# CCAFS Workplan 2011

The milestones to be achieved in 2011 are indicated in bold in the following logframe (logframe from CCAFS proposal). In addition there will be activities in 2011 on milestones that will be delivered in 2012 and beyond (indicated with italics). These are on-going Centre activities or are to-be-initiated activities.

(* = milestones carried forward from current Center-led activities; some will be phased out while others will be brought into line with the overall CRP7 strategy as implementation proceeds)

## Theme 1. Adaptation to Progressive Climate Change

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
|---|---|---|---|---|
| **Objective 1.1 Analyze and design processes to support adaptation of farming systems in the face of future uncertainties of climate in space and time** | | | | |
| **Outcome 1.1: Agricultural and food security strategies that are adapted towards predicted conditions of climate change promoted and communicated by the key development and funding agencies (national and international), civil society organizations and private sector in at least 20 countries** | | | | |
| **Output 1.1.1** Development of farming systems and production technologies adapted to climate change conditions in time and space through design of tools for improving crops, livestock, and agronomic and natural resource management practices | | | | |
| **Milestone 1.1.1.1 Platform established for multi-location trials of technologies and genotypes for GxE interaction analysis and the calibration and evaluation of crop models. (2011)** | Number of unique geographic locations, where individual and multi site trials are carried out; assessment of related information and metadata collected; and exchange of derived information | Task report; CCAFS website/ AMKN platform | Willingness of partners to carry out the trials and share the trial data | CIAT and other CGIAR centers, CIRAD, JIRCAS, NARES (e.g. EIAR, KARI, NARO, IARI, CRIDA, BARC, BARI NARC, CILSS, etc) and other ARI institutions involved in agricultural trials |
| **Milestone 1.1.1.2 Robust methods developed for calculating spatial and temporal analogues of climate. Partner co-authored peer-reviewable method(s) developed and tested codes using pattern-scaled HadCM3 climate output. (2011)** | Methods developed and made publicly available through developed communication platforms | CCAFS website/ AMKN platform ; documentation for annual reporting | Robustness of testable methods using only climate model output (i.e. pattern-scaled HadCM3) | University of Reading, with guidance from University of Leeds + local partners (IGP) involved in the implementation phase and web interface development + CIAT |
| *Milestone 1.1.1.3* One to five flagship technologies identified, developed and demonstrated in each of the 3 initial target regions which would directly enhance the adaptive capacity of the farming systems to the climate change conditions. Launch through high level engagement with key stakeholders at a key international meeting (2015)* | Technologies developed and made publicly available. Positive feedback and increased demand of new technologies by the clientele. Field validation and assessment during field visits by different stakeholders made as a part of 2015 visits | CCAFS website; documentation for annual reporting | Willingness and interest of local partners in nominating candidate technologies and managing the trials at pilot sites | CGIAR centers in collaboration with other themes in the MP, NARES, ARIs, CIRAD, NGOs, national governments, Farmers' organisations |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| *Milestone 1.1.1.4* Practices developed that enhance the efficiency of water use in aquaculture and small scale irrigation (eg, increased productivity per unit use of water; increased irrigable area with same amount of water) Time series differential productivity and irrigated area analysis (2012)* | Practices developed and made publicly available | CCAFS website; documentation for annual reporting | Existence of aquaculture farms and terrestrial agriculture in close proximity; Recyclable use of water between aquaculture and field agriculture, including tree crops | WorldFish, NARES, ARIs, IWMI, ICRAF |
| *Milestone 1.1.1.6*Tools and guidelines developed to support the selection (and / or maintenance) of the most appropriate water storage options and/ or their combinations for river basin development planning under conditions of increasing climate variability; Reviews of tools and guidelines, including links to individual guidelines and access to tools (2013)* | Tools and guidelines developed, reviewed and made publicly available | CCAFS website; review documents | Willing uptake of tools and guidelines; sufficiently accurate predictions of future water storage deficits and needs | IWMI,WRI-Ghana,PIK,ZEF, MRC |
| *Milestone 1.1.1.7*(2012) Assessment of the potential for exploitation of ground water for crop production in at least three basins* | Maps demonstrating the potential for groundwater exploitation, which take adequate account of uncertainty | Report, and potentially peer-reviewed paper | Sufficient groundwater available for exploitation at least some sites | IWMI, WRI-Ghana, PIK, ZEF, MRC, OSS |
| **Output 1.1.2** Building of regional and national capacities to produce and communicate appropriate adaptation and mitigation strategies for progressive climate change at the national level (e.g. through NAPAs) | | | | |
| *Milestone 1.1.2.1*New knowledge developed on (1) the potential application domains for agricultural practices, technologies and policies (including maps), and (2) best means of transferring these technologies and ensuring their adoption; findings synthesized and presented in report and journal articles (2012)* | Synthesis report and journal articles completed and disseminated | CCAFS website; Journal publishers' websites | Availability of sound climate projections to 2030 and beyond | CGIAR Centers, ESSP (e.g. Leeds University), NARES and ARIs |
| **Milestone 1.1.2.3 Training workshop(s) organized and videos produced on the use of the Analogue methodology (for examining both spatial and temporal analogues based on multiple climate projections; see 1.1.1.2). Engagement of key IGP stakeholders such as national universities, NARC, ICAR (DWR), BARC, NGOs; Farmer exchanges convened among analogue sites (2011, 2012)** | Two trainings (2011, 2012) delivered engaging 25 participants; min 2 videos produced; exchanges convened engaging farmers in 2 regions | CCAFS website; documentation for annual reporting; participant lists for film showings, trainings and exchanges | | National universities, ICAR, BARC, NARC, NGOs |
| **Output 1.1.3** New knowledge-synthesizing institutional arrangements, policies and mechanisms for improving the adaptive capacity of agricultural sector actors and those involved in managing the food system | | | | |
| **Milestone 1.1.3.1*Document produced that synthesizes institutional arrangements, policies and mechanisms for improving the adaptive capacity of agricultural sector actors (addresses what is working where, how and why, with disaggregation by gender and other social strata) (2011)** | Document completed and disseminated | CCAFS website | Partners have sufficient incentives to engage and people trained remain in local institutions | African & South Asian University networks; development NGOs (e.g. CARE, Oxfam, ICCCAD), government, regional bodies |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| **Milestone 1.1.3.2 Web-based platform established (Adaptation and Mitigation Knowledge Network) to share and exchange knowledge, linking farmers' realities and experiences on the ground with multiple and combined research outputs (2011)** | Platform developed and made publicly available (cf http://www.sac.ac.uk/climatechange/farmingforabetterclimate/) Number of unique geographic locations, where individual and multi site trials are carried out; assessment of related information and metadata collected; and exchange of derived information | CCAFS website; documentation for annual reporting | | |
| **Milestone 1.1.3.3*Adaptation option portfolio (tool box) for aquaculture systems, options identified and disseminated in Vietnam, tool box disseminated in Bangladesh. Building capacity by creating information and working in partnerships. (2011)** | Toolbox available and disseminated | Partners' documentation | | WorldFish, MCD Vietnam, Cantho University<br>ESSP partners IHDP/ZEF University of Bonn or/and SEA START RC |
| **Output 1.1.4** Testing of participatory methods that are sensitive to gender, livelihoods categories and other social differentiators, to apply globally | | | | |
| *Milestone 1.1.4.1 Socially disaggregated participatory methods tested for grounding climate change model results to community-level decision making processes that address food security issues (2014)* | Methods tested and disseminated | CCAFS website | Cross-site and cross-continent applicability. | CIAT, Oxfam, CRS, Learning Alliance, Sustainable Food Lab, SAI |
| **Milestone 1.1.4.2 Video testimonials produced on gender-specific farmer adaptation and mitigation strategies (including indigenous knowledge, coping mechanisms and current challenges) in 1-3 sites in each of the 3 initial target regions (2011, 2012)** | Video testimonials produced and disseminated through the website | CCAFS website | | |
| **Objective 1.2 Develop breeding strategies for addressing abiotic and biotic stresses induced by future climatic conditions, variability and extremes, including novel climates** | | | | |
| **Outcome 1.2: Strategies for addressing abiotic and biotic stresses induced by future climate change, variability and extremes, including novel climates mainstreamed among the majority of the international research agencies who engage with CCAFS, and by national agencies in at least 12 countries** | | | | |
| Output 1.2.1 Understanding and evaluating the response of different varieties/crops to climate change in time and space, and generating comprehensive strategies for crop improvement through a combination of modelling, expert consultation and stakeholder dialogue | | | | |
| **Milestone 1.2.1.1 Research and policy organizations actively engaged in setting research priorities; one regional breeding strategy workshop involving regional decision-making and priority setting bodies delivered in each of 3 initial target regions (2011)** | Workshops held engaging 10-15 participants representing major regional and international breeding organizations and decision-making and priority setting bodies. List of research and policy organisations that have commented on, and contributed to, the research design | CCAFS website; workshop agendas and participant lists; documentation for annual reporting | Willingness of crop breeding institutions to participate in the program; inclusion of women's and men's crops in the program | Crop-breeding institutes (CG Centers, ARIs, NARES), GCP, regional decision-making and priority setting bodies (ASARECA, FARA, WECARD), donors, national governments |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| *Milestone 1.2.1.3 Range of crop modeling approaches (to inform breeding) developed and evaluated for biotic and abiotic constraints for the period 2020 to 2050; findings presented in summary report and at key stakeholders' meetings ; *including modelling approaches to evaluate the impacts of climate change and the effects of adaptation technologies such as supplemental irrigation and water harvesting on water availability for crops and their productivity under decadal futures from 2020 to 2050 (2013)* | Report completed and disseminated | CCAFS website | Robust climate projections (i.e. uncertainty does not dominate) and sufficient data on abiotic and biotic interactions with climate. Current crop models are capable of adequately simulating G*E*M interactions | Crop-based components of MP3, GCP, molecular and breeding platforms, ICARDA and other CG Centers, NARES, ARI breeding institutes, private sector breeding companies, Leeds University |
| *Milestone 1.2.1.4 Detailed crop-by-crop strategies and plans of action for crop improvement developed, incorporating portfolio of national, regional and global priorities; findings presented in summary report (2015)* | Report completed and disseminated | CCAFS website | Robust climate projections (i.e. uncertainty does not dominate) and sufficient data on abiotic and biotic interactions with climate | CG Centers, ARI modelling groups (e.g. Leeds University), NARES scientists |
| **Output 1.2.2** Breeding strategies disseminated to key national agencies and research partners | | | | |
| **Output 1.2.3** Differential impact on different social groups of strategies for addressing abiotic and biotic stresses induced by future climate change, variability and extremes are identified, evaluated and disseminated | | | | |
| *Milestone 1.2.3.1 Policy recommendations provided to national agencies, policy makers and key actors in the agricultural sector on how to target strategies to enable equitable access to breeding materials and strategies by different social groups (e.g. pastoralists, fishers, urban farmers) and by women and men (2015)* | Report completed and disseminated at 3 major international meetings; Report and policy briefs downloaded 200 times from web portal | CCAFS website; indigenous knowledge survey | | |
| **Objective 1.3 Identify and enhance deployment and conservation of species and genetic diversity for increased resilience and productivity under conditions resulting from climate change** | | | | |
| **Outcome 1.3: Portfolio of information sources, guidelines and germplasm available for using genetic and species diversity to enhance adaptation and resilience to changing climate are adopted and up-scaled by national agencies in at least 20 countries and by international organization for the benefits of resource poor farmers** | | | | |
| **Output 1.3.1** New knowledge, guidelines and access to germplasm are provided for using genetic and species diversity to enhance adaptation, productivity and resilience to changing climate | | | | |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
|---|---|---|---|---|
| **Milestone 1.3.1.1*Accessions identified with potential adaptive traits for climate change adaptation for at least 5 priority crops using innovative methods. Methodology to select genebank material adapted to local current climate conditions and future climate shifts developed and tested and crop suitability atlases for priority crops (as defined by fraction of total production accounted for) produced; findings presented in reports and journal articles (2011, 2014)** | Reports completed and disseminated. Journal articles published. Lists produced (e.g., adapted local varieties conserved in genebanks; newly and already collected domesticated and wild germplasm adapted to climate change). Methodology developed and made publicly available | CCAFS website; journal publishers' websites | Adaptation traits easily identifiable and availability of sufficient data. Good Georeferenced data for accessions are available. Exchange of germplasm supported by participating countries. Sufficient data points and comparative conditions to compare the resilience of diversified as compared to simpler systems in the face of variable and changing conditions. Local seed providers ready to participate and collaborate with the project. Policy framework in place for sharing of information. Sufficient cross-site similarity for transfer of lessons, germplasm and tools. Genetic resources policy permits movement of germplasm to pilot sites | International Center for Tropical Agriculture (CIAT), Colombia; Institute of Biodiversity and Conservation, Ethiopia; National Agricultural Research Institute, Papua new Guinea (PNG); Institut d'Economie Rurale, Mali; Indian Council Agricultural Research, India; Millennium Seed Bank, UK; Botanic Garden Conservation International (BGCI), UK; members of the Musa Taxonomy Advisory Group; University of Philippines Los Banos (UPLB), Philippines; KULeuven, Belgium; CIALCA partners; Semongok Agriculture Research Centre (ARC), Sarawak Malaysia; PROINPA, Bolivia |
| **Milestone 1.3.1.2*Approaches, methods and tools for participatory assessment of where and when biodiversity rich practices facilitate adaptation to climate change reviewed ; findings summarized in report (2011)** | Consultation workshops; report completed and disseminated. number of communities and individuals surveyed, number of methods and tools tested | CCAFS website; documentation for annual reporting; workshop agendas and participant lists | | International Union for Conservation of Nature (IUCN), Switzerland; PROINPA, Bolivia; LI-BIRD, Nepal; MS Swaminathan Research Foundation, India; German experts (incl. Prof. K. Hammer); FAO, the International Treaty on Plant Genetic resources for Food and Agriculture (ITPGRFA), Italy; University of Perugia, Italy; University of Basilicata, Italy; Regione Abbruzzo and Regione Basilicata, Italy) |
| *Milestone 1.3.1.3.*Evaluation of germplasm of cereals and food legumes for resistance to insect pests and diseases under variable temperature regime; strategy for targeted collection for sampling landraces and wild relatives in dry and hot areas (ICARDA) (2012)* | Evaluation and strategy published | ICARDA website | | |
| *Milestone 1.3.1.7 Climate change impact on key global commodities (major Musa groups, cocoa, coconut) and selected pest and diseases modelled and reviewed by commodity network country partners and possible response strategies identified (2015)* | Base model available and adapted to specific commodities; findings verified by stakeholders | web site, scientific articles, electronic tools with dynamic user interface | | MUSALAC, BARNESA, BAPNET (including participating countries by region: LAC -Costa Rica, Brazil, Colombia, Panama; ESA - Uganda, Rwanda, Kenya; WCA Ghana, Nigeria, |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| | | | | Cote d'Ivoire, Cameroon; APO - India, China, Taiwan, Australia, Indonesia); CIRAD; International Center for Tropical Agriculture (IITA), Nigeria; CIAT, Colombia; University of Western Australia; Queensland Department of Primary Industries, Australia; CacaoNet, COGENT (including participating countries by region: LAC - Costa Rica, Brazil, Trinidad, Mexico; SSA - Cote d'Ivoire, Ghana, Nigeria, Cameroon, Tanzania; APO - India, Sri Lanka, Indonesia, Philippines, Malaysia), Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), France; IITA, Nigeria; CIAT, Colombia; Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Costa Rica; South Pacific Commission (SPC), Fiji; United States Department of Agriculture (USDA), USA; University of Queensland, Australia; Reading University, UK; World Cocoa Foundation; APCC |
| **Output 1.3.2** New information, knowledge, guidelines and germplasm are made available to farmers, breeders, local communities and scientists and promoted through knowledge sharing, peer reviewed articles, information systems and media | | | | |
| *Milestone 1.3.2.2. Farmers' traditional knowledge on use of diversity and climate change adaptation documented and made available in at least 3 countries; findings presented in databases, reports and peer- reviewed article (2013)* | Databases produced and made publicly available; reports completed and disseminated; journal articles published | CCAFS website; Journal publishers' websites; documentation for annual reporting | | Institute of Biodiversity and Conservation, Ethiopia; National Agricultural Research Institute, PNG; Institut d'Economie Rurale, Mali; Indian Council agricultural Research, India |
| **Output 1.3.3** Policies to enable access to and use of genetic resources for climate change adaptation research, and diffusion of adapted germplasm | | | | |
| **Milestone 1.3.3.1* Baseline survey and analysis of centers' and partners' acquisitions, and distributions of adapted germplasm carried out; Comparative survey and analysis conducted; findings summarized in reports (2011, 2014)** | Reports completed and disseminated.<br>Survey documents developed,<br>Data collected<br>Draft reports circulated or approval/comment<br>Publication of reports | CCAFS website | | CGIAR Centers; Institute of Biodiversity and Conservation, Ethiopia; National Agricultural Research Institute, PNG; Institut d'Economie Rurale, Mali; Indian Council Agricultural Research, India |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| *Milestone 1.3.3.2*Policy guidelines produced for centers and partners to address challenges associated with obtaining, using and distributing germplasm as part of climate change related research (with particular focus on addressing challenges associated with access and benefit sharing, IPR, biosafety policies and laws) (2012)* | Guidelines finalized and distributed to centers and partners | CCAFS website; documentation for annual reporting | Local seed providers ready to participate and collaborate with the project. Supportive government policies. Willingness of international bodies to revise policies related to germplasm access | CGIAR Centers; Semongok Agriculture Research Centre (ARC), Sarawak Malaysia; PROINPA, Bolivia |
| *Milestone 1.3.3.3 Case studies documented of potential role of informal seed systems for diffusion of adapted germplasm; Analysis of institutions and policies that impact on the flow of adapted materials through those seed systems; National strategies developed to implement the International Treaty's Multilateral system on Access and Benefit-Sharing in 4 countries; Policy options produced at national, provincial and community levels to improve existing policies, local management and seed systems to facilitate diffusion and uptake of adapted germplasm (2013, 2015)* | Case studies, analysis, national strategies and policy options developed and disseminated | CCAFS website | | EMBRAPA, Brazil; Kenyan Agricultural Research Institute (KARI), Kenya; University of Malaya, Malaysia; Instituto Nacional de Investigaciones Agricola (INIA), Peru; MS Swaminathan Research Foundation, India; Local Initiative for Biodiversity, Research and Development (LI-BIRD), Nepal; PROINPA, Bolivia; Institute of Biodiversity and Conservation, Ethiopia; National Agricultural Research Institute, PNG; Institut d'Economie Rurale, Mali; Indian Council Agricultural Research, India |
| **Milestone 1.3.3.4*Technical contributions to international processes support the development of international policies enabling access to and use of genetic resources in climate change research and adaptation strategies; Background papers and policy briefs developed for intergovernmental meetings including the CGRFA, ITPGRFA, CBD; journal article published on options to reform international policies to reflect increased interdependence of countries on GRFA as a result of climate change; Book published on assessing international policy options to support collective pooling and facilitated use of GRFA published (2011, 2013, 2015)** | Papers, policy briefs, Journal article and book published | CCAFS website; Journal and book publishers' websites | | CGIAR Centers; representatives of regional groups attending intergovernmental fora, secretariats of relevant international agreements |
| **Output 1.3.4** Identification and evaluation of the differential roles of women and men, and other social groups, in strategies for conservation and use of species and genetic diversity; and the impact of those strategies on those different groups, are integrated into knowledge sharing and other activities to achieve outcomes | | | | |

## Theme 2. Adaptation through Managing Climate Risk

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| **Objective 2.1 Identify and test innovations that enable rural communities to better manage climate-related risk and build more resilient livelihoods** | | | | |
| **Outcome 2.1: Systematic technical and policy support by development agencies for farm- to community-level agricultural risk management strategies and actions that buffer against climate shocks** | | | | |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| **and enhance livelihood resilience in at least 20 countries** | | | | |
| **Output 2.1.1** Synthesized knowledge and evidence on innovative risk management strategies that foster resilient rural livelihoods and sustain a food secure environment | | | | |
| **Milestone 2.1.1.1 Report of priority knowledge and methodology gaps produced for index-based risk transfer products; and Program value-addition and partnership strategy (2011)** | Report and journal article completed and disseminated | CCAFS website; Journal publisher's website | Effective, equitable participation of rural communities, support of intermediaries. Stakeholders identify context-relevant risk management strategies, and participate in their improvement and testing. Capable NGOs partner. Access to relevant work across CG Centers and targeted NARES. Uptake of results by key agencies. Relevant information products, services, and uses can be engaged in each region. Partners willing to share findings through platform. Will be replicated in other research locations as they are established in each region. Value addition to other index insurance initiatives; resource-poor farmers have access to index-based risk transfer products | Key CG (ILRI, IFPRI, CIAT) and other organizations (e.g., WF, WB-CRMG, USAID BASIS CRSP) working on insurance for agriculture, regional (e.g. ECOWAS, IGAD in WA, AIC, ICAR in IGP) and national policy decision makers (CNEDD-Mali, CONEDD-BF, CSE-Senegal, ANE-Mali in WA) |
| *Milestone 2.1.1.2 Synthesis report produced on options and approaches for reducing risk and enhancing livelihood resilience through cultivar, farm and livelihood diversification; modeling tool developed. *Documentation of how agro-pastoralists are coping with climate risk in West and Southern Africa, and piloting options as to how they may cope with increased climate risk in the future (ILRI) *Review of adaptation experiences and options in coastal and aquatic food production systems (WorldFish) * Characterization of climate-related risk, and survey of current formal and informal responses to risk with potential for transfer and up scaling; Upgrade to the ICARDA Agroclimate Tool (ICARDA) (2012)* | One report and functional modeling tool completed and disseminated; Earthscan book chapters (WorldFish) | CCAFS websit; Earthscan website | | Bioversity International & partners (TBD); ICRAF & partners (VI; CARE; RF; CAS; BMZ; ZALF; COMART); CIMMYT & partners (NARS in Ethiopia, Kenya, India, Bangladesh, Nepal; SIMLESA project, IRRI; Cereal Systems Initiative for South Asia); * PIK, University of Kassel, IER (Mali), IIAM (Mozambique), IFPRI; USDA ARS Lubbock, NARS of Cyprus, Egypt, Ethiopia, Syria |
| *Milestone 2.1.1.3 Synthesis of ongoing work on agronomic and NRM technologies for enhancing resilience of agriculture to climate variability reported. *Historical records on rice yield losses compiled for droughts (India, Thailand) and cyclones/ typhoons (Bangladesh, Philippines) (IRRI) (2012)* | Report completed and disseminated | CCAFS website | | Multiple CG Centers TBD; NARES in India, Bangladesh, Thailand, and the Philippines |
| *Milestone 2.1.1.5 Current strategies for managing climate-related risk in agriculture synthesized in a report and journal paper; *Tools and guidelines to support the selection (and / or maintenance) of the most appropriate water storage options and/ or their combinations for river basin development planning under conditions of increasing climate variability (IWMI) (2012)* | Report and journal article completed and disseminated | CCAFS website; Journal publisher's website | | ILRI & partners (PIK, U. Kassel, IER (Mali), IIAM (Mozambique), IFPRI); CIMMYT & partners (IFPRI Global Futures Project, SIMLESA project (Africa) CSISA project (IGP), IITA, ICARDA, ICAR, EIAR, KARI, UMB-USA, UMB-Norway)* WRI- Ghana, PIK, ZEF, MRC |
| **Output 2.1.2** Analytical framework and tools to target and evaluate risk management innovations for resilient rural livelihoods and improved food security | | | | |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| **Milestone 2.1.2.1 Framework report produced and prototype farm household modeling tools developed for evaluating impacts of climate risk and risk management interventions on livelihood resilience (2011)** | Framework report and prototype tools completed and disseminated | CCAFS website | Same as Output 2.1.1 | Resilience Alliance, ILRI, CIP, WorldFish |
| **Output 2.1.3** Development; and demonstration of the feasibility, acceptability and impacts; of innovative risk management strategies and actions for rural communities | | | | |
| **Milestone 2.1.3.1 Participatory pilot demonstrations initiated to develop and evaluate current and improved risk management strategies and actions with rural communities at benchmark locations in 2 countries each in EA, WA and IGP (2011)** | Pilot demonstration sites and partners in 6 countries | Monitoring and evaluation reports from demonstration sites; progress reviewed in annual reporting | Same as Output 2.1.1 | Pilot demonstration project teams (NMS, NARS, other research partners, development NGOs, farmer associations) to be developed for each benchmark location |
| **Milestone 2.1.3.2 Current strategies and actions for managing climate-related risk documented for rural communities at benchmark locations in EA, WA and IGP (2011)** | Documentation completed and disseminated | CCAFS website | | Pilot demonstration project teams at benchmark locations; ILRI & partners (PIK, U. Kassel, IER (Mali), IIAM (Mozambique), IFPRI); CIMMYT & partners (IFPRI Global Futures Project, SIMLESA Project, CSISA project, IITA, ICARDA, ICAR, EIAR, KARI, UMB-USA, UMB-Norway), IRD-France |
| **Output 2.1.4** Tailor and disseminate research results for evidence-based policy and technical support for farm- to community-level risk management strategies | | | | |
| **Output 2.1.5** Identify and evaluate differential impact of agricultural risk management strategies on different social groups, particularly women and men, and communicate findings through technical and policy support activities | | | | |
| **Milestone 2.1.5.1 Guidelines developed for ensuring equitable participation of women and other socially disadvantaged groups in participatory action research on climate-related risk management. (2011)** | Guidelines completed and disseminated | CCAFS website | Same as Output 2.1.1 | Gender expertise TBD through competitive call |
| **Objective 2.2 Identify and test tools and strategies to use advance information to better manage climate risk through food delivery, trade and crisis response** | | | | |
| **Outcome 2.2: Better climate-informed management by key international, regional and national agencies of food crisis response, post-crisis recovery, and food trade and delivery in at least 12 countries** | | | | |
| **Output 2.2.1** Enhanced knowledge of impacts of climate fluctuations on food security, and how to use advance information to best manage climate-related risk through food delivery, trade, crisis response and post-crisis recovery | | | | |
| **Milestone 2.2.1.1 Report and journal article on impacts of climate variability on components (e.g., production, prices, rural incomes, consumption, trade, humanitarian assistance) of food security; and review of policies to mediate impacts in EA, WA and IGP (2011)** | Report completed and journal paper published and disseminated | CCAFS website; Journal publisher's website | Capable food security and trade organizations available to participate. Adequate market, climate and livelihood data are available | TBD through competitive call |
| **Output 2.2.2** Synthesized knowledge and evidence of the impacts of alternative risk management interventions within the food system on food security and rural livelihoods, to inform policy and practice | | | | |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
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| **Milestone 2.2.2.1 Report and policy brief on the costs associated with timing and targeting of alternative food crisis interventions (2011)** | Report and policy brief completed and disseminated | CCAFS website | Same as Output 2.2.1 | WFP, IRI |
| **Output 2.2.3** Platform and tools for sharing knowledge and fostering improved coordination among food crisis response, the market-based food delivery system, and agricultural research and development | | | | |
| **Milestone 2.2.3.1 Report and policy brief of an international food system stakeholder consultation to develop a collaborative strategy for improving intervention, coordination, capacity to respond to improved climate-related information (2011)** | Report completed and disseminated | CCAFS website | Same as Output 2.2.1 | Relevant international food security early warning and response organizations, Tufts U. |
| **Milestone 2.2.3.2 Study and stakeholder consultation on regional agricultural and food security contingency planning processes, current and potential use of climate-related information, and strategy for improving planning and coordination in EA, WA and IGP (2011)** | 3 workshops each engaging at least 10 participants; Study report completed and disseminated. | CCAFS website | | Relevant regional and national food security, food trade, climate information, early warning and agricultural planning organizations |
| **Output 2.2.4** Identify and evaluate differential impact of tools and strategies for climate risk management on different social groups, particularly women and men, and inject findings into support to agencies | | | | |

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| **Objective 2.3 Support risk management through enhanced prediction of climate impacts on agriculture, and enhanced climate information and services** | | | | |
| **Outcome 2.3 Enhanced uptake and use of improved climate information products and services, and of information about agricultural production and biological threats, by resource-poor farmers, particularly vulnerable groups and women, in at least 12 countries** | | | | |
| **Output 2.3.1** Improved climate information tools and products to support management of agricultural and food security risk | | | | |
| **Milestone 2.3.1.1 Historic gridded daily rainfall dataset, combining observations and satellite images, developed and evaluated for 1 country each in EA and WA (2011)** | Dataset for 2 countries completed and disseminated; evaluation report completed and disseminated | CCAFS website; results presented in annual reporting | Review will identify suitable opportunities to enhance early warning and management of strategic climate-sensitive biological threats. Institutional and technological capacity is sufficient to support widespread delivery of climate services. NMS and regional climate centers participate and share data. Full set of METEOSAT images processed and available. Availability of data. Participatory evaluation (under Objectives 1 and 2) will identify demand, relevant uses for climate-related information. Effective collaboration with food security early warning organizations. Uptake by key food security, trade and index insurance users. Demonstrated feasibility of forecasting strategically important biological threats | U. Reading (TAMSAT), IRI, AGRHYMET, Ethiopia Nat'l Met. Authority |
| **Milestone 2.3.1.2 Prototype seasonal forecast information products tailored and evaluated for local agricultural decision-making in 2 countries each in EA, WA (2011)** | Tailored products developed for benchmark locations in 2 countries and made publicly available | CCAFS website; results presented in annual reporting | | Senegal Met. Authority, AGRHYMET, ACMAD, IRI, CEREGE, ICRISAT & partners (Zimbabwe Met. Dep., AGRITEX, NGOs) |
| **Output 2.3.2** Synthesized knowledge and evidence on institutional arrangements and processes for enhancing climate services for agriculture and food security | | | | |
| **Milestone 2.3.2.1 Report and journal article produced on synthesis and program strategy for needs, constraints and opportunities for enhancing climate services, and institutional and ICT-based information delivery mechanisms for agricultural risk management (2011)** | Report completed and journal paper published | CCAFS website; Journal publisher's website | Same as Output 2.3.1 | ACMAD, IGP consultants, IRI |
| **Output 2.3.3** Improved knowledge, tools, data sets and platforms for monitoring and predicting agricultural production and biological threats, and informing management, in response to climate fluctuations | | | | |
| **Milestone 2.3.3.1 Proof-of-concept on remote sensing data assimilation for crop and rangeland production forecasting reported (2011)** | Report completed and disseminated | CCAFS website | Same as Output 2.3.1 | NASA-JPL, IRI, ICRISAT, IER (Mali) |

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| **Milestone 2.3.3.2 Predictability of crop production and prices from climate information in the IGP reported (2011)** | Report completed and disseminated | CCAFS website | | BARC, NARC, ICAR |
| **Milestone 2.3.3.3 Synthesis report on climate-sensitive pest and disease modeling and early warning systems for agricultural and food security risk management (2011)** | Report completed and disseminated | CCAFS website | | Kansas State U. |
| *Milestone 2.3.3.4 Crop and rangeland production forecasting platform, documentation and training materials developed (2013)* | Electronic platform publicly available; summary document and training materials completed and disseminated | CCAFS website | | FAO, JRC, ILRI, IRI, other partners TBD |
| *Milestone 2.3.3.6* Early warning systems developed for 2 major biological threats to agriculture (2013)* | Early warning systems operational in 2 regions, in cooperation with 6 partner organizations | Results presented in annual reporting | | CIP & partners (EMBRAPA, MP3-RTB, IITA, ICIPE-International Centre for Insect Physiology and Ecology); Others TBD through competitive call |
| **Output 2.3.4** Enhanced capacity of national and regional climate information providers, NARES and communication intermediaries to design and deliver climate information products and services for agriculture and food security management | | | | |
| **Output 2.3.5** Identify and evaluate differential impact of climate information services on different social groups, particularly women and men, and inject findings into support to farmers | | | | |

## Theme 3. Pro-Poor Climate Change Mitigation

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
|---|---|---|---|---|
| **Objective 3.1 Inform decision makers about the impacts of alternative agricultural development pathways** | | | | |
| **Outcome 3.1: Enhanced knowledge about agricultural development pathways that lead to better decisions for climate mitigation, poverty alleviation, food security and environmental health, used by national agencies in at least 20 countries** | | | | |
| **Output 3.1.1** Analysis of agricultural development pathways and the trade-offs among mitigation, poverty alleviation, food security and environmental health | | | | |
| **Milestone 3.1.1.1 Report on potential emissions reductions from technical options compatible with maintaining food supply (2011)** | Report completed and disseminated | CCAFS website | Agricultural intensification will be necessary to meet future food demand. Mitigation will be possible among resource-poor farmers. Preliminary data ready from PhD network (Objective 2) | Winrock, Applied Geosolutions, BIDS, BCAS |
| **Milestone 3.1.1.2*Report on potential emissions reductions from technical options compatible with maintaining food supply under alternative intensification scenarios. (2011)** | Report completed and disseminated | CCAFS website | | IFPRI, NARS in Ghana, Senegal, Mali, Uganda, Kenya, India, Nepal, Bangladesh |
| *Milestone 3.1.1.5. Assessment report on regional and national agricultural development policies, mitigation policies and mitigation projects and their implications for mitigation, poverty alleviation and food security (2011)* | Assessment report completed and disseminated | CCAFS website | | ECOWAS, UEMOA, CILSS, CORAF, ASARECA, South Asia (TBC) |
| **Output 3.1.2** Enhanced tools, data and analytic capacity in regional and national policy and research organizations to analyze the implications of different development scenarios and mitigation strategies | | | | |
| **Milestone 3.1.2.1 *Framework for comparison of environmental footprint of agricultural systems (ILRI) (2011)** | Framework completed and disseminated | CCAFS website | Same as Output 3.1.1 | TBC |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
|---|---|---|---|---|
| *Milestone 3.1.2.2 *Synthesis reports on sectoral mitigation potentials and emissions factors for IPCC and national and regional bodies covering: (i) cereal-based intensive agriculture (CIMMYT); (ii) livestock, analyzed by country (ILRI); (iii) aquaculture sector, analyzed through supply chain (WorldFish)(2012)* | Synthesis reports completed and disseminated, database available | CCAFS website, database on CCAFS or partner website | | IFPRI (Global Futures Project), SIMLESA Project (Africa) CSISA project (IGP-Asia), IITA, ICARDA, ICAR, EIAR, KARI, UMB-USA, UMB-Norway, IIAA, FAO |
| **Output 3.1.3** Analysis of the gender and social differentiation implications of alternative agricultural pathways and findings built into communications and capacity building activities | | | | |
| **Objective 3.2 Identify institutional arrangements and incentives that enable smallholder farmers and common-pool resource users to reduce GHGs and improve livelihoods** | | | | |
| **Outcome 3.2: Improved knowledge about incentives and institutional arrangements for mitigation practices by resource-poor smallholders (including farmers' organizations), project developers and policy makers in at least 10 countries** | | | | |
| **Output 3.2.1** Evidence, analysis and trials to support institutional designs, policy and finance that will deliver benefits to poor farmers and women, and reduce GHG emissions | | | | |
| **Milestone 3.2.1.1 Reviews of promising incentives, institutions, market-based mechanisms and policies at project and national scales, in three initial target regions, including (i) carbon as co-benefit to more productive agricultural practices, (ii) carbon markets, (iii) corporate social responsibility technical assistance, (iv) carbon labelling, summarized in four articles, policy briefs and posted on webpage (2011)** | 4 policy briefs and scientific articles completed and disseminated. Webpage developed. | CCAFS website; Journal publisher's website | Carbon market participation and potential benefits will be uneven among regions and farmers. Likely positive benefits of conservation agriculture for mitigation. Resource-poor farmers will participate in carbon markets if incentives are sufficient. Investors see agriculture-based markets as profitable. Institutional arrangements, market-based instruments, policies and incentives exist and have had sufficient experience to show results | FAO, World Bank, BRAC, Pradan, Nature Conservation Research Centre, IIED, IFPRI, ICRA, EcoAgriculture Partners, Ecotrust, Sustainable Food Lab, Unilever, Vi Agroforestry, World Bank, and NARS |
| **Milestone 3.2.1.2 Experts workshop to identify the design and monitoring requirements of finance and institutional arrangements to better benefit poor farmers and women (2011)** | Workshop held; 12-15 participants representing major international and regional organizations dealing with gender issues; Expert consultation completed and summarized; report disseminated | CCAFS website | | CarbonBenefits, FAO, Vi Agroforestry, CARE, Ecotrust, EcoAgriculture, World Bank, IIED, CLUA, NARS |
| *Milestone 3.2.1.3 *In-depth analysis of the economic incentives and benefits to farmers for integrated practices (conservation agriculture, sustainable land management, and agroforestry) in three initial target regions, linked to Milestone 3.3.1.1 and 3.3.2.2(CIMMYT, IFPRI) (2012)* | Journal article completed and disseminated | CCAFS website; Journal publisher's website | | IFPRI (Global Futures Project), SIMLESA Project (Africa) CSISA project (IGP-Asia), IITA, ICARDA, ICAR, EIAR, KARI, UMB-USA, UMB-Norway |
| *Milestone 3.2.1.5 *Synthesis report of underlying factors affecting sustainable land management across case study countries (including Kyrgyzstan, Nigeria, Mali, Southern Africa) with attention to gender issues, distribution of assets, and land markets (IFPRI) (2012)* | Synthesis report completed and disseminated | CCAFS website+F11 | | INERA, CG Centers, Kyrgys Research Institute of Agriculture, SOFESCA, IER (Mali), PAC, NFDO, GRADE, NARO |
| **Output 3.2.2 I**mproved capacity to increase the uptake and improve the design of incentives mechanisms and institutional arrangements to deliver benefits to poor farmers and women | | | | |
| **Objective 3.3 Test and identify desirable on-farm practices and their landscape-level implications** | | | | |
| **Outcome 3.3: Key agencies dealing with climate mitigation in at least 10 countries promoting technically and economically feasible agricultural mitigation practices that have co-benefits for resource-poor farmers, particularly vulnerable groups and women** | | | | |
| **Output 3.3.1** Analysis of mitigation biophysical and socioeconomic feasibility for different agricultural practices and regions, and impacts on emissions, livelihoods and food security | | | | |

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
|---|---|---|---|---|
| *Milestone 3.3.1.1 *Assessment of feasibility and impacts of mitigation practices for (i) conservation agriculture and sustainable land management (CIMMYT, IFPRI) in rice-wheat and maize-legume systems in 3 target regions, (ii) rice production through improved irrigation and fertilizer management (IRRI), (iii) dryland cropping systems (ICRISAT), (iv) agroforestry and complex agro-ecosystems (ICRAF), (iv) livestock (ILRI), (v) potatoes and sweet potatoes (CIP), (vi) N20 emissions from land use change and peatland conversation to plantation agriculture in 3 target regions of SE Asia (CIFOR), (vii) charcoal as energy alternative (ICRAF) (2012)* | Multi-year farm trials, datasets, 7 scientific articles, 7 policy briefs and dissemination | CCAFS and partners websites; journal website | Interest and willingness of partners to contribute findings to platform. Simple methods can be devised for widespread application. Improved carbon balances are possible in these food systems. Strong participation from all partners. Cost effective measures and MRV are possible. Sufficient data exists to validate simulation models. Practices that increase mitigation, livelihood benefits and environmental benefits are possible. Uptake of guidelines | NARES in India, Indonesia, Vietnam, and Philippines, ARI in Japan, Germany, USA, Australia; WWF; UNEP; MSU; CSU; CORNELL, VI Agroforestry; RF; CCAFS; CARE, IIASA, FAO, Ethiopian Institute of Agricultural Research (EIAR); Kenyan Agricultural Research Institute (KARI); Sustainable Intensification on Maize-Legume Systems in Eastern and Southern Africa (SIMLESA) project; Rutgers University, Indian Council for Agricultural Research (ICAR); Bangladesh Agricultural Research Institute (BARI); Nepal Agricultural Research Council; IRRI; Cereal Systems Initiative for South Asia (CSISA); Instituto Nacional de Investigación Forestal, Agrícol y Pecua, INERA, CG Centers, Kyrgys Research Institute of Agriculture, SOFESCA, IER (Mali), PAC, NFDO, GRADE, NARO, JKUA; DENR; UPLB; COMART, IFPRI (Global Futures Project), SIMLESA Project (Africa) CSISA project (IGP-Asia), IITA, ICARDA, ICAR, EIAR, UMB-USA, UMB-Norway, African Conservation Tillage Network (ACT), Global Research Alliance |
| **Output 3.3.2** Methods developed and validated for GHG monitoring and accounting at farm and landscape level to contribute to compliance and voluntary market standards | | | | |
| **Milestone 3.3.2.1 Expert and stakeholder consultations on methods appropriate for smallholder farmers through one global workshop and workshops in each of the 3 initial target regions (2011)** | Workshops engage 25 participants each. Consultations completed and summarized. | workshop agendas and participant lists; CCAFS website | Same as Output 3.3.1 | U. of Aberdeen, Sustainable Food Lab, X-AGG, Duke University, CORAF, ASARECA, RWC, Global Research Alliance |
| *Milestone 3.3.2.3 Field research initiated at benchmark sites to assess trade-offs for different sectors of agricultural mitigation (livestock, soil carbon, agroforestry) based on biophysical and livelihood outcomes (2012)* | Field trials in operation in 10 CCAFS benchmark sites across 3 initial target regions | Benchmark sites M and E reports | | Partners at CCAFS benchmark sites |
| **Milestone 3.3.2.4 Network of PhD students launched for studying GHGs in developing country agriculture to test methods and develop further innovations, linked to Milestone 3.3.2.2 and 3.3.2.3 (2011)** | 20 PhD students engaged in network per CCAFS region | M and E reports of research network | | Copenhagen University, ASARECA, CORAF |
| **Output 3.3.3** Synthesis of understanding about the direct and indirect economic and environmental costs and benefits from agricultural mitigation | | | | |
| **Output 3.3.4** Analysis of impacts of on-farm and landscape level practices on women and poor farmers | | | | |

## Theme 4. Integration for Decision Making

| MILESTONES (OUTPUT TARGETS) | PERFORMANCE INDICATOR | MEANS OF VERIFICATION | ASSUMPTIONS | PARTNERS |
|---|---|---|---|---|
| **Objective 4.1 Explore and jointly apply approaches and methods that enhance knowledge to action linkages with a wide range of partners at local, regional and global levels** | | | | |
| **Outcome 4.1: Appropriate adaptation and mitigation strategies mainstreamed into national policies in at least 20 countries, in the development plans of at least five economic areas (e.g. ECOWAS, EAC, South Asia) covering each of the target regions, and in the key global processes related to food security and climate change** | | | | |
| **Output 4.1.1** For each region, coherent and plausible futures scenarios to 2030 and looking out to 2050 that examine potential development outcomes under a changing climate and assumptions of differing pathways of economic development; developed for the first time in a participative manner with a diverse team of regional stakeholders | | | | |
| **Milestone 4.1.1.1 Capacity built among three regional teams of diverse stakeholders trained in scenarios approaches and engaging with policymakers in their countries/regions and in global CC processes and with the ESSP community; Methodological briefs, papers (2011)** | Regional scenarios partners actively participating in regional food security debates and global CC processes (e.g. UNFCCC negotiations and COP). Number of partners using/citing scenarios; No. of regional partners trained in scenarios participating in regional FS debates and global CC processes | CCAFS and partner websites and reports; Newspaper and other media reports | Partners remain engaged and help communicate scenario research results widely and to inform key decision makers | Regional Ag Research Orgs (incl. NARS): ASARECA (EA); CORAF, AMCEN (WA); RWC (IGP); Regional policy orgs: NEPAD, CAADP; Int'l NGOs: CARE Int'l; Oxfam; Regional NGOs: Ecotrust (EA); SahelEco, AMEDD (WA); CEAPRED & FPRO (IGP); Private Sector: Katoomba Grp (EA); Technico Pty Limited (IGP); Farmers Orgs: EAFF (EA); ROPPA (WA), IFAP (Int'l); Regional Meteo Orgs: ACMAD, AGRHYMET, ICPAC |
| **Milestone 4.1.1.2 Three sets of prototype regional scenarios produced (main regional uncertainties identified, initial regional storylines developed, reports and initial scoping for model analysis). Article on effectiveness of scenarios as a 'boundary object' (2011)** | Scenarios reports for EA, WA and IGP available on CCAFS and partners websites; Local media reports from each region | CCAFS website; Newspaper and other media reports | Local media find futures scenarios worthy of reporting; local and regional partners actively participate | Regional Ag Research Orgs (incl. NARS): ASARECA (EA); CORAF (WA); RWC (IGP); Regional policy orgs: NEPAD, CAADP; Int'l NGOs: CARE Int'l; Oxfam; Regional NGOs: Ecotrust (EA); SahelEco, AMEDD (WA); CEAPRED & FPRO (IGP); Private Sector: Katoomba Grp (EA); Technico Pty Limited (IGP); Farmers Orgs: EAFF (EA); ROPPA (WA), IFAP (Int'l); Regional Meteo Orgs: ACMAD, AGRHYMET, ICPAC |

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| **Output 4.1.2** Global and regional maps, tables and associated syntheses, showing current vulnerable agricultural and fishing populations in relation to food security to 2030 and 2050 | | | | |
| *Milestone 4.1.2.1 Vulnerability assessment and maps from the three CCAFS regions published and widely disseminated in a paper, policy briefs, conference presentations, workshops, web materials, media stories, inputs to the ag work program/ UNFCCC negotiations, global and regional CC conferences (e.g. COP), contributing to strengthening regional climate and agricultural knowledge platforms/networks and improved CCAFS-related science-user information flows (2012-2013)* | Rural ag and fishery community concerns included in UNFCCC negotiations. New regional CCAFS-related working groups and gov't units created in at least 3 regions. CCAFS outputs cited by partners at national, and regional levels. Number of downloads and requests from regional partners for CCAFS products. Number of partners/events in the 3 regions applying processes, tools, approaches bringing together CC-Ag-FS communities in dialogue; number of new projects/programs following these approaches | CCAFS website; Newspaper and other media reports. Partner reports citing CCAFS; presentations and media coverage at ARDD and Ocean Days at COP | Incentives against new interdisciplinary-cross gov't dep't CCAFS-oriented groups aren't too strong. | FANRPAN; START; Africa Acapt; WeAdapt; JotoAfrica; ICAR; BARC; NARC; CAN; CDKN; Harvard Sust. Science program; ICRAF |
| **Output 4.1.3** Evidence on, testing and communication of, successful strategies, approaches, policies, and investments contributing to improved science-informed CC-ag development-food security policies and decision making | | | | |
| **Milestone 4.1.3.1 A new competitive small grants program established for gender-responsive CCAFS research, and funding going to regional female scientists doing research on CCAFS priorities (2011)** | Competitive grants program announced on CCAFS and partners websites; female researchers in each region funded through CCAFS | CCAFS and G&D websites; newspaper and other media reports | Local institutions are supportive of female scientists doing CCAFS-related research | ASARECA, CORAF, Gender & CC network; CGIAR Gender & Diversity Program; START; RUFORUM and other regional Univ. networks |
| **Output 4.1.4** Analyses providing evidence of the benefits of, strategies for, and enhanced regional capacity in, gender and pro-poor climate change research approaches that will increase the likelihood that CCAFS-related research will benefit women and other vulnerable as well as socially differentiated groups | | | | |
| **Milestone 4.1.4.1 Drawing on Theme 3, CARE-CCAFS report on potential impacts on women and vulnerable groups of new carbon payment schemes; FAO/CCAFS report on gender & climate change issues across CCAFS regions, informing new CCAFS gender strategy (2011)** | Number of downloads of CCAFS gender-related reports, briefs, blogs; CCAFS gender work cited in partners' reports/strategies and gender highlighted in national/regional climate, ag and food security strategies | CCAFS, CARE, FAO websites; links on partner websites | Partners able to inform and implement appropriate CC/gender analyses across sites in all CCAFS regions | CARE Int'l; FAO; CGIAR Gender & Diversity Program |
| **Output 4.1.5** Mainstreaming adaptation strategies into national policies, agricultural development plans, and key regional and global processes related to agriculture and rural development, food security and climate change | | | | |
| **Output 4.1.6** Building of capacities to engage in global policy making processes and adopt risk management strategies | | | | |
| **Milestone 4.1.6.1 Three trainings sessions are held for a wide variety of stakeholders on UNFCCC negotiation process and policy frameworks such as NAPAs and NAMAs (2011)** | Numerous stakeholders are trained in at least 20 countries | Number of certificates of training given | NAPAs and NAMAs are still important policy frameworks | UNFCCC, UNDP, AMCEN |
| **Objective 4.2 Assemble data and tools for analysis and planning** | | | | |
| **Outcome 4.2 Improved frameworks, databases and methods for planning responses to climate change used by national agencies in at least 20 countries and by at least 10 key international and regional agencies** | | | | |
| **Output 4.2.1** Integrated assessment framework, toolkits and databases to assess climate change impacts on agricultural systems and their supporting natural resources | | | | |

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| **Milestone 4.2.1.1 Regional site characterization and baseline data collection completed and analysed in three target regions at three levels: household, village, and institution; Synthesis report presents results of baseline survey of farming households re: soil, land, water, livestock, fisheries and agroforestry management strategies for adapting to a changing climate, and climate-related information access, needs and uses, implemented across 12 countries in over 200 villages and 5,000 households. Synthesis report of institutional-level baseline work. (2011-2012)** | 13 site reports from baseline surveys made available on CCAFS and partner websites; baseline data shared widely and available on CCAFS website; synthesis CCAFS report and journal article submitted | CCAFS and partner websites | Trained local partners are not hampered by insecurity or other crises/unforeseen events and implement the survey | Univ. of Reading Statistical Group, ASARECA, CORAF, INSAH, ICRAF, ICRISAT, ILRI, IWMI, CEAPRED (Nepal), FPRO (India), BCAS (Bangladesh), CARE Int'l, NARS from Mali, Senegal, Burkina, Niger and Ghana; Univ of Dar & Salian Center (Tanz), Makarere Univ & NARO (Uganda); KARI (Kenya); Managing Risk for Improved Livelihoods (MARIL, Ethiopia) |
| *Milestone 4.2.1.2. Priorities derived for downscaling needs based on an overview of current downscaling initiatives; New products based on innovative methods commissioned and tested, and methods compared and evaluated; Research reports produced on novel downscaling methods and their evaluation; at least one peer-reviewed paper published on comparison of different methods for agricultural impact modelling; * Proof of concept for climate downscaling methodology developed based on wavelets, multifractals and neural networks (CIP) (2012-2013)* | Two new products tested and evaluated. Two research reports completed and disseminated. Peer-review paper published. Proof-of-concept completed and disseminated | CCAFS and partner websites; Journal publisher's website | Downscaling methods can be meaningfully evaluated and compared | CIAT, CIP, ILRI, University of Oxford, University of Cape Town, WCRP, IRI. University of California at Santa Barbara |
| *Milestone 4.2.1.3 Suite of downscaled climate data for the 2030s to 2090s, first from the AR4 climate models and then from CMIP5, for homogenized applications in the Program. *Online data repository of downscaled 1km present and future climate projections (CIAT) *Climate projection maps to evaluate future crop suitability (Bioversity) (AR4, 2011; CMIP5, 2012)* | Datasets available for download via CCAFS website with appropriate documentation | CCAFS and partner websites | Appropriate CMIP5 data can be accessed and utilised | CIAT, ILRI, University of Oxford, University of Leeds, Waen Associates. *Stanford University, Generation Challenge Programme (GCP) |
| **Milestone 4.2.1.4 Regional climate characterization and evaluation of global and regional climate model performance for the three initial target regions (2011)** | Regional reports that evaluate different climate models, for the three initial target regions, from the perspective of agricultural impacts modelling | CCAFS and partner websites | Climate models can be evaluated appropriately on a regional basis | University of Oxford |
| *Milestone 4.2.1.5 Regional climate characterization and evaluation of global and regional climate model performance for additional target regions. *Remote sensing databases and maps of vegetation conditions and recent historical changes in Africa developed (ICRAF) (2013)* | Regional reports that evaluate different climate models, for additional target regions, from the perspective of agricultural impacts modelling | CCAFS and partner websites | Climate models can be evaluated appropriately on a regional basis | University of Oxford and others to be decided. *AFSIS |

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| *Milestone 4.2.1.6 Databases for soils, historical weather, agricultural systems, and natural resources in the target regions evaluated, gap-filled, collated and made available on the web, following the development and implementation of an appropriate data management policy. *Working version of crop production surfaces developed to model biophysical responses to environmental change (IFPRI). *Enhanced niche-based approaches developed and published for analysis of climate change impacts on major/minor crops (CIAT) *Simulation models on yields and emissions in rice production systems assessed for their use in decision support systems (IRRI) (2012-2014)* | Data reports are written up and made available on CCAFS website, for the following: soils profile information; historical daily weather data; global agricultural systems data layers updated and refined; and agricultural systems data collected and collated for several hundred households at the CCAFS sites | Databases on CCAFS and partner websites | Data are accessible | CG centers, all regional partners, selected ARIs. *NARES in India |
| *Milestone 4.2.1.7 Scoping studies undertaken on agricultural impact model gaps and needs, particularly at plot and landscape scales, and development and testing work commissioned and evaluated; Synthesis and research reports developed on key gaps and needs, and model documentation (2012-2013)* | Model documentation, synthesis and research reports completed and disseminated | CCAFS and partner websites | Agreement can be reached on a global agricultural impacts modelling agenda | CG centers, ARIs, AgMIP (Agricultural Modelling Intercomparison and Improvement Project). *University of Leeds; World Bank |
| *Milestone 4.2.1.8 Innovative decadal/near-term climate products developed to improve near-term climate prediction and needs and opportunities summarized in research reports (2015)* | Model documentation, synthesis and research reports completed and disseminated | CCAFS and partner websites | New approaches to near-term climate prediction can be developed and implemented in appropriate tools | IRI, NCAR, UK Met Office, Universities of Oxford & Leeds; |
| *Milestone 4.2.1.9 A loosely-integrated assessment toolkit developed and implemented that can be used to analyze likely effects of specific adaptation and mitigation options in 3 initial target regions; high-level engagement with key users to build capacity in use of tools and data. Reports and meta-databases developed of available models, tools and data. *GLOBIOM-Livestock model used for global integrated assessment of livestock issues (ILRI). *Enhanced/interlinked set of data and quantitative tools including spatial databases, detailed mapping of food system characteristics and human welfare, detailed characterization of impact of changes and uncertainty on global food systems (IFPRI). Integrated assessment framework and toolkit for analyzing likely effects of specific adaptation and mitigation options in three target regions (ICRAF) (2013)* | Reports and meta-databases completed and made publicly available | CCAFS and partner websites | A loose assemblage of models and tools can cater to different needs and users | All partners, CG centers, ESSP partners, ARIs. *IIASA, ZALF, FANRPAN, ASARECA, ARIs, NARS, PIK; ASB; UNEP |
| **Output 4.2.2** Socially-differentiated decision aids and information developed and communicated for different stakeholders | | | | |
| **Objective 4.3 Refine frameworks for policy analysis** | | | | |
| **Outcome 4.3 New knowledge on how alternative policy and program options impact agriculture and food security under climate change incorporated into strategy development by national agencies in at least 20 countries and by at least 10 key international and regional agencies** | | | | |
| **Output 4.3.1** Tools developed and climate change impacts assessed at global and regional levels on agricultural systems (producers, consumers, natural resources), national/regional economies, and international transactions | | | | |

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| **Milestone 4.3.1.1 Broad-scale modeling tools developed to assess climate change impacts on yields, production, trade, prices, and various human well-being measures developed or enhanced; models structure design vetted by experts. (2011)** | Initial set of modeling tools completed and made publicly available | CCAFS and partner websites; CCAFS records | Modeling expertise and data available to estimate parameters | GLP scientists, CG centers, other ESSP scientists, NARS scientists |
| *Milestone 4.3.1.2 Global and regional assessments of climate change impacts on agricultural systems, national and international food security completed; Findings included in papers, reports, chapters in global (e.g. IPCC, Biodiversity integrated assessment) and regional (e.g. African Union) assessments (2012)* | Papers and reports completed and disseminated. Citations of CCAFS outputs in partners' reports. Chapters of global and regional assessment reports integrate findings | CCAFS and partner websites; Major global and regional assessment reports | Appropriate data, tools, methods can be assembled | Global Adaptation FUND, UNREDD, the World Bank, IPCC, UNFCCC/SBSTA, key bilateral donors developing adaptation and mitigation strategies, large international NGOs, key regional and national actors, research for develop agencies, national, regional, and international planning agencies, researchers on climate change impacts on agriculture and natural resource management |
| **Output 4.3.2** Likely effects of specific adaptation and mitigation options, national policies (natural resource, trade, macroeconomic, international agreements) analyzed | | | | |
| *Milestone 4.3.2.2 Report produced identifying and evaluating relevant possible national policies (related to natural resource, trade, macroeconomic and international agreements) for their potential to support implementation of appropriate adaptation and mitigation options. (2013)* | Report completed and disseminated | CCAFS and partner websites | | |
| *Milestone 4.3.2.3. Collation of toolkit for prioritizing adaptation and mitigation actions at national/sub-national scale and its pilot testing in IGP region (2015)* | Toolkit released and results of pilot testing shared among policy makers | CCAFS and partner websites; CCAFS records | | |
| **Output 4.3.3** Differential impact on social groups (gender, livelihood category etc) of climate change adaptation and mitigation options identified, evaluated and communicated | | | | |
| *Milestone 4.3.3.1 Report produced identifying and evaluating adaptation and mitigation options and national policies for differential social impacts with recommendations to enable equitable access to technical and institutional assistance for adaptation and mitigation options (2014)* | Report completed and disseminated | CCAFS and partner websites | Same as Milestone 4.3.1.2 | |
| **Output 4.3.4** Likely effects of specific adaptation and mitigation options and national policies (including for socially differential groups) communicated to key local, national and regional agencies and stakeholders | | | | |
| *Milestone 4.3.4.1 Set of information products developed and disseminated to key agencies and stakeholders including (1) research monographs and policy briefs on climate change; (2) enhanced, and interlinked datasets and quantitative tools such as spatial databases, detailed mapping of food systems and characterization of likely climate change impacts on agricultural systems, and (3) promising adaptation and mitigation options and tools; Publications and tools delivered to individuals responsible for regional policy programs and interventions that foster climate change adaptation and mitigation (2012)* | Research monographs and policy briefs completed and disseminated. Datasets and quantitative tools produced and made publicly available. Information products used in regional programs and policy strategies | CCAFS and partner websites; Strategy and program documents | Viable set of adaptation and mitigation policy and program options | National and regional partners, other MPs, HarvestChoice, CSI |

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|---|---|---|---|---|
| *Milestone 4.3.4.2 Capacity building of 300 scientists and decision makers in use of appropriate tools in three initial regions including (1) training and workshops on crop, and IMPACT model; (2) capacity strengthening activities with NARS that reflect needs of targeted individuals and institutions for meeting agricultural development, poverty, hunger alleviation and natural resource management (2013)* | 300 decision makers trained in crop models and IMPACT model | Training agendas and participant lists; documentation for annual reporting | | Ministries of Ag, Environment, Natural Resources in target regions, Universities in target regions, Research Institutions |
| *Milestone 4.3.4.3 Synthesis of data and maps and distribution via climate change information networks and CCAFS or other web site; Improved curricula, learning materials, and delivery methods in strengthening capacity for climate change research and policy analysis through open learning resources (2015)* | Data and maps publicly available. Curricula, materials and methods developed and disseminated. | CCAFS or other CG center websites, open learning resources, and networks | Building on existing networks and regional bodies | Ministries of Ag, Environment, Natural Resources in target regions, Universities in target regions, Research Institutions |
| **Milestone 4.3.4.4 Major report targeted to COP17, that lays out climate change impacts, adaptation and mitigation options and national policies; Research monographs and policy briefs on climate change adaptation and mitigation developed; Materials disseminated at Ag & Rural Development Day 2011 (2011) .* Input in the MP7 high level report on the agricultural work program; Platform to ensure coastal communities concern are included in UNFCCC negotiations (WorldFish) (2011)** | Report, monographs, policy briefs completed and disseminated. Documentation of web traffic (http://webusage.cgnet.com/); citations in press and scholarly articles | CCAFS websites; Publications citing CCAFS. | Case studies available | CGIAR centers (CIP, CIAT, IFPRI, ICRISAT, CIMMYT, ICRAF, IWMI, ICARDA, WorldFish) HarvestChoice, CSI |
| *Milestone 4.3.4.6 To enable rural poor, women and men, to have better access to high value commodity markets for climate change mitigation and other environmental resources, support for up-scaling and follow-up investments including (1) implementation of household surveys, (2) development of modules to assess governance factors from the perspective of different value change actors, (3) identification of interventions to improve access to markets for climate change mitigation, (4) engagement with network or policy advisors, policy researchers and program implementers; (5) highlight the need to act on the climate challenge while supporting other important rural development and environmental goals through policy fora and dialogues (at Regional Fora and Launch Conference) (2015)* | Surveys completed, summarized and results shared. Governance factor modules and interventions developed and disseminated. Briefings delivered to 300 individuals representing 30 organizations. CCAFS materials shared through 20 policy events | CCAFS website; documentation for annual reporting; Event agendas and participant lists. | | National and regional research partners, and stakeholders |

# Budget 2011

The projected CCAFS budget (including all funds from the CGIAR Fund as well as other sources) is US$63.2 million (Table 1). This number is the same as that presented in the CCAFS proposal submitted to the Fund Council. The request to the CGIAR Fund is US$41.4 million, but at the time of writing no commitment has yet been received. If the commitment differs from the request, and requires more than 15% budget adjustment, we propose that a special meeting of the SC/ISP is conducted, by teleconference.

**Table 1. Budget for CCAFS showing (a) projected CCAFS expenditures by cost categories (2011), and (b) projected sources of funds (US$ million). The percentage distribution amongst cost categories and amongst sources is shown.**

**a) Projected Expenditure**

| Cost category | Description | 2011 | Percent |
|---|---|---|---|
| 1 | Personnel costs | 18.7 | 30% |
| 2 | Travel | 2.6 | 4% |
| 3 | Operating expenses | 8.7 | 14% |
| 4 | Traning/Workshop | 1.8 | 3% |
| 5 | Partners/Collaborator/Consultancy Contracts | 18.9 | 30% |
| 6 | Capital and other equipment for project | 1.1 | 2% |
| 7 | Contingency | 0.6 | 1% |
| **Total** | | **52.4** | **83%** |
| 8 | Institutional Overhead | 10.0 | 16% |
| 9 | CGIAR System Costs | 0.8 | 1% |
| **Total Program expenditures** | | **63.2** | **100%** |

**b) Projected source of program funding**

| Description | 2011 |
|---|---|
| CGIAR Fund | 41.4 |
| Current and Projected Restricted Donor Projects | 17.3 |
| Other Income | 4.5 |
| **Total Funding** | **63.2** |

Notes:
1. Personnel costs**:** This budget item includes the salaries of permanent/regular employees, as well as the salaries and benefits of professional, supervisory and support positions that are involved in CCAFS development.
2. Travel**:** This Budget Item includes domestic and international travel of CCAFS regular staff on official duty.
3. Operating Expenses: This Budget item includes the daily basis activities for a normal operation.
4. Training/Workshops: This budget item includes specific capacity enhancement initiatives that cut across all Themes/Regions.
5. Partners/Collaborators/Consultancy Contracts: The breakdown of this budget item is shown in (Table 2).

### Budget categories

Given the key roles that partners play in CCAFS, some 30% of the budget is allocated to partners and collaborators (Table 1). Partnership budgets will be managed by each Participating Center, for the specific partners that will be engaged. Table 2 shows how the partnership funds of Table 1 are allocated amongst key categories of partners (ESSP, other ARIs, and NARES).

Projected expenditure on personnel is 30%. The institutional overhead stands at 16%, this being a combination of Center overhead rates for the Center-managed funds and 5% for pass-through funds. The budget for training and

workshops is 3%, but it is important to note that CCAFS will mainstream capacity enhancement into all research activities, so the bulk of capacity enhancement funds fall under the 'partners and collaborators' budget line.

**Table 2. Budget allocation to major categories of CCAFS partners (US$ million).**

| Partner Category | 2011 |
|---|---|
| ESSP | 5.9 |
| ARIs | 4.7 |
| NARES | 8.4 |
| **Total Partners/Collaborator/Consultancy Contracts** | **18.9** |

Notes:

1. 'Partners and collaborators' category has been divided in to three main partners: which are Earth System Science Partnership (ESSP), Advance Research Institutes (ARI) and National Agricultural Research and Extension System (NARES).
2. CCAFS will be integrated within a network of partners in order to improve the quality of the research and to respond effectively to demand from, and dialogue with, decision-makers at all levels. Research within the Themes will be co-designed by research and policy communities and local partners so as to:
   (i) maximize benefits to regional/national policy formulation by addressing issues co-defined by regional and national stakeholders;
   (ii) help transform the research agenda to more effectively deliver the information needs for improved food security policy formulation; and
   (iii) raise awareness of climate change issues among agricultural and food policy makers and resource managers.

**Leveraging new resources**

In addition to the budget shown here, considerable potential exists for leveraging partner contributions. Leveraged funds will be tracked and are expected to exceed $30 million per annum by Year 5.

**Allocation to Centers**

Six Centers have total budgets over $5million per annum in CCAFS (Table 3), namely ILRI, ICRAF, CIAT, CIMMYT, Bioversity and IWMI. IRRI, AfricaRice, CIFOR and IITA have budgets less than $1.5 million, with other Centers intermediate. In relative terms the following Centers are heavily dependent on the CGIAR Fund for their climate change work, with 70% or more of their total climate change funding requested from the CGIAR Fund: AfricaRice, CIMMYT, ICARDA, ICRAF, ICRISAT, IITA. Some Centers will largely undertake their climate-related work with restricted funds, namely WorldFish and IFPRI, with less than 50% of their CCAFS funds requested from the CGIAR Fund.

**Table 3. Projected CCAFS Theme expenditures for 2011 by Center (US$ million), and projected source of Center funding (US$ million). The percentage of Center funds that are expected to come from the CGIAR Fund is shown, as is the central funds for "coordination, synthesis, capacity enhancement and communications". The budget for each Center includes an allocation to partnerships.**

| | 2011 Theme Budgets | | | | | | Source of funds (2011) | | |
|---|---|---|---|---|---|---|---|---|---|
| Centre | Theme 1: Progressive Climate Change | Theme 2: Climate Risk | Theme 3: Mitigation | Theme 4: Integration for Decision Making | CRP7, Theme and Regional Coordination | Total Budget | CGIAR Fund | Current and Projected Restricted Donor Projects and Other Sources of Funds | % of Centre Budget from Fund |
| AfricaRice | 0.2 | 0.2 | 0.4 | 0.0 | 0.0 | **0.8** | 0.6 | 0.2 | 75% |
| Bioversity | 5.6 | 0.0 | 0.0 | 0.0 | 0.0 | **5.6** | 3.7 | 1.9 | 66% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CIAT | 2.3 | 0.8 | 1.2 | 0.7 | 0.9 | **6.0** | 4.1 | 1.9 | 68% |
| CIFOR | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | **1.0** | 0.5 | 0.5 | 50% |
| CIMMYT | 2.0 | 2.1 | 0.9 | 0.5 | 0.0 | **5.5** | 4.2 | 1.3 | 76% |
| CIP | 0.9 | 0.7 | 0.3 | 1.0 | 0.0 | **3.0** | 1.8 | 1.2 | 61% |
| ICARDA | 1.7 | 0.2 | 0.1 | 0.0 | 0.0 | **2.0** | 1.5 | 0.5 | 74% |
| ICRAF | 0.9 | 0.5 | 3.7 | 2.6 | 0.3 | **7.9** | 5.5 | 2.4 | 70% |
| ICRISAT | 1.2 | 1.3 | 0.6 | 1.3 | 0.1 | **4.5** | 3.5 | 1.1 | 77% |
| IFPRI | 0.0 | 0.0 | 0.3 | 3.8 | 0.2 | **4.2** | 2.0 | 2.2 | 47% |
| IITA | 0.2 | 0.2 | 0.2 | 0.3 | 0.0 | **1.0** | 0.8 | 0.1 | 85% |
| ILRI | 1.7 | 1.0 | 1.0 | 4.1 | 0.2 | **8.0** | 5.1 | 2.9 | 64% |
| IRRI | 0.4 | 0.0 | 0.6 | 0.0 | 0.0 | **1.1** | 0.7 | 0.4 | 68% |
| IWMI | 3.6 | 0.5 | 0.4 | 0.6 | 0.2 | **5.2** | 3.1 | 2.1 | 59% |
| WorldFish | 0.4 | 0.6 | 0.2 | 0.8 | 0.0 | **2.0** | 0.4 | 1.6 | 20% |
| **Total** | **21.2** | **8.3** | **10.9** | **15.6** | **1.8** | **57.8** | **37.4** | **20.3** | 65% |
| Coordination, Synthesis, Capacity Building, Communications | | | | | | **4.6** | 3.1 | 1.5 | 68% |
| CGIAR System Costs | | | | | | **0.8** | 0.8 | | 100% |
| **Total Program costs** | | | | | | **63.2** | **41.4** | **21.8** | **65%** |

Notes:

1. Budget allocated to CIAT, part of which is sub-contracted to University of Copenhagen.
2. Figures shown are projected expenditures of each center, distributed by theme it includes theme and regional coordination.
3. The total of each center expenditures were allocated to the projected source of funds expected.

**Allocation of funding among Themes and Objectives**

The largest portion of the budget Table 3 goes to Theme 1 (Adaptation to Progressive Climate Change). Nevertheless, the distribution in budget between other Themes is relatively even.

Within Theme 1 the largest budget goes to Objective 1.1 (Adapted farming systems to changing climate conditions) (Table 4). Within Theme 2 the largest Objective is 2.1 (Managing climate risk and building resilient livelihoods). For Theme 3, the largest Objective is 3.3 (On-farm mitigation practices and landscape implications). In Theme 4, the largest Objective is 4.2 (Data and tools for analysis and planning) which covers much of the model development, the compilation of databases on which the modelling and analysis relies, and baseline and monitoring activities in target regions.

Limited allocations are made to co-financing other CRPs, drawing into question the utility of this budget line that was requested in one of the reviews of CCAFS.

**Table 4. Projected CCAFS Theme expenditures (US$ million) in 2011 for the different Objectives in each Theme. Shown is the projected expenditure for core CCAFS activities (i.e. those that don't involve cofinancing) as well as projected expenditure on cofinancing activities with other CRPs.**

| Themes | Objectives | Total |
|---|---|---|
| Theme 1 | 1.1 Adapted farming systems to changing climate conditions | 11.0 |
| | 1.2 : Breeding strategies for future climatic conditions | 1.9 |
| | 1.3 Species and genetic diversity for climate change | 7.6 |
| | 1.4 Co-financing of other CRPs | 0.7 |
| Theme 2 | 2.1 Managing climate risk and building resilient livelihoods | 6.3 |
| | 2.2 Managing climate risk through food delivery, trade and crisis response | 0.7 |
| | 2.3 Prediction of climate impacts, and enhanced climate services | 1.3 |
| | 2.4 Co-financing of other CRPs | 0.0 |
| Theme 3 | 3.1 Low-carbon agricultural development pathways | 3.2 |

| | | |
|---|---|---|
| | 3.2 Institutional arrangements and incentives for mitigation | 1.9 |
| | 3.3 On-farm mitigation practices and landscape implications | 5.0 |
| | 3.4 Co-financing of other CRPs | 0.7 |
| | 4.1 Linking knowledge with action | 3.4 |
| Theme 4 | 4.2 Data and tools for analysis and planning | 6.1 |
| | 4.3 Refining frameworks for policy analysis | 6.0 |
| **Subtotal** | | **56.0** |
| Theme Coordination Costs | | 1.8 |
| **Total** | | **57.8** |

Notes:

1. Cofinancing, where CCAFS finances activities in other CRPs. This approach is particularly important in the case of technology testing, where technologies developed in other CRPs are tested in the field in CCAFS targeted regions. CCAFS would sub-contract a partner in one of the other relevant CRPs to do adaptive research on its technologies in the CCAFS targeted regions. In principle, co financing can be allocated to CRP1, CRP3, CRP5, CRP6 and CRP7. CCAFS will hold other CRPs accountable for any funds they receive from CCAFS through strong contractual arrangements. If the other CRP fails to deliver, which in turn results in failure of CCAFS to deliver on its performance contract, then CCAFS takes the final responsibility for non-performance. CCAFS will appraise and manage risks associated with all funds passed to CRPs and partners.
2. Regional Facilitator budgets have been broken down into "Themes" to ensure that regional activities are implemented in line with the agreed agenda for CCAFS, and thus are not shown separately but are budgeted under each Theme.
3. The total amount in this table differs from the totals in Tables 1 and 3, because it does not include the amount of Coordination, Synthesis, Capacity Building, Communication Costs and the CGIAR System Costs.

***Allocation to Regions***

The distribution of funds to regions is shown in Table 5. Each of the targeted regions is allocated 15-18% of the overall CCAFS budget. In addition the "global funds" (27%) are for products and activities that will be tested and used throughout all CCAFS sites and countries. Some work will be conducted outside the targeted regions (11%). This is either strategic work that is needed to tackle thematic priorities (e.g. mitigation activities will be conducted in Brazil because it is a key to the global mitigation agenda) or work that CCAFS is inheriting from on-going Centre work.

**Table 5. Regional allocation of funds in 2011 by Theme (US$ millions)**

| Theme | West Africa (WA) | East Africa (EA) | Indo-Gangetic Plains (IGP) | Global | Other Regions | Sub-total | CCAFS, Theme and Regional Coordin-ation | CGIAR System Costs (2%) | Total |
|---|---|---|---|---|---|---|---|---|---|
| Theme 1 Adaptation to Progressive Climate Change | 3.1 | 4.5 | 4.4 | 3.8 | 5.4 | **21.2** | | | **21.2** |
| Theme 2 Adaptation through Managing Climate Risk | 1.5 | 2.2 | 1.9 | 1.3 | 1.4 | **8.3** | | | **8.3** |
| Theme 3 Pro-poor climate change mitigation | 1.7 | 1.8 | 2.5 | 2.4 | 2.4 | **10.9** | | | **10.9** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Theme 4 Integration for decision making | 2.3 | 1.9 | 1.8 | 8.1 | 1.5 | **15.6** | | | **15.6** |
| CCAFS, Theme and Regional Coordination | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | **0.0** | 1.8 | | **1.8** |
| **TOTAL** | **8.6** | **10.4** | **10.5** | **15.7** | **10.8** | **56.0** | **1.8** | **0.0** | **57.8** |
| **Percentage** | **15%** | **18%** | **18%** | **27%** | **18%** | **96%** | **3%** | **1%** | **100%** |

Notes:

1. The total amount in this table differs from the totals in Tables 1, 3 and 4 because it does not include the amount of Coordination, Synthesis, Capacity Building, and Communication Costs.

***Theme-led, Region-led and Centre-led activities***

Funds have been allocated to Theme Leaders to conduct activities that cut across Centers/Partners and ensure delivery of integrated outputs. Similarly, funds have been allocated to Regional Facilitators to ensure integration of activities at site and region level, and ensure common needs are met (e.g. baseline surveys). The remaining funds are allocated to Centers to implement the agreed activities, these Centre-led activities being usually implemented by a single Center and its partners. The distribution of funds amongst these categories is shown in Tables 6. Theme 1 has a very large portion of Center-led activities. Much of the traditional CGIAR work has been classified under this Theme. Budgets for region-led activities are in some cases double those of Theme-led activities.

**Table 6. Theme-led, Region-led and Centre-led allocation of funds in 2011(US$ millions)**

| Detail | Center-led activities | Theme-led activities | Totals |
|---|---|---|---|
| Theme 1 | 18.93 | 1.3 | 20.3 |
| Theme 2 | 6.27 | 1.0 | 7.3 |
| Theme 3 | 8.60 | 1.5 | 10.1 |
| Theme 4 | 9.54 | 4.7 | 14.2 |
| **Themes Budget** | | | **51.9** |
| Region-led activities | | | |
| IGP | | 2.1 | 2.1 |
| WA | | 1.9 | 1.9 |
| EA | | 1.9 | 1.9 |
| **Regions Budget** | | | **5.9** |
| **Total** | | | **57.8** |

Notes:

1. The total amount in this table differs from the totals in Tables 1, 3 and 5, because it does not include the amount of Coordination, Synthesis, Capacity Building, Communication Costs and the CGIAR System Costs.

***Program coordination, Synthesis, Capacity enhancement and Communications***

Ten percent of the overall budget is allocated to this function (US$4.62 million) (Table 7)**.** This covers the work of the coordinating unit that includes management and governance meetings, cross-Theme and cross-regional integration workshops, administrative support, the CCAFS external communications work (especially that linking

into global processes such as UNFCCC), overseeing capacity enhancement activities throughout CCAFS[1] and synthesis activities. The budget is allocated to CIAT as the Lead Center, with CIAT making a sub-contract to the University of Copenhagen for a major portion of this coordinating and synthesis function. US$1.5 million has been allocated to this from funding brought forward from the Challenge Program.

**Table 7. Projected expenditure in 2011 (US$ millions) for Coordination, Synthesis, Capacity Enhancement and Communications broken down by cost category**

| Cost category | Description | 2011 Amount (US$) |
|---|---|---|
| 1 | Personnel costs | **0.48** |
| 2 | Travel | **0.02** |
| 3 | Operating expenses | **0.05** |
| 4 | Training/Workshop | **0.05** |
| 5 | Partners/Collaborator/Consultancy Contracts (pass through) | **2.05** |
| 6 | Capital and other equipment for project | **0.01** |
| 7 | Contingency | **0.05** |
| **Subtotal** | | **2.71** |
| 8 | Institutional Overhead (5% on total pass through funds received from CGIAR Fund passed through to other Centers/Partners + 20% on CIAT-administered portion of funds) | **1.91** |
| **Total cost** | | **4.62** |

Notes:

1. Personnel: CIAT will employ the Program Leader (to be based at the coordination unit in Copenhagen initially) and two support staff (administrator and events/outreach manager).
4. Training/Workshops: This budget item includes specific capacity enhancement initiatives that cut across all Themes/Regions. Most of the capacity enhancement budget is held within Theme budgets.
5. Partners/Collaborator/Consultancy contracts. This is the major contract to University of Copenhagen (KU) to run the coordinating unit, and a smaller contract ($200,000) to Oxford Univ. to synthesize scenario development (see Theme 4, Objective 1). KU will take no overhead. This portion of the budget will cover the costs of three staff members ($450,000) for contracts management, synthesis, capacity enhancement, communications). KU will have funds to develop partnerships for synthesis ($230,000); host major events (e.g. side events at SBSTA, Agriculture and Rural Development Day) (US$ 170,000); engage and work with capacity development partners (e.g. START) (US$150,000); facilitate the Independent Scientific Panel and Management Team meetings (US$210,000); Travel (US$110,000); Communications, websites and data management (US$320,000); support services and operating costs ($US$210,000). Operating costs includes hiring the services of consultants for specific administrative tasks, phones, special audits.
8. Of this amount, US$1.5 million has been secured from restricted sources.

[1] Most capacity enhancement activities are conducted within Themes, not at the coordinating unit level.