CCAFS Program of Work and Budget 2016

Name of the CRP: CCAFS

Official start date of the CRP: January 1st 2011

A. Narrative of major planned work:

Flagship 1 – Climate-Smart Agricultural (CSA) Practices and Portfolios – will focus in 2016 on synthesizing the emerging CSA findings and lessons learned in climate-smart villages (CSVs), exploring novel financial instruments for promoting CSA, and continuing to establish strategic partnerships with major development agencies. Research will include the use of modelling approaches to investigate CSA practices under future climate scenarios using data from CSVs, evaluating trade-offs (including those related to gender and social inclusion), and clarifying adaptation domains across temporal and geographical scales. Key findings will be mainstreamed into both the CGIAR and broad scientific and policy contexts to facilitate decision making. Specifically, Flagship 1 will: (1) prioritize the production of comprehensive evidence bases of CSA options, cost/benefit analyses, gender-related impacts and business models for increased adoption and investment by multi-lateral agencies; (2) strengthen the decision support tools previously developed (such as country CSA profiles, compendium, prioritization tool) to prioritize CSA investments in at least 4 additional major development initiatives and two more countries; (3) Develop new value chain business models that explicitly address CSA and establish these in 2 commodity chains in 3 countries and (4) Learn from pilot local adaptation planning activities to inform adaptation approaches in at least 3 countries.

Flagship 2 – Climate Information Services and Climate-Informed Safety Nets – will focus in 2016 on bringing innovations and emerging insights and evidence into expanding partnerships with major organizations and initiatives that seek to build climate-resilient smallholder livelihoods through climate services, climate-related insurance, and climate-informed food security management. The new portfolio of core Flagship projects, in their second year of implementation, will develop new tools and approaches, strengthen the evidence base (including that related to gender-specific impacts and options), and contribute to mainstreaming climate services and weather-related insurance for agricultural and food security management. Flagship 2 will: (1) synthesize emerging evidence to guide implementation and investment in equitable climate services and index-based insurance for smallholder farmers; (2) bring CCAFS research innovations into national climate services for agriculture and food security (Rwanda, Senegal, Tanzania, Malawi, Ghana); (3) strengthen capacity to develop climate services tailored to the needs of agriculture, including smallholder farmers, through regional African institutions and processes (ICPAC, AGRHYMENT); (4) engage key development partners and funders (e.g. GFCS, WMO, WFP, ClimDev Special Fund of AfDB, USAID, DfID) to strengthen strategy and inform investment in climate services.

Flagship 3 – Low Emissions Agricultural Development — will in 2016: (1) identify whether agriculture is needed to meet the global 2 °C target and trade-offs with food security by region, (2) produce aspirational mitigation targets by country and globally, (3) analyse the economic viability of mitigation options and produce evidence needed for countries to secure climate finance, (4) strengthen opportunities for women to benefit from low emissions interventions in dairy (Kenya, Indonesia) and increase participatory evaluation of technologies by women, (5) build capacity in regions for GHG emissions quantification, especially of women (LAMNET, SAMPLES project), (6) support uptake of methods for monitoring soil carbon sequestration by standards organizations and countries (SHAMBA tool); (7) produce a synthesis of evidence for and against LED to date; and (8) inform investors and government programs of options and priorities for scaling up mitigation in 8 countries, including nationally appropriate mitigation actions (NAMAs, in Kenya, Colombia, Costa Rica), private sector commodity supply chains (Kenya, Indonesia, cross-CRP links), jurisdictional and supply chain sustainability standards (Brazil) and large-scale agricultural investment (Indonesia, Vietnam, Colombia, Kenya, Uganda, Tanzania, USAID Feed the Future Program). The decision-support research includes major partners in the global change community: land use scenarios (IIASA); identification of mitigation options (University of Aberdeen); and data platforms with the Global Research Alliance (GRA) for Agricultural Greenhouse Gases and the Climate and Clean Air Coalition (CCAC).

Flagship 4 – Policies and Institutions for Climate-Resilient Food Systems – continues with six regional projects which aim to create vibrant science-policy interfaces in all CCAFS regions. They involve eight CGIAR Centers along with national and regional partners in 18 countries. They continue to mainstream climate change into national agricultural and food security planning processes, and include work to evaluate climate-smart alternatives with respect to their gender-differentiated impacts and trade-offs. The future scenarios work will continue at regional and global levels (with partners FAO, IFAD, UNEP WCMC, Oxfam GB, WRI, WWF, OECD and CARIAA), and several countries are utilizing the scenarios process to revise and improve food system policies (Burkina Faso, Ghana, Honduras, Costa Rica, Bangladesh, Cambodia, Tanzania, and Uganda). Bioversity continues work to develop national guidelines and international policies related to the use of genetic resources for CSA. ILRI is continuing research on multi-scale governance processes for policy formulation and implementation in pastoral and agropastoral areas in West and East Africa. Collaboration with IFPRI and CGIAR CRPs, FAO, OECD, USDA, and Gates Foundation is helping direct research and funding priorities using results from the IMPACT model. Research on different governance mechanisms and indicators for food and nutrition security will build on scoping studies carried out in 2015.

There will continue to be cross-regional coordination on synthesis, partnerships, policy engagement, communications and events. In **Latin America**, the emphasis will be on supporting Central American countries in implementing their regional agreement on climate smart agriculture signed at COP21, as well as in their SBSTA submissions, and creating evidence through participatory approaches from CSVs. In **West Africa**, CCAFS will assess the factors affecting CSA adoption while also developing technical and economic guidelines for CSA options. The scaling up of climate services through various dissemination channels (ICT, rural radios, value chain projects) will be pursued in Senegal, Burkina Faso and Ghana. CCAFS will also support the development of countries' CSA action plans as well as pathways for their implementation. In **East Africa**, CCAFS will advance work on expanding innovations among partners, with decision tools and business models for scaling out CSA as well as continue support country and African Group of Negotiators (AGN) submissions to SBSTA on agriculture, and promote the science-policy dialogues through the expanded use of the Climate and Agriculture Network for Africa (CANA). In **South Asia**, the focus will be on developing the evidence base for CSVs as a vehicle to scale out CSA, working with partners to refine weather index as well as crop yield based index insurance products, developing strategies to manage flood water, strengthening early warning systems based on real-time crop monitoring in Nepal and India, and developing decision support tools to provide support to INDCs related activities in the region. In **Southeast Asia**, CCAFS will focus on organizing the CSA learning platforms and testing different CSA scaling up approaches within and around the CSVs. The program will support national partners in implementing their national programs and international commitments (i.e. COP21, SBSTA, GACSA).

In 2016, **gender and social inclusion** (GSI) will be addressed by: (1) connecting up, providing support to, and synthesizing research across Flagships and Regions; (2) supporting CSA solutions for women and other vulnerable groups that increase the control of disadvantaged groups over productive assets and resources and increase participation in decision-making; identifying broad patterns particularly in relation to the access to and control over resources by women and youth, participation of women and youth in decision-making at different levels, and the impact on climate change adaptation and mitigation efforts; (3) developing strategic research on gender trends and opportunities in CSA, and examining gender and social inclusion in climate finance and global policy processes. Specifically, GSI Strategy will be launched and supported by the recently formed CCAFS GSI team and the Gender and Climate Change (GCC) Network; the climate finance W+ standard will be piloted; household decision-making approaches for application in CSA will be tested; a gender impact assessment methodology will be developed for CSA; tools and resource materials on the CCAFS website will be made available to support projects and partners; and research findings will be shared through regional and international policy bodies and processes leading up to COP22.

B. Tables
See next pages For Table 1 and 2.

Table 1 - Planned key activities for 2016 to produce IDOs and outputs, with associated planned budgets

Level n-1 Flagships	Description of planned key activities at each level of internal organisation	Expected results of planned key activities	Planned budget in thousands of US dollars
			47,349
Flagship Project 1: Climate-Smart Agricultural Practices and Portfolios	This work comprises five clusters of activities as follows: **1.1.** Context specific (targeted) CSA options and portfolios that build on traditional knowledge, meet the needs of farmers and enhance productivity, adaptive capacity, food security and social equity (LAM, WA, EA, SA, SEA). **1.2.** Biophysical, socio-economical and tradeoffs analyses (incl. enabling environments and gender and social inclusion), innovative methods, engagement approaches and customized decision support tools for CSA prioritization, wide scale adoption, local adaptation and investment planning (LAM, WA, EA, SA, SEA). **1.3.** Approaches, strategies and scaling up/out mechanisms (e.g CSV), for enhanced adaptive capacity and resilience from the field to the sub-national level (LAM, WA, EA, SA, SEA). **1.4**. Innovative knowledge management systems (ICT, information network, multi-stakeholder platforms, learning alliances, fora etc.) and strategic engagements approaches and partnerships that promote access, co-creation, capacity building, learning, 2 ways sharing and dissemination of CSA information and tools to farmers, extension services, agro-dealer networks, local governments, private sector, academia etc. (LAM, WA, EA, SA, SEA). **1.5.** Evidence on equitable CSA certification schemes, new agri-business models, financial incentive mechanisms and policy instruments to promote and mainstream CSA adoption	Expected outcomes of this work in 2016 include: • 4 (sub-) national major development initiatives (with targets of at least 50,000 beneficiaries) and public institutions prioritize and inform project implementation of equitable best bet CSA options using CCAFS science and decision (including gender and social inclusion) support tools. • 3 public-private actors at (sub-) national levels are using new incentive mechanisms and business models that explicitly promote equitable climate smart approaches along the value chain, using CCAFS science. 2019 Outcome • 25 (Sub-) National development initiatives and public institutions prioritize and inform project implementation of equitable best bet CSA options using CCAFS science and decision support tools.15 Public-private actors at national and sub-national levels are using new incentive mechanisms or business models/ markets that explicitly promote climate smart approaches along the value chain, using CCAFS science 2025 Outcome • Public institutions (e.g. governments, extension services,	7,352 **W1&W2** 9,910 **W3/Bilateral** **Total: 17,262**

Level n-1 Flagships	Description of planned key activities at each level of internal organisation	Expected results of planned key activities	Planned budget in thousands of US dollars
	at different levels of the value chain (LAM, WA, SA).

Work under this flagship will focus on all 5 CCAFS regions in 2016, and will also involve global activities. | farmer organizations), civil society organisations and NGOs at (sub-)national level are widely promoting equitable CSA adoption by supporting multi-actor networks to enable 30 million farmers, at least 40% of whom are women, to strengthen their adaptive capacity and food security. | |
| **Flagship Project 2: Climate information services and climate-informed safety nets** | This work comprises five clusters of activities, as follows:

2.1. New climate information and analysis that enhances the capacity of data providers (e.g. regional and national meteorological institutions) to meet the demands of climate service beneficiaries (EA, WA, LAM, SEA).

2.2. New knowledge, capacity, and tools that support the provision of equitable climate services for farmers (EA, WA, LAM, SEA)

2.3. Weather-related insurance products and programs designed, tested, and brought to scale with implementing partners (EA, WA, LAM, SA)

2.4. Decision support systems improved or developed for incorporation into national food security safety net programs (EA, SEA)

2.5. Engagement, knowledge synthesis and evidence to guide regional and global investment in climate services for agriculture and food security management (EA, WA, GLOBAL)

Work under this flagship will focus on all 5 CCAFS regions in 2016, and will also involve global activities | Expected outcomes of this work in 2016 include:
- 5 additional regional, national and sub-national institutions or consortia develop or improve major
- demand-driven, equitable, climate informed services supporting rural communities, using CCAFS research outputs
- US$2 million additional demand-driven investments in climate services for agriculture and food security decision-making, that are informed by CCAFS science and engagement, relative to 2014

2019 Outcome:
- 15 regional, national, and sub-national institutions or consortia develop or improve major demand-driven, equitable, climate-informed services supporting rural communities, using CCAFS research outputs
- US$ 15 million increase in demand-driven investments in climate services for agriculture and food security decision-making, that are informed by CCAFS science and engagement, relative to 2014

2025 Outcome:
- 30 million farmers, at least 12 million of whom are women, with improved capacity to adapt to climate- | 5,993 **W1&W2**
4,603 **W3/Bilateral**

Total: 10,596 |

Level n-1 Flagships	Description of planned key activities at each level of internal organisation	Expected results of planned key activities	Planned budget in thousands of US dollars
		related risk by accessing climate services and/or well-targeted safety nets informed by CCAFS science.	
Flagship Project 3: Low-emissions agricultural development	This work comprises three clusters of activities, as follows: **3.1.** Methods and data for quantifying low-emissions agriculture options appropriate to smallholder farmers (EA, SEA, LAM, global) **3.2.** Decision support for identifying and prioritizing low-emissions CSA options, including synergies and trade-offs with development objectives (EA, SEA, LAM, SA, global) **3.3.** Incentives and innovations for scale-up of low-emissions practices and avoided deforestation by agricultural commodities. (EA, SEA, LAM, SA global) Work under this theme will focus in 4 regions in 2016: LAM, SEA, SA, and EA, as well as involve global activities.	Expected outcomes of this work in 2016 include: • 2 low emissions plans developed for implementation, based on CCAFS science, that have significant mitigation potential, will reducing at least 5% GHG emissions intensities or reaching at least 10,000 farmers, including at least 13% women • 0.2 million hectares targeted by research-informed initiatives for scaling up low-emissions agriculture and preventing deforestation 2019 Outcomes • 8 low emissions plans developed that have significant mitigation potential for 2025, reducing GHG emissions by at least 5% or reaching at least 10,000 farmers, including at least 10% women. • 4 million hectares targeted by research-informed initiatives for scaling up low-emissions agriculture and preventing deforestation. 2025 Outcome: • 15% decrease in agricultural emissions intensities in eligible systems compared with 2030 projected emissions.	4,990 **W1&W2** 5,574 **W3/Bilateral** **Total: 10,564**
Flagship Project 4: Policies and institutions for climate-	This work comprises four clusters of activities, as follows: **4.1.** Improved national planning processes through policy analyses, (re)formulation and implementation; and stakeholder analyses and engagement through scenarios, learning alliances and science-policy dialogues	Expected outcomes of this work in 2016 include: • 2 equitable (sub-)/national food system policies enacted that take into consideration climate smart practices and strategies, informed using knowledge, tools and approaches derived from CCAFS science.	5,365 **W1&W2** 3,562 **W3/Bilateral** **Total: 8,927**

Level n-1 Flagships	Description of planned key activities at each level of internal organisation	Expected results of planned key activities	Planned budget in thousands of US dollars
resilient food systems	**4.2.** Priority setting contextualized with national stakeholders and capacity strengthened to apply outputs in policy formulation; including trade-off analyses, foresight activities, and quantification of regional socio-economic scenarios **4.3.** Effective supra-national governance systems and equitable engagement mechanisms between international and regional/national stakeholders to influence global policy and strengthened capacities to integrate local priorities into global fora **4.4.** Improved regional/global investment choices through appropriately contextualized priority setting, drawing on global foresight and socio-economic regional scenarios Work under this flagship will focus in the 5 CCAFS regions (LAM, SEA, SA, EA and WA) and the Pacific in 2016 and will also involve global activities	• 2 regional/global organisations and processes that inform their equitable institutional investments in climate smart food systems using CCAFS outputs • Key international organisations are utilising CCAFS gender and social inclusion good practices and lessons on GSI integration in CSA policy frameworks 2019 Outcomes: • 14 equitable national/subnational food system policies enacted that take into consideration climate smart practices and strategies • 10 regional/global organisations and processes that inform their equitable institutional investments in climate smart food systems using CCAFS outputs 2025 Outcome: • 20 national/subnational jurisdictions that increased their equitable institutional investments in climate smart food systems.	

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (17,262 thousands USD)
1.1: Context specific (targeted) suitable CSA options and portfolios that build on traditional knowledge, meet the needs of farmers and enhance productivity, adaptive capacity, food security and social equity	The 2019 outcome for **1.1** is: "National and subnational development initiatives and public institutions prioritize and inform project implementation of equitable best bet CSA options using CCAFS science and decision support tools." 2016 activities will: • Develop and test (through PAR and community based action learning) targeted portfolios of integrated CSA technologies in CSVs of SEA (CIAT, SEA RPL), SA (CIMMYT, SA RPL), EA (EA RPL), WA (ICRAF, WA RPL) and LAM (RPL). • Build climate-smart farming systems through integrated water storage and crop-livestock interventions in WA (IWMI). • Identify and assess gender and social inclusion approaches for application in CSA. In 2016, work will be carried out in all 5 CCAFS regions and specifically in the following countries: Vietnam, Philippines, Laos, Cambodia, Bangladesh, India, Nepal, Kenya, Uganda, Tanzania, Ethiopia, Burkina, Ghana, Senegal, Mali, Guatemala, Colombia, Nicaragua.	Key results: • Site specific situation analysis and ex-ante assessment of technology needs and preferences of rural households in CSVs • Best-bet CSA options and adaptation measures identified. • Targeted portfolios of community-based CSA options co-developed, evaluated and promoted across CCAFS CSVs for programs and government scaling up and out. • Publications on: the scalability of site-specific agriculture and the principles of Climate Specific Management Systems, business cases and policies supporting CSA portfolios, GSI good practices and options for application in CSA (e.g. household decision-making approaches)	1,652 **W1&W2** 2,590 **W3/Bilateral Total: 4,242**
1.2: Biophysical, socio-economical and tradeoffs analyses (incl. enabling environments and gender),	The 2019 outcome for **1.2** is: "National and subnational development initiatives and public institutions prioritize and inform project implementation of equitable best bet CSA options using CCAFS science and decision support tools." 2016 activities will : • Carry out spatially explicit suitability assessments and systems analyses to identify and prioritize, adoptable gender responsive climate-smart water and crop-livestock-tree	Key results: • Collaboration with AgMIP focused on crop model simulations of high temperature stress and CO2 response for important staple crops. • Assessments of food availability and adaptation potential in farming systems. • Multi-temporal scale prediction of best CSA portfolios and cropping system transformations analysis. • Prioritized CSA portfolios by exposure gradient.	2,295 **W1&W2** 2,998 **W3/Bilateral Total: 5,293**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (17,262 thousands USD)
innovative methods, engagement approaches and customized decision support tools for CSA prioritization, wide scale adoption, local adaptation and investment planning	technological options and strategies in SA, SEA, LAM, EA and WA (CIAT, IWMI, ICRAF, FP1). • Validate farm typologies for targeting CSAPs within CSVs in and SA . • Model the response of integrated crop-livestock-agroforestry and water storage options under different climate change and socio-economic scenarios using data from CSVs and crop-climate models (FP1, ICRAF, IWMI). • Perform ex-ante analysis, determine the potential scale (community and households) and quantify the impacts of context-specific selected CSA portfolios in regard to the three CSA pillars, as well as their gender-sensitiveness in EA and WA. • Develop modalities for local adaptation planning and Local Adaption Plans of Action (LAPAs) alongside farmer experimentation in LAM, EA and SEA CSVs (EA-RPL, LAM-RPL, ICRAF) • Analyse the efficiency of multi-stakeholder learning platforms established in outscaling activities. • Identify and share best practices for addressing gender and social inclusion in CSA. In 2016, work will be carried out in all 5 CCAFS regions.	• A framework for targeting adoption of CSA portfolios based on farm typologies. • CSA Country Profiles and Implementation of CSA prioritization at national and sub-national level. • Trade-off and co- benefits analyses and portfolios for CSA investment plans. • Tools to support adaptation planning and investment decisions based on biophysical, socio-economic and tradeoff analyses. • LAPAs and National/state adaptation plans for agriculture. • Peer reviewed papers, including one on breeding implications of projected changes in drought stress for beans in Central Brazil. • Gender pillar in CSA compendium of best practices developed.	
1.3: Approaches, strategies and scaling up/out mechanisms (e.g CSV), for	The 2019 outcome for **1.3** is: "National and subnational development initiatives and public institutions prioritize and inform project implementation of equitable best bet CSA options using CCAFS science and decision support tools." 2016 activities will :	Key results: • Strengthen partnerships and tools for scaling climate-smart agriculture in EA WA (ICRAF, CIAT) • Barriers and constraints affecting CSA options uptake identified. • Different CSV models for scaling out/up evaluated in all 5	1,497 **W1&W2** 1,676 **W3/Bilateral** **Total: 3,173**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (17,262 thousands USD)
enhanced adaptive capacity and resilience from the field to the sub-national level	• Identify barriers and constraints for CSA options uptake and generate evidence base for upscaling (ICRAF, IIRR, IWMI, CIMMYT). • Piloting and upscaling an innovative underground approach for mitigating urban floods (UFI) and improving rural water security in SA (IWMI). • Understand the incentives and institutional arrangements for CSV governance for empowering local communities to adopt and scale-out CSAPs (CIMMYT). • Incorporate CSA practices by crop and gradient into voluntary certification training in WA and LAM (CIAT). • Develop and define innovative business models. In 2016, work will be carried out in all 5 CCAFS regions.	regions • UTFI approach defined and implemented on a limited scale in India, technical guidelines and emerging plans for upscaling (IWMI) • CSVs that create an enabling environment and function as catalysts for scaling up/out CSA technologies.. • Strategic entry points and context-specific CSA business cases identified in WA, SA and SEA (IWMI, CIMMYT) • At least one case study highlighting upscaling of CSVs in SA (CIMMYT) • CSA practices incorporated into impact investing vehicles (CIAT) • Scaling out of Local Adaptation Plans in Colombia and implementation in Central America. • Scaling up CSA to meet the needs of women and youth farmers.	
1.4: Innovative knowledge management systems (ICT, information network, multi-stakeholder platforms, learning alliances, fora etc.) and strategic engagements	The 2019 outcome for **1.4** is: "National and subnational development initiatives and public institutions prioritize and inform project implementation of equitable best bet CSA options using CCAFS science and decision support tools." 2016 activities will: • Establish multi-stakeholders and private sector platforms' around CSAPs to validate and scale out climate-smart business cases in SA, WA and LAM (CIMMYT, CIAT, ICRAF, IRRI). • Outscale a citizen-science approach to test climate adaptation options on farms (Bioversity) • Support putting climate into extension services through a	Key results: • Opportunities for CCAFS to use its research and engage further with the World Bank and CSA stakeholders, and contribute to CSA related initiatives of the World Bank in CCAFS regions. • Agricultural Innovation Platforms established for scaling-up climate-smart agri-business models in EA, WA, LAM, SA. • Strengthened stakeholders capacities to promote CSA in EA, LAM, SEA and SA (CIMMYT, CIAT, ICRAF). • CSA practices incorporated into voluntary certification training materials by Rainforest Alliance (CIAT). • CSVs communities' exchanges on traditional knowledge to	1,117 **W1&W2** 2,171 **W3/Bilateral** **Total: 3,288**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (17,262 thousands USD)
approaches and partnerships that promote access, co-creation, capacity building, learning, 2 ways sharing and dissemination of CSA information and tools to farmers, extension services, agro-dealer networks, local governments, private sector, academia etc.	Climate-Site-Specific Management Systems (CSMS) in LAM (CIAT) • Use social learning methods & participatory approaches to generate knowledge on upscaling (ICRAF) • Initiate peer learning with voluntary certification agencies and impact investors . • Assess the role of indigenous knowledge systems in CSA adoption in WA. • Carry out training and capacity building of farmers, local administrative officers of the government, Root Capital loan officers to incorporate best CSA practices (CIAT) • Synthesize learning approaches on gender and social inclusion in CSA. In 2016, work will be carried out in: Colombia, Peru, Nicaragua, Honduras, India, Nepal, Bangladesh, Vietnam, Laos, Cambodia. Philippines, Ghana, Senegal, Mali, Burkina Faso, Ethiopia, Kenya and Uganda.	support their local planning processes. • Local government bodies, rural women & youths empowered to implement LAPA & scaling-out climate adaptation strategies. • Various processes (fora, bilateral consultation, value chain roundtables, workshops) implemented at national and sub-national level for engaging with policy/decision makers and potential investors (IWMI, ICRAF, CIAT, CIMMYT). • Farmer visits and village-based information centres and learning groups organized to showcase CSA practices (IRRI, CIAT). • Mobile phone technology, two-sided data sharing platforms and knowledge products to support: crowdsourcing, local adaptation planning, outscaling and extension services (Bioversity) • Decision-making approaches assessed for more equitable household and community decision-making and CSA benefits. • Case studies on innovative, gender-sensitive CSA practices and approaches shared at different levels. Flagship supported work to synthesize learning and methodologies on gender and social inclusion.	
1.5: Evidence on equitable CSA certification schemes, new agri-business	The 2019 outcome for **1.5** is: "Public-private actors at national and sub-national levels are using new incentive mechanisms or business models/markets that explicitly promote climate smart approaches along the value chain, using CCAFS science". 2016 activities will :	Key results: • CSA practices incorporated into impact investing vehicles by Root Capital and into voluntary certification training materials by Rainforest Alliance (CIAT). • New agri-business models to promote and mainstream CSA adoption.	791 **W1&W2** 475 **W3/Bilateral** **Total: 1,266**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (17,262 thousands USD)
models, financial incentive mechanisms and policy instruments to promote and mainstream CSA adoption at different levels of the value chain.	• Assess farmer preferences towards risk, investments, labour inputs and credits schemes for existing and potential CSA inventions in WA (IWMI). • Explore institutions and develop incentive based policy instruments and new agri-business models for CSA mainstreaming and upscaling (IRRI, IWMI, CIMMYT, RPLs). • Identify "Opportunities for Change in Practice" (OCP) derived from possible certification and labelling of CSA-compliant production (IRRI). • Work with partners (e.g. NEPAD, Africa CSA Alliance, World Bank CARE, Root Capital) to design and incorporate innovative Climate-Smart financial products into investment vehicles in EA, WA and LAM (CIAT, ICRAF). In 2016, work will be carried out in Vietnam, Laos, Cambodia, Nicaragua, Peru, Ghana and several countries from EA , WA and SA.	• Financing and investment mechanisms that promote the scaling of CSA in Africa. • Range of innovative finance options for incentivizing CSA identified and matched to opportunities for robust testing and evaluation within World Bank initiatives, or within the context of CSVs. • Disseminated information and knowledge shared among larger community of financial institutions, certification bodies, development practitioners, foundations, convening organizations and value chain actors in WA and LAM (CIAT). • Methodology and approach to operationalize identified CSA best practices into Root Capital's tailored financial products and investment vehicles in WA and LAM (CIAT).	

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (10,596 thousands USD)
2.1: New climate information and analysis that enhances the capacity of data providers (e.g. regional and national meteorological institutions) to meet the demands of climate service beneficiaries	The 2019 Outcome for **2.1** is: "Regional, National, and Sub-National institutions (e.g. public, private, and NGO) are responding to the needs of potential climate service beneficiaries (i.e. farmers, food security decision-makers, etc.) to create and disseminate equitable demand driven climate informed services" 2016 activities will: • Produce tools, information and analysis that enhance capacity of information providers in Latin America to meet climate services user needs. • Launch a regional climate observatory for Colombian agricultural sector. • Build capacity of 1 WA NHMS and 2 African regional institutions (AGRHYMET, ICPAC) to provide online climate information tailored to agriculture users, based on high-resolution gridded data. • Analyse relationships between crop and livestock disease incidence, and climate variability in SEA. • Build capacity of Meteo-Rwanda to produce historic and forecast climate information for agriculture and food security. In 2016, work will be carried out in Guatemala, Colombia, Rwanda, Vietnam, Laos, Cambodia, Mali, Ghana, Kenya and Niger.	Key results: • RClimTool software to analyze climate series, reconstruct series, and interpolate observed data and satellite estimates. • Regional climate observatory for improved climate risk management in the Colombian agricultural sector. • Software tool for integrating climate forecasts with crop models and local knowledge for Colombia. • Tool implementing Ensemble Kalman Filter to assimilate remote sensing data into crop yield forecasting, and journal paper on resulting yield forecast improvement in WADatabase and research report of animal diseases and aflatoxicosis, and their association with climate in Vietnam and Laos. • Map and scoping report on geographic suitability, disease risk, and profitability for growing rubber trees in Vietnam. • Journal articles on climate-sensitive rubber diseases. • Daily historic gridded rainfall data, and online agriculture-focused climate information 'maprooms' covering Rwanda. • Prototype regional historic and forecast climate information 'maprooms' in EA and WA, tailored to needs of agriculture. • Prototype downscaled gridded seasonal forecasts produced and tested for 4 target districts in Rwanda.	1,315 **W1&W2** 751 **W3/Bilateral** **Total: 2,066**
2.2: New knowledge, capacity, and	The 2019 Outcome for **2.2** is: "Regional, National, and Sub-National institutions (e.g. public, private, and NGO) are responding to the needs of potential climate service	Key results: • Training/reference material on innovative climate service formats and products for Colombia.	1,306 **W1&W2** 664 **W3/Bilateral** **Total: 1,970**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (10,596 thousands USD)
tools supporting the provision of equitable climate services for farmers are developed.	beneficiaries (i.e. farmers, food security decision-makers, etc.) to create and disseminate equitable demand driven climate informed services" 2016 activities will: • Expand and strengthen climate services for agriculture in Colombia. • Build capacity of boundary institutions in WA (Ghana, Mali) to implement climate advisory services for smallholder farmers. • Develop a climate-informed, ICT-based agro-advisory service for rice farmers in Vietnam. • Refine and evaluate gender-sensitive agro-climatic information system in Vietnam, and initiate in Cambodia and Laos. • Scale up advisories on weather-sensitive plant and animal pests in Vietnam and Laos. • Launch project to develop national climate services within the agriculture and food security sector in Rwanda. • Expand capacity to deliver climate services to farmers and incorporate it into planning in target districts in Tanzania and Malawi. In 2016, work will be carried out in Vietnam, Cambodia, Laos, Colombia, Rwanda, Tanzania, Malawi, Senegal, Ghana, Mali; and regionally in EA and WA	• Initial version of a rice climate-informed agro-advisory service for the Mekong Delta and north of Vietnam. • Tested agro-climate advisory products that integrate farmer observations, downscaled weather forecast and location specific-agriculture management options in Vietnam. • Training package on gender-sensitive agro-climatic information system for Southeast Asia. • Report assessing farmer perceptions and risk mitigating practices for moulds and mycotoxins in Vietnam. • Workshop reports from planning, launch and training events for Rwanda climate services project. • Reports on agricultural extension training, Planning and Review Day events, and mobile phone-based communication of climate services for farmers in Tanzania and Malawi. • Working paper on entry points and strategy for sustainably embedding climate services communication within existing institutional structures in Tanzania and Malawi. • Expanded training materials on Participatory Integrated Climate Services for Agriculture (PICSA).	
2.3: Weather related Insurance	The 2019 Outcome for **2.3** is: "Regional, National, and Sub-National institutions (e.g. public, private, and NGO) are responding to the needs of potential climate service	Key results: • Flood hazard modeling tools tested for index-based flood insurance.	1,342 **W1&W2** 1,193 **W3/Bilateral**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (10,596 thousands USD)
products are designed, tested, and brought to scale with implementing partners.	beneficiaries (i.e. farmers, food security decision-makers, etc.) to create and disseminate equitable demand driven climate informed services" 2016 activities will: • Develop modelling tools, design, pilot and analyse benefits of index-based flood insurance in SA. • Engage Nigeria government on implementing CCAFS-led roadmap for developing inclusive agricultural insurance. • Incorporate index validation, participatory design methods, and public-private partnerships into farmer index insurance in WA (Ghana, Senegal) • Advance index insurance for farmers in Honduras, in partnership with the NHMS and Zamorano. In 2016, work will be carried out in India, Bangladesh, Nigeria, Ghana, Senegal and Honduras.	• Working paper on cost-benefit analysis of index based insurance products and product design. • Workshop report on flood hazard model and choice experiment design among policy makers. • Journal paper on basis risk, experimental games, use of Social Network for Index Insurance Design (SNIID) and public-private partnerships within farmer index insurance in WA. • Reference materials for gender sensitive index insurance design and participatory farmer led climate discussions. • Report on participatory workshops to design index insurance in Honduras . • Training and implementation reference materials for farmer index insurance in Latin America.	**Total: 2,535**
2.4: Decision support systems improved or developed for incorporation into national food security safety net programs.	The 2019 outcome for **2.4** is: "Regional, National, and Sub-National institutions (e.g. public, private, and NGO) are responding to the needs of potential climate service beneficiaries (i.e. farmers, food security decision-makers, etc.) to create and disseminate equitable demand driven climate informed services" 2016 activities will: • Incorporate CCAFS research outputs into improved crop monitoring and food security early warning in one regional or national institution in West Africa. • Integrate a new, validated set of household food security	Key results: • A validated set of indicators for monitoring household-level food security in Guatemala.	1,413 **W1/W2** 1,459 **W3/Bilateral** **Total: 2,872**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (10,596 thousands USD)
	indicators into the Guatemala National Information System on Food and Nutritional Security. In 2016, work will be carried out in Guatemala and regionally in WA.		
2.5: Evidence and knowledge products synthesizing national gaps and opportunities to guide regional and global investment in climate informed agricultural and food security decision-making.	The 2019 outcome for **2.5** is: "Donors, IDOs, and INGOs work with national partners to invest in research-informed demand-driven climate services for agricultural and food security decision-making" 2016 activities will: • Engage UN Global Framework for Climate Services, Climate Services Partnership (GFCS) on needs and opportunities in the agricultural sector, through participation in the GFCS Partner Advisory Committee. • Advance methodology for ex-ante analysis of expected benefits of investments in climate services for agriculture and food security • Partner with African Climate Policy Centre (ACPC) to strengthen analysis and evidence of the benefits of climate service investments in Africa, including through ClimDev-Africa. In 2016, work will be carried out regionally in Africa, and globally	Key results: • Donor-oriented brief on evidence of the benefits of climate services for smallholder farmers. • Working paper on suitability of alternative methods for cost-benefit analysis for informing national climate services investment options for agriculture and food security in Africa. • Working paper reporting cost-benefit analysis of climate services in one country. • Publication on opportunities for GFCS to strengthen its strategy to support agriculture and food security. • CCAFS representation at major international events on climate services.	617 **W1&W2** 536 **W3/Bilateral** **Total: 1,153**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (10,564 thousands USD)
3.1: Methods and data for quantifying low-emissions agriculture options appropriate to smallholder farmers.	The 2019 outcome for **3.1** is: "Global standards organizations and national decision-makers are planning and implementing low-emissions development initiatives that contribute to food security, using reliable, comparable quantification data and decision support tools." 2016 activities will: • Expand use of quantification guidelines (F3). • Quantify emissions reductions from agricultural practices and agricultural activity data for livestock systems in EA, LAM and SEA, pasture intensification (including biological nitrification inhibitor), paddy rice, and fertilizer management; seek funding for soil carbon and on-farm energy (ILRI, IRRI, CIAT, CIFOR, CIMMYT, 7 countries, WLE links). • Improve quantification of nitrous oxide based on meta analysis and modelling of data from the developing world (CIMMYT). • Provide methods and information mitigation in irrigated rice in Asia (IRRI, MIRSA 2). • Build capacity for monitoring, reporting and verification through standardized metrics, standards for soil carbon monitoring, white paper (F3). In 2016, work will be carried out in Brazil, Colombia, Costa Rica, India, Indonesia, Kenya, Mexico, Tanzania and Vietnam.	Key results: • Guidelines and resources for standardized low-cost quantification of smallholder emissions published and capacity building in regions. • Global tools include improved models and data for N estimates. • 4-6 countries improve metrics and MRV. • Emissions factor database for smallholder agriculture. • The CLIFF-LAMNET network will enable sharing information on GHG measurements in a regional context and exchange about low-emissions practices to enable scaling up. • Workshops on livestock emissions uncertainties and hotspots for intervention in EA.	1,540 **W1&W2** 1,067 **W3/Bilateral** **Total: 2,607**
3.2: Decision support for identifying and prioritizing low-	The 2019 outcome for **3.2** is: "Global standards organizations and national decision-makers are planning and implementing low-emissions development initiatives that contribute to food security, using reliable, comparable quantification data and	Key results: • 3-5 countries and organizations use global and country targets for LED agriculture under food security to inform their INDCs or strategies.	2,071 **W1&W2** 3,128 **W3/Bilateral**

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Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (10,564 thousands USD)
emissions CSA options, including synergies and tradeoffs with development objectives.	decision support tools." 2016 activities will: • Quantify global and country targets and their trade-offs with food security (F3, IIASA). • Update Mitigation Options Tool (v. 2) (F3, UA). • For cattle: support LED plans in LA (CIAT); technical options and public-private partnerships for sustainable beef production in Brazil (CIFOR), identify LED pathways in EA (ILRI); promote Dairy NAMA in East Africa (ICRAF, UNIQUE). • Conduct agro-economic analysis of all climate change mitigation options in India (CIMMYT). • Test landscape approach to climate change mitigation in agriculture in Vietnam (LACCMA, IFPRI); identify priorities in rice landscapes. (ILRI); assess incentives for scaling up; identify mitigation options to reduce methane emissions in paddy rice (IRRI). • Regional engagement, communication, capacity strengthening in SA (CCAFS SA). • Identify options for LED in USAID's Agriculture Related Work (F3). In 2016 activities will take place in Bangladesh, Cambodia, Colombia, Costa Rica, India, Kenya, Lao, Mexico, Mongolia, Nicaragua, Peru, Tanzania, Uganda, and Vietnam	• 5-10 decision-makers involved in the development and implementation of LED tools or analysis. • 2-4 LED strategies and policies created (including donor programs) to which CCAFS scientists, methods and tools are contributing (other than target research), with gender and social inclusion.	**Total: 5,199**
3.3: Incentives and innovations for scale-up of low-emissions	The 2019 outcome for **3.3** is: "Ministry officials, NGOs, private sector, and farmers' associations are scaling up low-emissions agriculture and preventing deforestation through innovative institutions, incentives, and regulations."	Key results: • Improved approaches for scaling up LED in 8 countries: proposals prepared for climate finance (Kenya, Costa Rica, Colombia), technical guidance to private sector	1,379 **W1&W2** 1,379 **W3/Bilateral**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (10,564 thousands USD)
practices and avoided deforestation by agricultural commodities.	2016 activities will: • In Greening Livestock project, identify incentive-based interventions in East Africa (ILRI). • In LivestockPlus project, support LED in Colombia and Costa Rica (CIAT). • Support technical options and public-private partnerships for sustainable beef production in Brazil (CIFOR). • Assess incentives for scaling up mitigation at different stakeholder levels in Vietnam. • Use regional support to work towards a climate smart agricultural sector in LAM (LAM). In 2016 activities will take place in Bangladesh, Brazil, Colombia, Costa Rica, Indonesia, Kenya, Tanzania, Uganda, and Vietnam.	supply chains (Indonesia, Kenya, Tanzania); and national agricultural development policies and programs (Vietnam); standards for private-public partnerships and Green Municipalities for livestock (Brazil); participatory farmer approaches (EA, Vietnam, Indonesia). • Analysis of institutional mechanisms, social structure for increasing gender equality in EADD livestock value chains (EA). • Low emissions development options identified for USAID (Global). • Guidelines for optimal fertilizer use with Yara, IFA and others (EA).	**Total: 2,758**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (8,927 thousands USD)
4.1: Improved national planning processes through policy analyses, (re)formulation and implementation; and stakeholder analyses and engagement through scenarios, learning alliances and science-policy dialogues	The 2019 outcome for **4.1** is: "15 equitable national/subnational food system policies enacted that take into consideration climate smart practices and strategies, informed using knowledge, tools and approaches derived from CCAFS science. " 2016 activities will: • Continue engagement with science policy platforms for designing and enacting equitable policies and including climate change in country plans and analyses on how platforms influence policy (EA and WA, Philippines). • Inform national planning processes to include more equitable GSI policy options and strengthening equitable policy options within key policy networks (all regions). • Encourage intra-regional learning on implementation of NAMAs and NAPs in various ag. sectors (livestock, coffee, etc) (LAM). • Develop of evidence based policy proposals and inputs to national and sub-national level governments to increase financial allocation to programs for promotion of CSA (SA). • Scenario-guided policy formulation in at least 10 countries at national policy level (multiple regions). • Sub-national and national guidelines developed to inform GSI options in NAPs, NAMAs and other climate risk response protocols (LAM), in district policy design (WA), in national climate change adaptation guidance (SEA). In 2016 activities will take place in all CCAFS regions.	Key results: • Policy engagement strategies enacted to inform new/reformulated food systems policies taking climate change and women's empowerment and social inclusion into account. • National and state adaptation plans for agriculture developed (SA). • Key stakeholders aware of and utilising CCAFS science and tools (including GSI science) to make decisions on climate smart agriculture priorities. • Cross-regional research findings on science-policy dialogue platforms and other means of engagement synthesized to also address the opportunities of enhancing social inclusion in policy processes. • Progress made toward national and subnational policies and implementation mechanisms to regulate genetic resources access and benefit sharing, and to empower national policy actors (including local communities) to acquire genetic resources for climate change adaptation.	2,461 **W1&W2** 969 **W3/Bilateral** **Total: 3,430**
4.2: Priority setting	The 2019 outcome for **4.2** is: "15 equitable national/subnational food system policies enacted that take into consideration	Key results: • National programs, including NAPs and NDCs, use	730 **W1&W2** 1,183

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (8,927 thousands USD)
contextualised with national stakeholders and capacity strengthened to apply outputs in policy formulation; including trade-off analyses, foresight activities, and quantification of regional socio-economic scenarios	climate smart practices and strategies, informed using knowledge, tools and approaches derived from CCAFS science. " 2016 activities will: • Participatory priority setting using evidence-based decision methods to select interventions for NAMAs and NAPs (LAM). • Utilise climate, weather and agricultural systems modeling and priority setting at multiple scales in engaging with national partners and for outscaling appropriate CSA practices; where possible incorporating GSI perspectives (Global, WA and EA, LAM, SA). • Capacity building of NARS and other state/ national agencies to promote the use of evidence-based decision making in promotion of CSA will pay special attention to including women especially at regional/ provincial levels (Global, WA and EA, LAM, SA SEA). • Completed write-ups of scenario quantifications in all CCAFS target regions. In 2016 activities will take place in all CCAFS regions.	downscaling tools, GSI research findings, climate data and other CCAFS science to inform robust adaptation options for policy formulation (LAM, EA and WA). • Policies developed using the CCAFS regional scenarios in several regional/national case studies finalized (in all CCAFS regions). • Capacity of national and subnational organisations is strengthened, with special attention to include women, to use priority setting in decision making (global).	**W3/Bilateral Total: 1,913**
4.3: Effective supra-national governance systems and equitable engagement mechanisms between international	The 2019 outcome for **4.3** is: "10 regional/global organisations inform their equitable institutional investments in climate smart food systems using CCAFS outputs. " 2016 activities will: • Establish a strategic alliance with ASEAN, to influence climate change policies (SEA). • Continue documentation of learning-based approaches and results-based management in research for development for	Key result: • Regional and global organisations make science-informed decisions (UNFCCC SBSTA) and consider CCAFS science in the formulation of policies and strategies, including CCAFS GSI science (ASEAN, AU Commission, AGN, IFAD, FAO, World Bank, and UNFCCC). • World Bank and global climate finance investment decisions are made based on CCAFS science . • International organisations consider documented CCAFS	1,230 **W1&W2** 699 **W3/Bilateral Total: 1,929**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (8,927 thousands USD)
and regional/national stakeholders to influence global policy and strengthened capacities to integrate local priorities into global fora	interaction with organizations on institutional change to include the three-thirds principle and GSI (global). • Work with the AU Commission on guidelines for implementing access and benefit-sharing laws to support adaptation based on consultations with national and local actors (EA and WA). • Contribute to SBSTA and support provided to the AGN submissions to SBSTA on agriculture. • Work with international organizations (e.g. IFAD, WB, FAO) and strategic partners (e.g. Global Gender and Climate Alliance) to highlight gender issues in CC advocacy (global). • Updated analysis of fish supply gaps under various climate scenarios (Pacific). In 2016 activities will take place in EA, WA, SEA, the Pacific and at the global level.	lessons in their institutional change processes towards outcome-focused research for development, including learning based approaches, gender and social inclusion, engagement and capacity. • CCAFS gender research and guidelines promoted through international organizations and strategic partners (e.g. Global Gender and Climate Alliance) to highlight gender issues in climate change.	
4.4: Improved regional/global investment choices through appropriately contextualised priority setting, drawing on global foresight and socio-economic regional scenarios	The 2019 outcome for **4.4** is: "10 regional/global organisations inform their equitable institutional investments in climate smart food systems using CCAFS outputs." 2016 activities will: • Collaborate with WB CSA Global Solutions Group through priority setting case studies • Continue development (LAM) and utilisation of the CCAFS socio-economic scenarios in national policy development (all regions and Pacific), including quantification across all regions. • Employ CCAFS modeling tools to guide investment decisions of global organisations towards robust CC adaptation options	Key results: • At least 5 global organisations inform their investment priorities using CCAFS modelling tools (global, including private sector); and are encouraged to consider GSI focused options in their decision making. • Regional organisations are drawing on CCAFS scenarios quantification and other priority setting to inform investment decisions (Pacific, WA). • In working with WBCSD, GSI will be included in the monitoring and evaluation of private sector CSA actions.	944 **W1&W2** 711 **W3/Bilateral Total: 1,655**

Level n-2 Cluster of Activities	Description of planned key activities	Expected results of planned key activities	Planned Budget (8,927 thousands USD)
	(global). • Collaborate with WBCSD to inform investment choices of member companies regarding CSA, including GSI monitoring of CSA actions. • Regional assessments of agriculture investment priorities for increasing CC resilience (Pacific). • Regional comparisons of fish supply options under climate change scenarios (Indo-Pacific Region). • Analysis framework to inform USAID missions regarding the types and range of agricultural risks to enhance FTF practices and gov't partner policies. • Linked global foresight and priority setting results and country CGE's to create more explicit GSI opportunities within investment priorities (global). • Global engagement and capacity strengthening with regards to the implementation of plant genetic resources and biodiversity treaties. In 2016 activities will take place in all CCAFS regions, the Pacific and at the global level.		

Table 2 – Planned CRP gender research budget: expected gender research results and associated budget

Level of organisation within the CRP	Expected Gender research results as described in Table 1	Planned gender research budget (12,671 thousands USD)
Flagship Project 1: Climate-smart agricultural practices and portfolios	National and sub-national development initiatives and public institutions using CCAFS gender and social inclusion research, tools, and good practices for increased adoption and scaling, including: • a gender and youth-responsive framework for targeting and implementing CSA portfolios within CSVs; • a CSA compendium and prioritization approaches that incorporate gender metrics; • the gender CSAPs impact assessment methodology and findings from the General Household Survey analysis; • participatory household methodologies. FP1 work will also result in increased empowerment of women and youth through: • capacity building, strengthening women's groups and participation in local planning processes; • increased access to CSA information, practices and technologies supported by ICTs; • targeted gender-sensitive climate smart value chain projects, incentives and business opportunities; and • case studies and briefs on gender and social inclusion.	1,118 **W1&W2** 4,320 **W3/Bilateral** **Total: 5,438**
Flagship 2: Climate Information services and climate-informed safety nets	FP2 work will result in: • gender and social inclusion challenges and solutions incorporated into climate services communication, intermediary curriculum, and training activities in EA, WA, and SEA; • profiles of knowledge, attitudes, skills and practices of women farmers and community-based women's organizations involved in climate-informed agro advisories in SEA; • ex-ante assessment of the potential impacts of index-based insurance on gender equity in EA; • assessment of gender-specific flood insurance needs and potential impact in SA; • intra-household food security analysis to inform food security information systems in LAM.	940 **W&W2** 788 **W3/Bilateral** **Total: 1,728**
Flagship 3: Low emissions agricultural development	FP3 will focus on delivering improved awareness of women's roles in scaling up technologies for rice-based mitigation, livestock and nutrient management in 4 countries, including: • NAMAs that include safeguards for social equity at farm/household levels (Kenya, Colombia, Costa Rica); • monitoring systems that include indicators for social inclusion (Brazil); • identifying gendered nature of dairy value chains, incentives, opportunities (Kenya, Colombia, Costa Rica); • targeting 50-60% women in cattle sector and dairy coops respectively (Kenya); • training of female and young scientists (global).	1,082 **W1&W2** 1,505 **W3/Bilateral** **Total: 2,587**

Flagship 4: Policies and institutions for climate-resilient food systems	• GSI research results from 2015 are informing policy engagement processes in 2016 at various scales to consider the gender-differentiated impacts of climate change on agriculture and food security, and to guide the formulation of more equitable policy frameworks. • In male dominated sectors, e.g. priority setting and foresight, capacity-strengthening activities will specifically target women. • Engagement at global/ regional levels will strengthen opportunities to include GSI implications in priority setting and start to inform CSA investment portfolios of major organisations. • More emphasis is being placed on importance of the rights of communities in higher level decision-making processes to strengthen equity of policy processes across scales, and generating discussions to change attitudes and address gender inequities in institutional change and learning agendas.	1,075 **W1&W2** 1,843 **W3/Bilateral** **Total: 2,918**
Level n-2: Cluster of activities	**Expected research outcomes and outputs that have a gender/social inclusion dimension (from Table 1).**	**Planned budget**
1.1. Context specific (targeted) suitable CSA options and portfolios that build on traditional knowledge, meet the needs of farmers and enhance productivity, adaptive capacity, food security and social equity (LAM, WA, EA, SA, SEA).	In 2016 the following major outputs will be achieved: • GSI good practices and options for application in CSA assessed and shared. • CSA technologies prioritized and evaluated based on criteria that include potential benefit/impact to women and men. • CSA/CSV planning processes and portfolios, participatory testing based on gender and social inclusion sensitive (e.g. youth) approaches (LAM, WA, SA).	225 **W1&W2** 1,256 **W3/Bilateral** **Total: 1,481**
1.2. Biophysical, socio-economical and trade-offs analyses (incl. enabling environments and gender), innovative methods, engagement approaches and customized decision support tools for CSA prioritization, wide scale adoption, local adaptation and investment planning (LAM, WA, EA, SA, SEA).	In 2016 the following major outputs will be achieved: • Gender and social inclusion baseline and other analyses related to CSA portfolio to understand CSA technology options, decision-making, and benefits (LAM, Haryana, Bihar). • Gender tools for data collection included in methodological analysis, guidelines, CSA options, upscaling e.g. Gender pillar in CSA compendium; climate risk targeting, CSA priority setting (WA, LAM, global). • Gender-responsive targeting of CSA portfolios. • Proof-of-concept sites in SEA with components that demonstrate potent strategies for strengthening women's participation in community-based adaptation. • Adaptation planning process in CSVs based on GSI (including youth) capacity-focused approach (LAM).	364 **W1&W2** 1,193 **W3/Bilateral** **Total: 1,557**
1.3. Approaches, strategies and scaling up/out mechanisms (e.g CSV), for enhanced adaptive capacity and resilience from the field to the sub-national level	In 2016 the following major outputs will be achieved: • GSI-related entry points, adoption barriers, and benefits of technologies and related to rural water security, including mitigation of urban floods and water storage, (SA, WA). • GSI taken into account as an approach to scaling CSVs (SA). • Business models consider gender and social inclusion	205 **W1&W2** 432 **W3/Bilateral** **Total: 637**

(LAM, WA, SA, EA, SEA).	• Policy instruments and mechanisms in place to ensure participation rates of 25-50% marginalized groups and 30-50% female-headed households in CSA development activities.	
1.4. Innovative knowledge management systems (ICT, information network, multi-stakeholder platforms, learning alliances, fora etc) and strategic engagements approaches and partnerships that promote access, co-creation, capacity building, learning, 2 way sharing and dissemination of CSA information and tools to farmers, extension services, agro-dealer networks, local governments, priv sector, academia (LAM, WA, EA, SA, SEA).	In 2016 the following major outputs will be achieved: • Women and social organizations involved in selecting and promoting CSA options and participating in Agricultural Innovation Platforms (AIP). • CSA planning and programming using GSI approaches and tools (e.g. awareness and capacity building targeting women; women and youth trained in ICT for data collection, gender indicators in spatial targeting tool, CSA compendium, prioritization framework, household and local level decision-making approaches). • Case studies on innovative, gender-sensitive CSA practices and approaches shared through various fora at different levels. • Social learning anchored on established proof-of-concept sites considering specific needs of women. • Learning and methodologies on GSI synthesized with flagship.	229 **W1&W2** 1,361 **W3/Bilateral** **Total: 1,590**
1.5. Evidence on equitable CSA certification schemes, new agri-business models, financial incentive mechanisms and policy instruments to promote and mainstream CSA adoption at different levels of the value chain (LAM, WA, SA, SEA).	In 2016 the following major outputs will be achieved: • Gender and social inclusion considered in developing business models (SA) and financing and investment mechanisms. • Gender and social inclusion considered in designing incentive schemes.	95 **W1&W2** 78 **W3/Bilateral** **Total: 173**
2.1: New climate information and analysis that enhances the capacity of data providers (e.g. regional and national meteorological institutions) to meet the demands of climate service beneficiaries.	In 2016 the following major outputs will be achieved: • Preferences of women farmers and of women within farm households incorporated into farming advice provided through ICT-based rice agro-advisory service (Vietnam).	98 **W1&W2** 48 **W3/Bilateral** **Total: 146**
2.2 : New knowledge, capacity, and tools supporting the provision of equitable climate services for farmers are developed.	In 2016 the following major outputs will be achieved: • Gender and social inclusion considered in climate information communication and decision-making services through: women and youth as Farmer Champions (SEA), knowledge intermediaries, on Local Agroclimatic Committees (Colombia), equitable communications training for climate service intermediaries (Rwanda),	214 **W1&W2** 381 **W3/Bilateral** **Total: 595**

	Participatory Integrated Climate Services for Agriculture (PICSA) training materials. • Knowledge and evidence synthesized on GSI aspects of climate services.	
2.3: Weather related Insurance products are designed, tested, and brought to scale with implementing partners.	In 2016 the following major outputs will be achieved: • GSI considered in baseline socio-economic data collection at pilot sites, livelihoods analysis, and analysis of demand and willingness for index-based flood insurance (Bangladesh). • Gender differences in take-up, impact, marketing channels and CSA adoption assessed for new weather insurance products (India) and research on gender-based needs and challenges incorporated into index insurance design processes (Ghana).	86 **W1&W2** 285 **W3/Bilateral** **Total: 371**
2.4: Decision support systems improved or developed for incorporation into national food security safety net programs.	In 2016 the following major outputs will be achieved: • At least 20% of participants in farmer observer networks being developed for co-production of climate services are women (WA). • Development of climate services for improved national agricultural and food security planning will benefit from Rwanda's pro-women policy environment.	412 **W1&W2** 52 **W3/Bilateral** **Total: 464**
2.5: Engagement, knowledge synthesis and evidence to guide regional and global investment in climate services for agriculture and food security management	In 2016 the following major outputs will be achieved: • Information on gender and social inclusion, as well as key nodes and mapping information flows will be used as baseline to tailor agro-climatic information to the requirements and demands of farmers in Colombia. • Flagship Leader engagement with climate services funders will emphasize and present evidence on equity challenges and potential solutions.	130 **W1&W2** 22 **W3/Bilateral** **Total: 152**
3.1: Methods and data for quantifying low-emissions agriculture options appropriate to smallholder farmers.	In 2016 the following major outputs will be achieved: • This is a predominantly biophysical activity that will involve training of women scientists .	156 **W1&W2**
3.2: Decision support for identifying and prioritizing low-emissions CSA options, including synergies and tradeoffs with development objectives.	In 2016 the following major outputs will be achieved: • Analysis of mitigation co-benefits and trade-offs with development objectives for paddy rice, livestock, and pasture improvement includes analysis of (1) positive and negative impacts on women and vulnerable groups, and (2) barriers and opportunities for increasing women's participation. • An understanding of power dynamics and decision making at different farms will inform strategies for adoption of mitigation options. • Indicators for gender equity included in NAMA and project monitoring. • Information infrastructure for Alternate Wetting and Drying (AWD) in paddy rice will be made accessible to women's groups	584 **W1&W2** 926 **W3/Bilateral** **Total: 1,510**
3.3: Incentives and innovations for scale-up of low-emissions practices	In 2016 the following major outputs will be achieved: • Intensification of livestock systems through improved pastures will increase production and household	342 **W1&W2** 579 **W3/Bilateral**

and avoided deforestation by agricultural commodities.	incomes, including income from activities conducted by women (i.e., cheese-making) (LAM). • Participatory mitigation technology selection will include women farmers and allow for gender-specific feedback and adjustment of mitigation technologies (Vietnam). • Women researchers are involved in the development of paddy rice mitigation options. • Opportunities, barriers for men and women, small v large farmers examined in scaling up (all projects).	**Total: 921**
4.1: Improved national planning processes through policy analyses, (re)formulation and implementation; and stakeholder analyses and engagement through scenarios, learning alliances and science-policy dialogue.	In 2016 the following major outputs will be achieved: • National planning processes informed on equitable GSI policy options, as well as strengthening equitable policy options within other important policy networks (EA, WA, LAM, SEA). • GSI elements expanded in Climate Change and Social Learning evidence base to case studies. • Sub-national and national guidelines developed to inform GSI options in NAPs, NAMAs and climate risk response protocols (Latin America), district policy design (WA), climate change adaptation (SEA). • Stakeholder engagement processes in place to increase awareness and strengthen capacity to include GSI in CSA-related policy processes (EA, LAM), local perceptions of CSA preferred practices (SA). • Consideration of diverse perspectives and community rights in genetic resource policies (all regions).	458 **W1&W2** 822 **W3/Bilateral** **Total: 1,280**
4.2: Priority setting contextualised with national stakeholders and capacity strengthened to apply outputs in policy formulation; including trade-off analyses, foresight activities, and quantification of regional socio-economic scenarios	In 2016 the following major outputs will be achieved: • Capacity strengthening of national partner institutions on CCAFS tools for priority setting will include women, especially at regional and provincial levels. • Where possible, priority setting and foresight activities incorporate GSI perspectives, e.g. with respect to potential gender-differentiated benefits, control and access over resources (EA). • Policy engagement with diverse stakeholders will draw on gender case studies to sensitise decision makers on the need for more equitable policy frameworks on climate change (SEA), differential willingness to pay for CSA technologies (SA)	111 **W1&W2** 441 **W3/Bilateral** **Total: 552**
4.3: Effective supra-national governance systems and equitable engagement mechanisms between international and regional/national stakeholders to influence global policy and strengthened capacities to integrate local priorities into global fora	In 2016 the following major outputs will be achieved: • An evidence base of the value of social learning approaches to enhance development outcomes of agricultural research strengthened and GSI positioned as a key indicator in the CCSL M&E framework. • Guidelines to include community rights will inform benefit sharing frameworks in regional genetic resource and biodiversity frameworks in AU member states. • GSI focused activities will form a key element of CCAFS SBSTA submissions and the COP process (global). • W+ climate financing standard (women's empowerment) assessed for broader applicability (Nepal). • CCAFS GSI research and guidelines promoted through international organizations and strategic partners.	353 **W1&W2** 400 **W3/Bilateral** **Total: 753**
4.4: Improved regional/global investment choices through appropriately contextualised	In 2016 the following major outputs will be achieved: • Regional and global organisations encouraged to consider GSI in priority setting and climate financing to	153 **W1&W2** 180 **W3/Bilateral** **Total: 333**

priority setting, drawing on global foresight and socio-economic regional scenarios	build the potential for more equitable investment priorities of regional, global organisations • Linked global foresight and priority setting model results and country CGE's will create more explicit GSI opportunities within investment priorities • Working with WBCSD, GSI included in the monitoring and evaluation of private sector CSA actions	
	TOTAL GENDER BUDGET FOR THE CRP	4,215 **W1&W2** 8,456 **W3/Bilateral** **Total: 12,671**