saving rates and safety net to experiment with non-traditional agricultural practices and meet higher CSA upfront costs	Gender gap in access to finance		Bundle a micro-insurance with a micro-grant to cover the risks of crop failure	Subsidize risk premium for women farmers
	Uncertainty on market demand or/and lack of access to markets for new	Security and lower participation in farmer associations and other market	Leverage ICT technologies for market information dissemination;	Offer purchase guarantees on crop produced under climate –	

	farming products	intermediaries limiting access to markets	Train women farmers on how to leverage ICT to access higher added value markets	resilient protocol	
	Land regime uncertainties discourage long-term investment	Gender gap in secure land tenure	<p>Introduction of a transparent and legitimate land rights acquisition system.</p> <p>Reform land tenure frameworks, laws and policies to remove legal, social, customary and political barriers to women's land tenure security</p> <p>Strengthen capacity of land registry institutions to improve systems and access</p> <p>Promote farming systems that can provide high agricultural returns on small plots of land</p>		
2. Technology Risks: Risk arising from limitations in the quality and availability of climate smart farm inputs and technologies, as well as its treatment by	Lack of technical standards and quality assurance mechanisms for new CSA technologies	Gender gap in access to technical information and skills	Research and development in CSA; test center for quality of equipment; standard and certification; exchange of market information (e.g. trade fairs); supplier ratings.		

<p>customs Key Stakeholder Group: Technology manufacturers, Farm input providers, technical regulator, customs (excise),</p>			Capacity development for women farmers on new technologies; leverage ICT for increased access to technical education and information		
	Lack of proven technologies and practices to address specific CSA challenges; uncertainty on future pay-off in the absence of proven business models		Demonstration activities	Pricing guarantees or purchase agreements for infrastructure or services	Innovation challenges; grants and subsidies for research and development of new, adaptation- resilient technologies
	Poor quality and availability of farm inputs (climate resilient seeds, fertilizers, etc.) and technology	Lower access to recourse against poor quality	Update regulations; Streamline recourse mechanisms for faulty farm inputs and equipment		Tax breaks/subsidizes to reduce logistic costs to reach out to remote communities
			Raise awareness of women farmers and judicial community about women rights; create dedicated windows for women access to justice.		
	Limited capacity to provide after-sale services to farmers	Social norms can limit women access to technology providers	Train local after-sale service agents; establish regional after-sale centers; include after-sale service capacity in certification process		

			Trained female after-sale agents		
3. Labour Input Risk: Risks arising from the lack of skilled and qualified potential employees to develop and promote climate smart inputs, technologies and practices Key Stakeholder Group: Labour force, academic institutions	High illiteracy rates in rural areas	Higher prevalence of illiteracy rates among women in rural areas	<p>Cross-reference CSA and education policies to increase investment in primary and secondary education;</p> <p>Scale up adult literacy and vocational programmes; leverage non-written communication media for vocational training.</p>		
	Lack of a competitive labour market	<p>Gender desegregated occupation prevent women for entering CSA workforce</p> <p>Discriminatory business practices and risk of harassment in the labour place deter women from entering the workforce</p> <p>New labour requirements may have negative impact on women health through exposure to chemicals, physically stressing gender</p>	<p>Remove barriers to entry to labor markets; invest in vocational training;</p> <p>Work with community leaders and influencers, opinion makers and political representatives to address discriminatory social norms, attitudes and behaviors. Engage both men and women in win-win economic empowerment activities.</p> <p>Access to remedial measures for workspace harassment, discrimination and abuse of power.</p>		

		differentiated tasks and heavier equipment.			
	Labour shortage during key agricultural period	Labor shortage will particularly affect women farmers when some tasks such as soil preparation is traditional a man occupation	Assess labor shortage implications of different CSA technologies and practices; facilitate investment in labor saving technologies;  Work on social norms to remove gender disaggregated occupations.		Grant ploughs and other tools for traditionally gender disaggregated agricultural tasks to women associations. Provide production credits to women to enable them to hire extra labor during key agricultural periods.
	Limited capacity to prepare bankable project proposals		Project development facilities		
	Women's disproportionate responsibility for domestic work and unpaid care means that they have less time to acquire and apply new skills required for climate smart agriculture and agri-business		Invest in social service and infrastructure to reduce unpaid domestic work and care. Promote gender certification of companies. Work on social norms regarding gender disaggregated occupation.		
	Risk of harassment and violence limit		Promote cross-sectoral policies on prevention of		

	women's mobility and access to information		violence against women (remove harmful social norms, increase access to referral services and justice. etc.)		
4. Financing Risk: Risks arising from scarcity of domestic investor capital (debt and equity) for climate-smart agriculture, and domestic investors' lack of familiarity with climate-smart agriculture and appropriate financing structures  Key Stakeholder Group: Domestic investors (equity and debt), financial sector regulator  Commercial banks hold % of total assets and liabilities and agriculture represents % of their total outstanding loans and advances; Micro-finance institutions hold % of	Capital scarcity – liquidity constraints in domestic banking				Provide credit-lines to enable banks to increase their sectoral exposure without having to recapitalize
	Capital scarcity – underdeveloped domestic financial sector	Lack of rural banks more likely to affect women farmers due to lack of mobility	Leveraging mobile banking and crowd funding platforms  Train women farmers on how to connect to digital financing platforms		Leverage the credit rating of established agri-business firms by involving them as loan provision through contract farming. Establish public; private-public investment funds
	Lack of track record and poor risk assessment capacity for climate resilient technologies and practices		Develop screening and appraisal tools to enhance bank's ability to evaluate and assess risks specific to climate-resilient practices		
	Lack of appropriate collateral of farmers for a bank loans and difficulty in	Lower level of collateral and uncertain property rights reduce the	Regulation to expand lending to climate resilient farming practices	Provide risk coverage by guaranteeing a%age of the	

<p>total assets and liabilities and agriculture represents % of their total outstanding loans and advances; National development banks hold % of total assets and liabilities and agriculture represents % of their total outstanding loans and advances</p>	assessing farmers' creditworthiness due to their lack of credit histories	credit worthiness of women farmers	Leverage new ICTs to provide financial identity and establish credit track for women farmers	losses incurred by a climate-resilient portfolio of women farmers	
	Lack of tailored financial products and limited in-house expertise in climate-resilient farming	Lack of tailored products is likely to particularly affect women farmers due to their more irregular cash flows	Provide technical assistance to support banks in the design of tailored products		Challenge grant to develop appropriate financial intermediation services to women farmers and women agri-business entrepreneurs
	High transaction costs to provide small loans to remote farmers		Development of farmer associations to generate economies of scale; Leverage new ICTs to generate economies of scale		Leverage the value chain of agri-business firms by involving them as loan intermediaries, collectors or guarantors.
	Lack of risk management services	Inability to pay premium due to lower saving and investment capacity	Provide technical assistance to develop appropriate risk management tools (weather indexes, etc.)	Bundling of insurances and loans	Grant to lower premium for women farmers
	Harmful social norms on women access to finance and aptitude as investors		Outreach, engagement and capacity development with financiers to address the gender bias		
5. Regulatory Risk: Risks arising from lack	Lack or inadequate climate smart	Limited capacity to identify gender	Establish long-term CSA policies in key strategic		

of or from counterproductive regulatory and public policies for CSA Key Stakeholder Group: Policymakers, legislators, regulators, Public Administration, Ministries of Agriculture, Energy and Environment	strategies and policies	specific barriers and risks to CSA and implement policies to remove them	documents such as NAPs and NDCs.		
	Gender differentiated risks not taken into consideration in CSA strategies and policies		Increase the engagement and capacity of women farmer associations and female political representatives to engage in CSA policy development		
	Limited understanding of the role and importance of public policies to support CSA		Raise awareness of policy makers, farmer associations and agri-business about CSA risks and underlying barriers		
	Limited capacity to identify barriers to CSA and implement policies to remove them		Recognize and access the gender specific needs, risks and underlying barriers; conduct gender analysis of CSA policies and make specific gender-responsive policy recommendations.		
	Budget constraints to design and implement policies to catalyze CSA		Develop capacity of policy makers and key stakeholders to identify and select economic, cost effective and efficient policy portfolio		

	investment		funding sources for CSA		
			Allocate adequate budgetary resources to finance implementation of gender specific policy instruments and monitor and evaluate their impact for men and women farmers and agri-business entrepreneur to educate future updates of NAPs and NDCs.		
	Lack of cross-sectoral and inter-departmental coordination to promote integrated policies and develop synergies	Lack of cross-sectoral coordination affects the capacity to develop synergies with efforts in other sectors critical (education, health, etc.) critical to address structural gender barriers	Establish cross-ministerial tasks force to design and implement CSA policies  Link gender responsive CSA policies with other sectoral policies (education, health, etc.).		Establish pooled funding mechanisms to provide incentives for collective actions
	Complex, inconsistent or opaque licensing processes for new CSA technologies and agri-businesses	Women are softer targets for corruption	Streamline licensing processes  Targets, quotas and waivers for allocating licenses to women agri-business entrepreneurs		
	Shift in macroeconomic and	The impact of macro-economic policies on	Ensure stable macro-economic framework that		

	<p>sectoral economic policies that affect viability of agricultural markets</p> <p>Negative distortions that reduce incentives to investment in climate-resilient infrastructure and practices (agricultural and fossil fuels subsidies, etc.)</p> <p>Undervalued natural capital: Life support services provided by not accounted by public and private sectors, leading to unsustainable natural resource uses and underinvestment in ecosystem services conservation</p> <p>Uncertainty or impediments due to government policy or</p>	<p>agricultural markets where women farmers are predominantly engaged are overlooked because of their lesser voice and agency.</p>	<p>promotes CSA markets</p> <p>Enhance the voice and agency of women farmers representatives in macro-economic and sectoral policy discussions</p> <p>Remove distorting agricultural and fossil fuel subsidies and recycle them to support CSA</p> <p>Pricing reforms to internalize external costs; secured communal or individual property rights; green commodity certification to secure price and market access premium.</p> <p>Commit to long-term and transparent policy targets</p>		
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	political instability				
	Lack of trust among economic actors, which hinders the effectiveness of public-private partnerships		Strengthen access to justice for recourse against breaches of contract		
6. Market Risk: Risks arising from limitations and uncertainty in the agricultural market regarding market outlook, access, price and competition for climate smart farm products, technologies and practices and lack of appropriate logistical infrastructure  Key Stakeholder Group: Supply chain firms, Agro-business firms contracting farmers in supply chain; Service and good providers	Limited awareness of opportunities and risk associated with climate change, compounded by lack of data and technical skills	Lower women access to market information	Undertake market studies and development of business cases; documentation of investment successes and failure; encourage companies to assess and disclose risks in a standardized manner.		Tax breaks for climate resilient equipment
	Lack of market governance institutions to break smallholder isolation and generate economies of scale (farmer associations,	Less likely to be members of cooperatives / associations	Develop public-private partnership with dealers and firms' technical teams to transfer skills for climate-resilient agriculture		Grant to dealers and firms' technical teams to transfer skills for climate-resilient agriculture to women agri-business entrepreneurs
			Institutional strengthening of market institutions; enabling policy framework to encourage the development of market governance institutions		Leverage public procurement as an incentive for women farmers to join or to establish cooperatives and other market

	intermediary institutions, commodity exchanges, investment promotion agencies, etc.)		Engage supply chain actors in empowering women to join and lead market governance associations		institutions; Leverage ICTs to connect women farmers to web-based procurement and enterprise platforms
	Lack of logistical infrastructure such as storage and local processing facilities and rural roads to reduce post-harvest loss and better match demand and supply to secure higher prices	Gender-bias investment disadvantaging markets where women are predominantly engaged because of their lesser voice and agency	<p>Incorporate CSA requirements in infrastructure development plans. Establish an enabling environment to catalyze finance for CSA infrastructure (BOT, BOO, etc.)</p> <p>Develop gender responsive planning and infrastructure investment frameworks at the national and local levels. Enhance voice and agency of women farmer representatives to engage in the development of these frameworks.</p>		Challenge grants to incentivize the development of new solutions (ex: solar cooler containers, etc.)
	High transaction costs for small-scale opportunities in remote areas		Leverage new digital platforms to promote aggregation of demands.		Time-bound subsidization of logistical costs of critical CSA product lines

	Difficulty in converting social benefits into private profits		Reduce risks and transaction costs associated with administrative requirements		Provision of grants/matching funds targeting viability gaps associated with investment in climate resilience
	Limited access to affordable, long-term finance to meet higher upfront costs of climate-resilient product development and marketing	Lower level of collateral and uncertain property rights reduce the credit worthiness of women entrepreneurs		Risk-sharing instruments for women-owned investment portfolio	Seed capital for adaptation-focused enterprises; extension of concessional and non-concessional credits.
	Reluctance of private sector to participate in programmes requiring various degrees of government support due to fear of policy reversal.		Include long-term adaptation targets into national development policies; simplify licensing procedures and eligibility procedures for government support.		
	Subsidies and practices that encourage inefficient uses of natural resources		Phase out/reform perverse subsidies to increase return on resource efficient investment and practices; policy reforms to require firms to account for ecosystem degradation		Levies on environmental emissions and degradation
	Risk of harassment and violence limit		Promote cross-sectoral policies on prevention of		

	women's mobility and physical access to markets		violence against women (remove harmful social norms, increase access to referral services and justice. etc.) Invest in safe market infrastructure		
7. Social Acceptance Risk: Risk associated with lack of public support for CSA policies, technologies and products  Key Stakeholder Group: General population	Resistance by consumers to new farm products and possibly higher prices	Resistance of women farmers to new agricultural practices that reduce their control on agricultural production (i.e., intercropping of men- and women-managed crops). Similarly, the introduction of new high-yield varieties can also be resisted if they take longer to cook than existing varieties.	Development of marketing studies and consumer education  Analysis of impact of CSA practices on power relations and control of production; and on labour.		
	Lack of public support for phase out of Subsidies and practices that discourage CSA.		Development of public awareness campaigns		
8. Currency Risk: Risks arising from currency mismatch between hard currency debt/equity	Uncertainty due to volatile local currency				

and domestic currency revenues Macro risk					
9. Sovereign Risk: Risk arising from a mix of cross-cutting political, economic, institutional and social characteristics in the particular country which are not specific to climate smart agriculture	Conflict, political instability, economic performance, weather events/natural disaster, legal governance, ease of doing business, crime and law enforcement, land tenure and infrastructure				

## **Annex II: Generic Theory of Change to Address Gender Differentiated Investment Risks to Scale up Climate Smart Agriculture**

To facilitate the application and localization of the proposed methodology to address gender-differentiated investment risks to climate-smart agriculture, this annex provides an illustrative theory of change to embed possible interventions into an overall narrative and causal chain. Possible public interventions are clustered into 4 result areas, mirroring key gender gaps in access to land, finance and technologies, information and markets as follows: (i) engendered CSA Policies; (ii) access to finance and technologies; (iii) access to information; and (iv) access to markets.

### *Result area 1: CSA Policies engendered and women's land tenure security is increased*

Climate smart agriculture policies will unintentionally discriminate against women farmers when they overlook gender differentiated investment risks and opportunities. Policies reflect the interests of those who develop them [36,37]. Effectively engaging women organizations, farmer cooperatives and political representatives in CSA policy development, implementation and monitoring is essential for identifying and addressing these gender differentiated risks and opportunities.

To facilitate this engagement, gender-responsive audits of existing policies, procedures and processes can support evidence-based advocacy and policy-making (output 1.1). Capacity development of women farmer representatives and policy makers can strengthen the

voice and agency of women representatives engaged in these exercises and ensure that participation translates into material policy action (output 1.2).

In a large number of countries, improving women's equal rights and access to land is key to incentivize and collateralize long-term investment in land fertility and CSA. Reforming land tenure regimes is usually a long-term and politically sensitive process. It entails building political will and mobilizing local and national level of farmer groups and cooperatives, as well as of political, traditional and faith leaders. This creates the space needed for statutory and customary reform of land tenure laws and policies (output 1.3). Finally, capacity development is necessary for land registry institutions to the systems and procedures in place to translate an enabling legislative environment into practice (output 1.4).

#### *Result area 2: Increased women farmers' access to finance to invest in climate-resilient and time saving assets and inputs*

Even if women farmers have secured land tenure, they need access to affordable long-term finance to invest in climate-smart technologies, inputs and practices. Addressing the gender gap in access to finance will require to identify priority investment opportunities for women farmers, including time saving technologies, and engendering lending practices of public and private financial institutions.

Policy makers may apply a range of regulatory and financial incentives to the finance industry to direct lending to CSA, from legislating lending quotas to extending credit lines or providing risk coverage by guaranteeing a%age of losses incurred in a CSA farmer portfolio [77]. A key focus of a new generation of innovations should be to adapt these solutions to the unique requirements of women farmers (output 2.1).

Mobile banking and internet technologies can also be leveraged to connect smallholder farmers to information, providers of goods and services, financiers and higher added-value markets. Such models break the isolation of smallholder farmers and create economies of scale [74]. Targeted training might need to be provided to women farmers to enable them to connect to these new platforms (output 2.2). Additional capacity development efforts might include training loans officers and designing screening tools to enable them to better appraise the credit risks of women farmers. On the demand side, these efforts targeting loan officers and financial intermediaries could be complemented by interventions to enhance the financial literacy of women farmers and ability to develop bankable projects (output 2.3).

#### *Result area 3: Increased women farmers' access to CSA information*

Even if women farmers have secured land tenure and access to finance, inputs and technologies, they need accurate information to increase their capacity to profitably invest in climate-resilient agriculture. Women farmers will need the capacity to interpret and apply climate and weather information to adjust farming practices. This will ensure that they opt for the most appropriate crops, planting dates, soil preparation techniques, pest control, climate smart seeds, and other farm inputs to enhance their resilience to local climate risks. It will require enhancing the capacity of existing agricultural extension workers to support new CSA technologies and practices, and investments in climate information services that are accessible, timely and user-friendly for women farmers (output 3.1). In addition, the

rapid uptake of mobile and internet technologies creates unprecedented opportunities for women-friendly information tools on climate smart agriculture<sup>1</sup> [55,74,75]. It will help overcome the structural shortage of adequately trained extension workers<sup>2</sup> and the barriers posed by the lower literacy level, time availability and accessibility of women farmers (output 3.2).

In order to ensure uptake of new technologies, it will be important to also promote favorable social attitudes and practices about women's role in agriculture and the use of technology (output 3.3).

*Result area 4: Increased opportunities for women farmers to access higher value markets and engage in climate smart agribusiness.*

Economic diversification and moving up the value chain are key to increasing the resilience of communities and individuals to climate change. However, it is likely to require women enrollment in market institutions that will enable them to aggregate their production and create economies of scale, such as market associations or rural cooperatives (output 4.1).

Investment in local infrastructure will also be needed for transport and storage facilities (refrigerated trucks, solar cooler containers, etc.); facilitating value addition and marketing of both food and non-food products from smallholder farmers; and promoting fair and safe access to markets for all, as a way to ensure that smallholder farmers are not exploited in the value chain or exposed to unsafe condition. Engagement of women farmer representatives in the prioritization of infrastructure investments at the national and local levels will be critical to ensure that these infrastructures support the CSA markets where women are predominantly invested (output 4.2).

Public procurement can be leveraged to kick-start women farmer participation in higher value markets (output 4.3). Public procurement is a multi-trillion dollar industry accounting for 15-30% of GDP in countries. However, women owned businesses only access 1% of public procurement [80].

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<sup>1</sup> As an illustration, the organization Digital Green builds innovative platforms to enable rural communities to create and share short videos for wider adoption of locally relevant practices in South Asia and Sub-Saharan Africa. To date, it has helped facilitate the production and dissemination of more than 3,500 localized videos in 20 languages (Digital Green, 2015).

<sup>2</sup> For example, the ratio of extension workers to farmers is 1:1,000 in India, limiting their impact (Vodafone)

Goal Goal TOC State- ment	<p><b>Women farmers are economically empowered and resilient in a changing climate</b></p> <p><b>Key indicators:</b> Share of women among agricultural land owners by age and location (U/R); Legal framework includes special measures to guarantee women's equal rights to land ownership and control Guiding normative frameworks include CEDAW (article 14); Beijing Platform for Action; SDGs; CSW56; UNFCCC &amp; UNCCD gender provisions</p>
If (1) agricultural policies are gender-responsive and women farmers realize rights to land and secure land tenure; if (2) they have the financial capacity to invest in climate-smart asset, tools and technologies; if (3) they have access to climate-smart information; and if (4) they participate fully in green value chains and markets; then (5) women farmers are economically empowered and resilient in a changing climate; because (6) the root causes and drivers of gender gaps in agriculture have been addressed.	
Outcomes	<p>1. Climate smart agricultural (CSA) policies are engendered and women's land tenure security is increased. Key indicators: Share of women among agricultural land owners by age and location (U/R); Legal framework includes special measures to guarantee women's equal rights to land ownership and control</p> <p>2. Women's capacity to invest in climate smart and time saving assets, tools and technologies is increased. Key indicators: % change in loans to women small-holder farmers; % change in women using financial services</p> <p>3. Women small holder farmers' access to climate smart information is increased. Key indicators: % change in women accessing climate-related information services</p> <p>4. Opportunities for women farmers to move up the value chain are promoted. Key indicators: % of women's participation in cooperatives; % of women farmers with access to extension services</p>
Outcome TOC	<p>If (1) gender-differentiated CSA barriers are recognised and remedial interventions are integrated; if barriers to women's equal rights and access to land are addressed; and if an enabling legislative framework, supported by strong technical capacities are in place, then (2) CSA policies will be engendered and women's land tenure security will increase; because (3) discrimination against women has been addressed.</p> <p>If (1) women have access to affordable and appropriate financing services, products, business skills, and insurances; then (2) women will have increased capacity to invest in climate-smart and time saving assets, tools and technologies; because (3) key financing barriers for rural women are removed.</p> <p>If (1) extension services and digital technology are accessible for women, and if women have the capacity to use such services in an enabling social environment; then (2) women's access to invest in climate-smart information will increase; because (3) women will have the required means, skills, and social support.</p> <p>If (1) the agency and decision-making capacity of women farmers is strengthened; and if they have access to local infrastructure, processing and storage capacity; and if they are included in green agricultural supply chains; then (2) women will have opportunities to move up the value chain; because (3) they will have equitable access to markets.</p>
Outputs	<p>1.1. Capacity of government institutions and policy makers to assess gender differentiated CSA barriers and integrate remedial interventions into budgeting, planning, programming and monitoring is increased (gender-assessment of policies, cross reference CSA policies with other sectors; training for policy makers; technical support for policy reform)</p> <p>1.2. Voice of women farmers and influence on CSA policies and strategies enhanced, notable within farmers associations (gender-assessment of leadership structures of farmer associations, gender awareness and leadership trainings)</p> <p>1.3. Gender-biased statutory and customary land tenure frameworks, laws and policies reformed (gender-assessment of land and property rights laws, engagement with communities, farmer associations and policy makers; technical support for policy reform)</p> <p>1.4. Strengthened capacity of land registry institutions to improve systems and ease access (strengthen land mapping and registration systems; increase women's access)</p> <p>2.1. Improved regulatory and economic incentives for public and private financial institutions to provide credit to women farmers (e.g. directed lending, direct lending, credit enhancement mechanisms; capacity and awareness building of financial institutions to change gender-biased lending)</p> <p>2.2. Development of financial intermediary services for women farmers including through digital finance at the local level (e.g. micro-finance, savings and loans groups, working capital fund, mobile phone services, rental/lease finance, weather insurance, rural bank branches, training of financial intermediaries, increasing access to digital finance)</p> <p>2.3. Improved and targeted access to training, peer to peer learning, and skills development (capacity development of women farmers on financial and business skills at times that take into consideration their unpaid care and domestic work; trainings combined with legal support to help women open and use a bank account, apply for a loan etc.)</p> <p>3.1. Improved access to climate-smart agricultural extension services for women (capacity development for women farmers on using new technologies and apply local and indigenous knowledge; increase the proportion of trained women extension agents)</p> <p>3.2. Improved access to digitally enabled agricultural information for women farmers (promote the use of technology to share agricultural information, e.g. locally produced videos on improving agricultural practices, agricultural hotline with text messages containing up to date agronomic information)</p> <p>3.3. Increased women's voice and agency to promote recognition of women's role in agriculture and their use of technology (assess root causes of negative attitudes / practices; advocacy/media campaign; awareness raising with men and women farmers, extension workers and policymakers; outreach to community/religious leaders)</p> <p>4.1. Increased capacity of women farmers and cooperatives to access markets and move up the value chain (establish women's cooperatives, training, use of digital technology to connect farmers; increase access to machinery and technologies to move from production to aggregation, processing and distribution)</p> <p>4.2. Local infrastructure, processing and storage capacity developed to improve access to markets, (rural roads and sustainable transport, post-harvest storage facilities, cooperative processing plants and quality control, etc.)</p> <p>4.3. Dedicated production and procurement platform for women farmers to link them to the national, regional and international supply chain (promote fair trade, link private companies with women small holders and cooperatives, preferential access, quotas/targets, tax exemptions for women small holders and cooperatives)</p>
Key Assumptions	<p>-CSA policies tend to be gender-blind; - Lack of land and property rights is a structural cause of gender inequality; - Land/water/forest rights are connected; - Women's demonstrated land tenure security or ownership is important collateral for access to finance.</p> <p>- Gender gap in access to affordable finance and insurance; - Women are in a weaker intra-household bargaining position, which reduces their ability to save and invest; - Women farmers have access to energy; New technologies and tools will save women time and be less physically intensive.</p> <p>- Gender gap exists for agricultural practices, information and digital technologies; - Women's use of technologies is not always supported by enabling social norms and practices.</p>
Risks & Barriers	<p>- Social and cultural attitudes and political will cannot be changed in favour of equal land rights; - Equal rights in laws and policies are not translated into practice.</p> <p>- Social and cultural attitudes, and political will cannot be changed in favour of increasing women's equal access to finance; - Macroeconomic policies do not support micro-lending and financial services for the poor; - Local financial institutions are under-capitalized.</p> <p>- Uncertain social acceptance of new technologies and practices; - Women's unpaid domestic and care work reduce time for learning new technologies; - Men resent women having access to new technologies if they do not have the same.</p> <p>- Social/cultural/political/trade barriers to women moving up the value chain and having preferential access to markets; - Private sector unwilling to pay slightly more for products from women small holders or engage with new women distributors; - Macroeconomic policies do not support women farmers in national/global value chains.</p>

## References in main text