

## 2012 Technical Report per Activity

Each Program Participant must provide a small remark against each activity/deliverable to indicate the status of the activity (2-4 sentences required per activity) using the form below. Updated data from the current partners is also required.

### CCAFS Center Led Activities ILRI - International Livestock Research Institute

Activity No. 97															
<b>Activity title</b>	Modelling of household level adaptation strategies in agro-pastoral systems of East Africa (Genesis reversed)														
<b>CCAFS Objective</b> (select from drop list)	1.1 Adapted farming systems	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)	1.1.2 2013 (1)												
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	The objective of the study was as follows: to investigate areas in the mixed crop-livestock systems in a part of arid and semi-arid Africa where climate change may compel current sedentary farmers to abandon cropping and to turn to nomadic pastoralism as a livelihood strategy, and (as far as possible) to assess the social, economic and environmental impacts of such a transition at the household, community and national level. This is designed to be one input into a broader study that will identify policies and institutional measures that would support and guide the transition to nomadic pastoralism with minimal social, economic and political disruptions.													
<b>Activity status</b>	Completed														
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)	Three deliverables have been produced from this project. The first is a report submitted to the World Bank summarizing the entire project. The second is a journal article and the third is a presentation. This project approach will influence soem of the work in the household modelling using IMPACT Lite..														
<b>Deliverables status</b> (You may add any unexpected deliverable)	<b>Type</b>	<b>Description</b>	<b>Year</b>	<b>Status</b>	<b>Format</b>										
	Reports, publications	Report on adaptation strategies in vulnerable agro-pastoral households of East Africa	2012	Completed	Document (*.doc, *.odt, *.pdf)										
	Reports, publications	Journal article submitted to Global Environmental Change	2012	Completed	Document (*.doc, *.odt, *.pdf)										
<b>Current Partners</b>	<table border="1"> <thead> <tr> <th>Acronym</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>ILRI</td> <td>International Livestock Research Institute</td> </tr> <tr> <td>CG - CGIAR Center</td> <td></td> </tr> <tr> <td></td> <td>Contact Point Full Name</td> </tr> <tr> <td></td> <td>Contact Point Email</td> </tr> </tbody> </table>					Acronym	Name	ILRI	International Livestock Research Institute	CG - CGIAR Center			Contact Point Full Name		Contact Point Email
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CG - CGIAR Center															
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Activity No. 98																					
<b>Activity title</b>	Review of potential contribution of livestock breeding strategies to climate change mitigation and adaptation																				
<b>CCAFS Objective</b> (select from drop list)	1.2 Breeding strategies	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)	1.2.1 2015 (1)																		
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	to provide a synthesis of the role of livestock breeding as an adaptation strategy against the impacts of climate change																			
<b>Activity status</b>	Uncompleted																				
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)	The Principal Investigator did not deliver any work owing to lack of communication with the CRP 7 Focal point in 2012.																				
<b>Deliverables status</b> (You may add any unexpected deliverable)	<b>Type</b>	<b>Description</b>	<b>Year</b>	<b>Status</b>	<b>Format</b>																
	Reports, publications	Review paper on livestock breeding strategies for cliimte change adaptation	2012	Select a status	Select a format																
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Activity No. 99						
Activity title		Quantification of the costs of adaptation of livestock systems to climate change				
CCAFS Objective <i>(select from drop list)</i>		1.3 Policies and institutions for adaptation	CCAFS Milestone No. <i>(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)</i>	1.3.2 2014		
Activity objectives <i>(what the activity aims to achieve)</i>	Objective 1	To quantify the impacts of structural changes in livestock production systems on the costs of adaptation of the agricultural sector				
Activity status		Completed				
Insert a small remark to indicate the status of the activity. <i>(2-4 sentences required per activity)</i>		Paper with all results submitted to PNAS 31 January to comply with IPCC 5th Assessment Deadlines. Lotze-Campen, H., Weindl, I., Popp, A., Müller, C., Schmitz, C., Rolinski, S., Havlik, P., Herrero, M. 2012. Climate change impacts and the costs of adaptation in global livestock production systems. PNAS (submitted).				
Deliverables status <i>(You may add any unexpected deliverable)</i>		Type	Description	Year	Status	Format
		Reports, publications	Paper on adaptation of livestock systems to climate change (land use implications and costs)	2012	Completed	Document (*.doc, *.odt, *.pdf)
Current Partners		<div> <div>Acronym</div> <div>PIK</div> <div>Name</div> <div>Potsdam Institute for Climate Change Research</div> <div>Contact Point Full Name</div> <div>Hermann Lotze-Campen</div> <div>Contact Point Email</div> <div>lotze-campen@pik-potsdam.de</div> </div> <div> <div>Acronym</div> <div>IIASA</div> <div>Name</div> <div></div> <div>Contact Point Full Name</div> <div>Petr Havlik</div> <div>Contact Point Email</div> <div>havlik.petr@gmail.com</div> </div> <div> <div>Acronym</div> <div></div> <div>Name</div> <div></div> <div>Contact Point Full Name</div> <div></div> <div>Contact Point Email</div> <div></div> </div>				
		Select a partner.				

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### CCAFS Center Led Activities ILRI - International Livestock Research Institute

Activity No. 100																					
<b>Activity title</b>	Development and/or adaptation of suitable household models for studying risk management in farming systems																				
<b>CCAFS Objective</b> (select from drop list)	2.1 Identify and test innovations that enable rural communities to better manage climate-related risk and build more resilient livelihoods	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)	2.1.2 2012																		
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b> Improve the handling of climatic risk in household models of smallholder systems																				
<b>Activity status</b>	Completed																				
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)	A prototype model has been developed and it has been applied to the Borena benchmark site in Ethiopia. A technical report has been prepared and submitted directly to Theme 2 leader Jim Hansen. Note that Gender could be incorporated in future iterations as the baseline survey used to develop the model includes questions about gender, especially labour allocation. Title of report is "Demonstrating a generic framework and tools for modeling resilience of farm households to climate-related risk"																				
<b>Deliverables status</b> (You may add any unexpected deliverable)	<b>Type</b>	<b>Description</b>	<b>Year</b>	<b>Status</b>	<b>Format</b>																
	Model tools and software	Prototype household models incorporating risk management developed	2012	Completed	Other																
	Reports, publications	report	2012	Completed	Document (*.doc, *.odt, *.pdf)																
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Activity No. 101																								
Activity title		Implement IBLI pilot in Borana																						
CCAFS Objective <small>(select from drop list)</small>		2.1 Identify and test innovations that enable rural communities to better manage climate-related risk and build more resilient livelihoods	CCAFS Milestone No. <small>(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)</small>	2.1.3 2012 (1)																				
Activity objectives <small>(what the activity aims to achieve)</small>	Objective 1	establish an index-based insurance scheme against drought for pastoralists in Borana, Ethiopia																						
Activity status		Partially completed																						
Insert a small remark to indicate the status of the activity. <small>(2-4 sentences required per activity)</small>		Two of the three deliverables are completed. The contract has been designed and a first round of sales was completed, as described in the The Draft operations process manual will be finalized in May 2013. Also note that ILRI will continue this project under CRP 7 in 2013. A second sales window is currently active. Repeat surveys will be conducted in March/ April.																						
Deliverables status <small>(You may add any unexpected deliverable)</small>		<table><thead><tr><th>Type</th><th>Description</th><th>Year</th><th>Status</th><th>Format</th></tr></thead><tbody><tr><td>Capacity</td><td>IBLI contract designed</td><td>2012</td><td>Completed</td><td>Other</td></tr><tr><td>Other</td><td>IBLI product offered/sold through partners</td><td>2012</td><td>Completed</td><td>Other</td></tr><tr><td>Reports, publications</td><td>Draft operations process manual</td><td>2012</td><td>Partially completed</td><td>Document (*.doc, *.odt, *.pdf)</td></tr></tbody></table>			Type	Description	Year	Status	Format	Capacity	IBLI contract designed	2012	Completed	Other	Other	IBLI product offered/sold through partners	2012	Completed	Other	Reports, publications	Draft operations process manual	2012	Partially completed	Document (*.doc, *.odt, *.pdf)
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### CCAFS Center Led Activities ILRI - International Livestock Research Institute

Activity No. 102																	
<b>Activity title</b>		GHG inventory training courses for countries in the CCAFS regions															
<b>CCAFS Objective</b> (select from drop list)		3.1 Inform decision makers about the impacts of alternative agricultural development pathways	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)		3.1.2 2012												
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	A key goal of the workshop is to identify opportunities for future collaboration and coordinated capacity building activities in livestock mitigation research across African countries.															
<b>Activity status</b>		Completed															
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)		A workshop was organized by ILRI and the Greenhouse Gas Research Alliance in Nairobi 24 to 26 September 2012. Over 30 participants from more than 10 African countries participated (complete list in the workshop report). A report detailing the mitigation alternatives for the livestock sector and research needs for the region was produced. Report details: ILRI-GRA-CCAFS 2012. Measurement and mitigation of greenhouse gases in African livestock systems: building capacity to meet the challenge.															
<b>Deliverables status</b> (You may add any unexpected deliverable)		<table border="1"> <thead> <tr> <th>Type</th> <th>Description</th> <th>Year</th> <th>Status</th> <th>Format</th> </tr> </thead> <tbody> <tr> <td>Workshops</td> <td>Training workshops on GHG inventories held Nairobi; workplan developed.</td> <td>2012</td> <td>Completed</td> <td>Document (*.doc, *.odt, *.pdf)</td> </tr> </tbody> </table>				Type	Description	Year	Status	Format	Workshops	Training workshops on GHG inventories held Nairobi; workplan developed.	2012	Completed	Document (*.doc, *.odt, *.pdf)		
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Acronym	Name	Contact Point Full Name	Contact Point Email														
GO - Government office/department	Ministries of agriculture and environment	see details in workshop report															
ARI - Advanced Research Institution	New Zealand Greenhouse Gas Research Alliance	Harry Clark	harry.clark@agresearch.co.nz														

  

Activity No. 103																									
<b>Activity title</b>		Integrated assesment of scenarios of alternative global terrestrial mitigation practices																							
<b>CCAFS Objective</b> (select from drop list)		3.1 Inform decision makers about the impacts of alternative agricultural development pathways	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)		3.1.1 2012																				
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	to review the existing information on global terrestrial mitigation practices tested by the global integrated assessment teams for the IPCC AR5 report																							
<b>Activity status</b>		Completed																							
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)		Three journal articles have been written (see below). Contributions have also been directly made to Chapter 11 (Mitigation from the land use sector) of the IPCC 5th Assessment Report																							
<b>Deliverables status</b> (You may add any unexpected deliverable)		<table border="1"> <thead> <tr> <th>Type</th> <th>Description</th> <th>Year</th> <th>Status</th> <th>Format</th> </tr> </thead> <tbody> <tr> <td>Reports, publications</td> <td>"How Much land-based greenhouse gas mitigation can be achieved without compromising food security and environmental goals? (Global Change Biology)</td> <td>2012</td> <td>Completed</td> <td>Document (*.doc, *.odt, *.pdf)</td> </tr> <tr> <td>Reports, publications</td> <td>"Crop Productivity Growth: A way to reduce land use change and greenhouse gas emissions</td> <td>2012</td> <td>Completed</td> <td>Document (*.doc, *.odt, *.pdf)</td> </tr> <tr> <td>Reports, publications</td> <td>"The role of livestock systems transition in the future of food production and climate change</td> <td>2012</td> <td>Completed</td> <td>Document (*.doc, *.odt, *.pdf)</td> </tr> </tbody> </table>				Type	Description	Year	Status	Format	Reports, publications	"How Much land-based greenhouse gas mitigation can be achieved without compromising food security and environmental goals? (Global Change Biology)	2012	Completed	Document (*.doc, *.odt, *.pdf)	Reports, publications	"Crop Productivity Growth: A way to reduce land use change and greenhouse gas emissions	2012	Completed	Document (*.doc, *.odt, *.pdf)	Reports, publications	"The role of livestock systems transition in the future of food production and climate change	2012	Completed	Document (*.doc, *.odt, *.pdf)
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Reports, publications	"The role of livestock systems transition in the future of food production and climate change	2012	Completed	Document (*.doc, *.odt, *.pdf)																					

Activity No. 104															
<b>Activity title</b>		Review of PES for livestock													
<b>CCAFS Objective</b> <i>(select from drop list)</i>		3.2 Identify institutional arrangements and incentives that enable smallholder farmers and common-pool resource users to reduce GHGs and improve livelihoods		<b>CCAFS Milestone No.</b> <i>(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)</i>	3.2.1 2012 (2)										
<b>Activity objectives</b> <i>(what the activity aims to achieve)</i>	<b>Objective 1</b>	to review the potential for establishing payments for ecosystems services, including carbon sequestration, in livestock systems													
<b>Activity status</b>		Completed													
<b>Insert a small remark to indicate the status of the activity.</b> <i>(2-4 sentences required per activity)</i>		This report was completed in 2012 and is available as an ILRI working paper. We have also given a couple of conference presentations on the report.													
<b>Deliverables status</b> <i>(You may add any unexpected deliverable)</i>		<table border="1"> <thead> <tr> <th>Type</th> <th>Description</th> <th>Year</th> <th>Status</th> <th>Format</th> </tr> </thead> <tbody> <tr> <td>Reports, publications</td> <td>Review paper on the potential for payments for ecosystems services in livestock systems delivered</td> <td>2012</td> <td>Completed</td> <td>Document (*.doc, *.odt, *.pdf)</td> </tr> </tbody> </table>				Type	Description	Year	Status	Format	Reports, publications	Review paper on the potential for payments for ecosystems services in livestock systems delivered	2012	Completed	Document (*.doc, *.odt, *.pdf)
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AI - Academic Institution	McGill University	Philip Osano	philip.osano@mail.mcgill.ca												

  

Activity No. 105																																									
<b>Activity title</b>		Establishment of a protocol for measuring and monitoring GHG emissions in smallholder systems																																							
<b>CCAFS Objective</b> <i>(select from drop list)</i>		3.3 Test and identify desirable on-farm practices and their landscape-level implications		<b>CCAFS Milestone No.</b> <i>(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)</i>	3.3.3 2012																																				
<b>Activity objectives</b> <i>(what the activity aims to achieve)</i>	<b>Objective 1</b>	to develop a protocol for measuring GHG emissions in smallholder production systems																																							
<b>Activity status</b>		Completed																																							
<b>Insert a small remark to indicate the status of the activity.</b> <i>(2-4 sentences required per activity)</i>		The protocol has been successfully developed with partners. A journal article has also been submitted.																																							
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### CCAFS Center Led Activities ILRI - International Livestock Research Institute

Activity No. 106					
<b>Activity title</b>	Household-level data collection in CCAFS benchmark sites for studying adaptation and mitigation strategies. This include detailed descriptions of household assets, infra-structure, crop and livestock yields, labour profiles, input use, management practices and others to parameterise household models to study the impacts of adaptation/mitigation strategies on household well being and the trade-offs arising in the use of farm and other resources				
<b>CCAFS Objective</b> (select from drop list)	4.2 Assemble data and tools for analysis and planning	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)		4.2.1 2012 (3)	
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	To develop/modify a tool for characterising the dynamics of livelihood activities in diverse agricultural production systems for climate change studies			
	<b>Objective 2</b>	Develop databases of production systems and web-based metadatabases of the data collected to facilitate data exchange amongst scientists and interested parties			
	<b>Objective 3</b>	Collect household level information from at least 200 households from well targeted sites in the CCAFS regions for use in studies planned by the CCAFS themes			
<b>Activity status</b>	Completed				
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)	The survey has been implemented at 15 benchmark sites and the data are almost complete. The data are centrally stored at ILRI. A report and a training manual have been written.				
<b>Deliverables status</b> (You may add any unexpected deliverable)	<b>Type</b>	<b>Description</b>	<b>Year</b>	<b>Status</b>	<b>Format</b>
	Data	Databases containing household level data for climate change adaptation and mitigation studies	2012	Completed	Database (*.sql, *.mdb, etc)
	Model tools and software	IMPACTlite manual and tool	2012	Completed	Document (*.doc, *.odt, *.pdf)
	Capacity	data collection training manual	2012	Completed	Document (*.doc, *.odt, *.pdf)
<b>Current Partners</b>	<b>Acronym</b>		<b>Name</b>		
	CG - CGIAR Center	IWMI	International Water Management Institute		
			<b>Contact Point Full Name</b>	<b>Contact Point Email</b>	
		Sabine Douchamps	s.douchamps@cgiar.org		
	<b>Acronym</b>		<b>Name</b>		
	CG - CGIAR Center	ICRISAT	International Crops Research Institute for the Semi-Arid Tropics		
			<b>Contact Point Full Name</b>	<b>Contact Point Email</b>	
		Abdoulaye Moussa	a.moussa@cgiar.org		
	<b>Acronym</b>		<b>Name</b>		
	CG - CGIAR Center	ICRAF	World Agroforestry Centre		
			<b>Contact Point Full Name</b>	<b>Contact Point Email</b>	
		Joash Mango	j.mango@cgiar.org		
<b>Acronym</b>		<b>Name</b>			
NARES - National agricultural research and extension services	INRAN	Institut National de la Recherche Agronomique du Niger			
		<b>Contact Point Full Name</b>	<b>Contact Point Email</b>		
	Moussa Boureima				
<b>Acronym</b>		<b>Name</b>			
NARES - National agricultural research and extension services		Institute Senegalais de Recherches Agricoles			
		<b>Contact Point Full Name</b>	<b>Contact Point Email</b>		
	Jesse Naab				

Activity No. 107																													
<b>Activity title</b>		Refinement of global assessment tools for climate change studies. This activity aims to improve existing global assessment models like Globiom, IMPACT, LPJ and others to be able to provide better information on impacts on livelihoods, agriculture and natural resources under alternative climate change and socio-economic scenarios																											
<b>CCAFS Objective</b> (select from drop list)		4.2 Assemble data and tools for analysis and planning	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)		4.2.1 2012 (3)																								
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	to improve global integrated assessment models so that they can deal with more sophisticated questions in relation to the impacts of climate change on developing country agriculture, and to evaluate appropriate mitigation and adaptation responses																											
<b>Activity status</b>		Partially completed																											
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)		One reiew paper has been completed.																											
<b>Deliverables status</b> (You may add any unexpected deliverable)		<table border="1"> <thead> <tr> <th>Type</th> <th>Description</th> <th>Year</th> <th>Status</th> <th>Format</th> </tr> </thead> <tbody> <tr> <td>Model tools and software</td> <td>Refined models developed for scenario analysis</td> <td>2012</td> <td>Partially completed</td> <td>Select a format</td> </tr> <tr> <td>Reports, publications</td> <td>CCAFS working paper on "Climate Change and Land -based Activities: a Review of Economic Models"</td> <td>2012</td> <td>Completed</td> <td>Document (*.doc, *.odt, *.pdf)</td> </tr> </tbody> </table>				Type	Description	Year	Status	Format	Model tools and software	Refined models developed for scenario analysis	2012	Partially completed	Select a format	Reports, publications	CCAFS working paper on "Climate Change and Land -based Activities: a Review of Economic Models"	2012	Completed	Document (*.doc, *.odt, *.pdf)									
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Acronym	Name	Contact Point Full Name	Contact Point Email																										
CG - CGIAR Center	IFPRI	International Food Policy Research Institute																											

Activity No. 108																																									
<b>Activity title</b>		Development of improved agricultural systems classification for global and regional integrated assessment. This will include a better definition of the types of production systems in particular regions, improved spatial allocation of where different livestock species are located, improved definition of cropland areas and others. This is essential to improved regional integrated assessments and to assert the impacts of differnet adaption and mitigation strategies on particular regions																																							
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<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	to refine agricultural systems spatial classifications for climate change mitigation and adaptation studies																																							
<b>Activity status</b>		Completed																																							
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)		This work is part of an ongoing project under the EU Framework 7 "Animal Change" project. ILRI and partners are working together to produce a database of livestock production systems and their characteristics. A database has been established and initialized with the best available data. Refinements for Eurpo and S. Africa are ongoing... the final version will be delivered in February 2014 when the Animal Change project ends.																																							
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		Agnes van den Pol	agnes.vandenpol@wur.nl																																						



	Acronym		Name	
	JRC		Joint Research Centre	
	Other	Contact Point Full Name	Contact Point Email	
		Adrian Leip	adrian.leip@jrc.ec.europa.eu	
	Acronym		Name	
	AI - Academic Institution	Contact Point Full Name	Contact Point Email	
	A. Hassen	abubeker.hassen@up.ac.za		

### Activity No. 109

Activity title	Policy workshop and outreach East Africa. Scenario development W. Africa, including the modelling and quantification of the impacts of each scenario on selected livelihoods, food security and environmental variables for the regions under study. Assess vulnerability thresholds at lower levels of resolution																								
CCAFS Objective <i>(select from drop list)</i>	4.2 Assemble data and tools for analysis and planning	CCAFS Milestone No. <i>(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)</i>	4.2.1 2012 (5)																						
Activity objectives <i>(what the activity aims to achieve)</i>	Objective 1	To develop a set of regional socio-economic scenarios for each of the CCAFS regions for adding context to subsequent CCAFS activities																							
Activity status	Partially completed																								
Insert a small remark to indicate the status of the activity. <i>(2-4 sentences required per activity)</i>	East Africa policy workshop held and policy brief written. West Africa scenarios quantification process ongoing (second workshop was held). South Asia process also started. Instead of vulnerability threshold assessment we conducted a review of adaptation indicators across food system/ food security projects as this was seen as a more critical input for Theme 4.2 this year. One article on scenarios submitted to special issue of Global Env. Change.																								
Deliverables status <i>(You may add any unexpected deliverable)</i>	Type	Description	Year	Status	Format																				
	Reports, publications	Report of East Africa policy process and a policy brief	2012	Completed	Document (*.doc, *.odt, *.pdf)																				
	Reports, publications	one submitted journal article paper	2012	Completed	Document (*.doc, *.odt, *.pdf)																				
	Reports, publications	Report on East African scenarios quantification process	2012	Completed	Document (*.doc, *.odt, *.pdf)																				
	Reports, publications	Report on adaptation indicators with food security or food systems dimensions.	2012	Completed	Document (*.doc, *.odt, *.pdf)																				
Current Partners	<table> <tr> <td colspan="2">Acronym</td> <td colspan="3">Name</td> </tr> <tr> <td colspan="2"></td> <td colspan="3">University of Oxford</td> </tr> <tr> <td>AI - Academic Institution</td> <td>Contact Point Full Name</td> <td colspan="3">Contact Point Email</td> </tr> <tr> <td></td> <td>Angela Wilkinson</td> <td colspan="3">a.wilkinson@eci.ox.ac.uk</td> </tr> </table>					Acronym		Name					University of Oxford			AI - Academic Institution	Contact Point Full Name	Contact Point Email				Angela Wilkinson	a.wilkinson@eci.ox.ac.uk		
Acronym		Name																							
		University of Oxford																							
AI - Academic Institution	Contact Point Full Name	Contact Point Email																							
	Angela Wilkinson	a.wilkinson@eci.ox.ac.uk																							

### Activity No. 110

Activity title	A framework for upscaling climate change adaptation and mitigation options				
CCAFS Objective <i>(select from drop list)</i>	4.2 Assemble data and tools for analysis and planning	CCAFS Milestone No. <i>(select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)</i>	4.2.1 2012 (5)		
Activity objectives <i>(what the activity aims to achieve)</i>	Objective 1	to develop a framework for upscaling the impacts of local adaptation and mitigation options at the regional level			
Activity status	Completed				
Insert a small remark to indicate the status of the activity. <i>(2-4 sentences required per activity)</i>	A report has been prepared on the framework (Herrero, M. et al. 2012. A framework for targeting and scaling out interventions in livestock systems. ILRI, Nairobi Kenya)				
Deliverables status <i>(You may add any unexpected deliverable)</i>	Type	Description	Year	Status	Format
	Reports, publications	A report on the framework and its potential applications	2012	Completed	Document (*.doc, *.odt, *.pdf)

Activity No. 111						
<b>Activity title</b>		Development and/or refinement of household level models for climate change studies				
<b>CCAFS Objective</b> (select from drop list)		4.2 Assemble data and tools for analysis and planning	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)		4.2.1 2012 (5)	
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	to develop and /or adapt existing suites of household level models form climate change adaptation, risk management and mitigation studies				
<b>Activity status</b>		Partially completed				
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)		This activity involves several different outputs most of which will be completed in 2013. A workshop was held in 2012. Two review papers have been submitted.				
<b>Deliverables status</b> (You may add any unexpected deliverable)		<b>Type</b>	<b>Description</b>	<b>Year</b>	<b>Status</b>	<b>Format</b>
		Model tools and software	Suitable household models for testing adaptation and mitigation strategies developed, including models that can deal with cliamte variability and that can be applicable across a wide range of farming systems (from agro-pastoral to more intensive mixed crop-livestock systems	2013	Partially completed	Document (*.doc, *.odt, *.pdf)
		Reports, publications	report on improved models	2013	Select a status	Select a format
		Reports, publications	2 papers on the use of the new modeling tools	2013	Select a status	Select a format
		Workshops	Amsterdam workshop	2012	Completed	Document (*.doc, *.odt, *.pdf)
<b>Current Partners</b>		<b>Acronym</b>		<b>Name</b>		
		AI - Academic Institution		University of Hohenheim		
				<b>Contact Point Full Name</b>	<b>Contact Point Email</b>	
				Thomas Berger	thomas.berger@uni-hohenheim.de	
		<b>Acronym</b>		<b>Name</b>		
		ARI - Advanced Research Institution		Agricultural Production Systems Simulator		
				<b>Contact Point Full Name</b>	<b>Contact Point Email</b>	
				peter carberry	peter.carberry@csiro.edu	
		<b>Acronym</b>		<b>Name</b>		
ARI - Advanced Research Institution						
		<b>Contact Point Full Name</b>	<b>Contact Point Email</b>			

  

Activity No. 317						
<b>Activity title</b>		Dissemination of gender - climate change traing materials; gender methods training activities organized in 3 regions. ToR for gender technical advisory group developed and new cross-theme gender and pro-poor action research designed.				
<b>CCAFS Objective</b> (select from drop list)		4.1 Linking Knowledge with Action	<b>CCAFS Milestone No.</b> (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)		4.1.3	
<b>Activity objectives</b> (what the activity aims to achieve)	<b>Objective 1</b>	Dissemination of gender - climate change traing materials; gender methods training activities organized in 3 regions. ToR for gender technical advisory group developed and new cross-theme gender and pro-poor action research designed.				
<b>Activity status</b>		Partially completed				
<b>Insert a small remark to indicate the status of the activity.</b> (2-4 sentences required per activity)		This activity involves several different outputs most of which will be completed in 2013. A workshop was held in 2012. Two review papers have been submitted.				
<b>Deliverables status</b> (You may add any unexpected deliverable)		<b>Type</b>	<b>Description</b>	<b>Year</b>	<b>Status</b>	<b>Format</b>
		Workshop	Gender and climate smart agricultural systems in Sub-Saharan Africa: Current Status, Experience, Gaps and Future Directions	2012	completed	workshop report
		Data collection	Module added to ImpactLite	2012	completed	Select a format

Current Partners	Acronym	Name
	AI - Academic Institution	University of Hohenheim
	Contact Point Full Name	Contact Point Email
	Acronym	Name
	AI - Academic Institution	University of Tasmania
	Contact Point Full Name	Contact Point Email
	Acronym	Name
	ARI - Advanced Research Institution	Wageningen University and Research Centre
	Contact Point Full Name	Contact Point Email

Activity No. 335																					
Activity title	Follow up workshop on developing virtual crop varieties in the context of crop modelling software																				
CCAFS Objective (select from drop list)	4.3 Refine frameworks for policy analysis																				
CCAFS Milestone No. (select from drop list / for further details go to CCAFS 2012 - 2015 LOGFRAME sheet)																					
Activity objectives (what the activity aims to achieve)	<p>Coordinating activities among crop breeders, crop modelers, and other scientists in developing virtual crop models of 1.maize and wheat for identified potential technologies for CIMMYT, 2. rice for identified potential technologies for IIRRI (inclusion of Oryza rice modeling software in DSSAT system). 3. groundnut and sorghum for identified potential technologies for ICRISAT for the selected sites in WCA, ESA and Asia, 4. crop residues from rice, maize, and wheat (completion of process of development of a standard system for incorporating outputs of the Ruminant software into the IMPACT modeling system), 5. cassava and beans for identified potential technologies for CIAT</p>																				
Objective 1																					
Objective 2	Representation in meetings																				
Objective 3	Preparation of working paper on simulation analyses of virtual crop models in the areas of specialization																				
Activity status	Partially Completed																				
Insert a small remark to indicate the status of the activity. (2-4 sentences required per activity)	Following a number of workshops and modeling meetings, a process for incorporating the outputs of the Ruminant software into the IMPACT modeling system has been completed. A draft working paper has also been completed on promising technologies for livestock and the incorporation of these virtual systems in simulation analyses. The livestock modeling system is currently being tested within the larger modeling environment after which the final report on the simulation analysis will be completed.																				
Deliverables status (You may add any unexpected deliverable)	<table> <tr> <th>Type</th> <th>Description</th> <th>Year</th> <th>Status</th> <th>Format</th> </tr> <tr> <td>Model tools and software</td> <td>Ruminant outputs linked to IMPACT model</td> <td>2012</td> <td>Completed</td> <td>Other</td> </tr> <tr> <td>Workshops</td> <td>IMPACT modeling meetings and workshops</td> <td>2012</td> <td>Completed</td> <td>Other</td> </tr> <tr> <td>Reports, publications</td> <td>Report on promising technologies for livestock and their assessment using simulation analysis</td> <td>2012</td> <td>Partially Completed</td> <td>Document (*.doc, *.odt, *.pdf)</td> </tr> </table>	Type	Description	Year	Status	Format	Model tools and software	Ruminant outputs linked to IMPACT model	2012	Completed	Other	Workshops	IMPACT modeling meetings and workshops	2012	Completed	Other	Reports, publications	Report on promising technologies for livestock and their assessment using simulation analysis	2012	Partially Completed	Document (*.doc, *.odt, *.pdf)
Type	Description	Year	Status	Format																	
Model tools and software	Ruminant outputs linked to IMPACT model	2012	Completed	Other																	
Workshops	IMPACT modeling meetings and workshops	2012	Completed	Other																	
Reports, publications	Report on promising technologies for livestock and their assessment using simulation analysis	2012	Partially Completed	Document (*.doc, *.odt, *.pdf)																	
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CG - CGIAR Center																					
Contact Point Full Name	Contact Point Email																				
Siwa Msangi	s.msangi@cgiar.org																				

## 2012 summary report of activities and deliverables by Output level

Each Program Participant must prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives. Length is dependent on budget size so please refer to the table on the explanatory notes.

### CCAFS Center Led Activities ILRI - International Livestock Research Institute

Theme 1. Adaptation to Progressive Climate Change	
<b>Objective 1.1</b> Analyze and design processes to support adaptation of farming systems in the face of future uncertainties of climate in space and time	
<b>Outcome 1.1:</b> 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	
<b>Output 1.1.2</b> Building of regional and national capacities to produce and communicate socially inclusive adaptation and mitigation strategies for progressive climate change at the national level (e.g. through NAPAs)	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	The ILRI led study on "Reverse Genesis" contributes to the identification of promising adaptation and mitigation strategies for pastoralist and agro-pastoralist households in "hotspots" of climate change.
<b>Objective 1.2</b> Develop breeding strategies for addressing abiotic and biotic stresses induced by future climatic conditions, variability and extremes, including novel climates	
<b>Outcome 1.2:</b> 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	
<b>Output 1.2.1</b> 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 modeling, expert consultation and stakeholder dialogue	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	n/a there is no deliverable in 2012.
<b>Objective 1.3</b> Integrate adaptation strategies for agricultural and food systems into policy and institutional frameworks	
<b>Outcome 1.3:</b> Improved adaptation policies from local to international level supporting farming communities, rural institutions and food system actors adapted to future climate conditions in at least 20 countries.	
<b>Output 1.3.2</b> Public and private sector policies and strategies at the national level to enable farming communities and the food system to adapt to predicted future conditions	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	ILRI and partners conducted modeling simulations. Their output contributes an estimate of the costs of adaptation due to crop productivity increase and land expansion in Africa and Asia.
Theme 2. Adaptation through Managing Climate Risk	
<b>Objective 2.1</b> Identify and test innovations that enable rural communities to better manage climate-related risk and build more resilient livelihoods	
<b>Outcome 2.1:</b> Systematic technical and policy support by development agencies for farm- to community-level agricultural risk management strategies and actions that buffer against climate shocks and enhance livelihood resilience in at least 20 countries	
<b>Output 2.1.2</b> Analytical framework and tools to target and evaluate risk management innovations for resilient rural livelihoods and improved food security	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	A prototype tool for modelling the resilience of households to climate-related risk was developed and tested in the Borena benchmark site. Data collection allowed for parameterization of the model to capture household dynamics and institutional arrangements.
<b>Output 2.1.3</b> Development; and demonstration of the feasibility, acceptability and impacts; of innovative risk management strategies and actions for socially-differentiated rural communities	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	A new contract for Index-Based Livestock Insurance was developed for southern Ethiopia, and a first sales period was initiated.
Theme 3. Pro-Poor Climate Change Mitigation	
<b>Objective 3.1</b> Inform decision makers about the impacts of alternative agricultural development pathways	
<b>Outcome 3.1:</b> Enhanced knowledge and tools 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	
<b>Output 3.1.1</b> Analysis of agricultural development pathways and trade-offs	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	
<b>Output 3.1.2</b> Enhanced tools, data and analytic capacity in regional and national policy and research organizations to analyze mitigation sectors and agricultural development options	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	
<b>Objective 3.3</b> Test and identify desirable on-farm practices and their landscape-level implications	
<b>Outcome 3.3:</b> 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	
<b>Output 3.3.3</b> Enhanced capacity for the use and development of monitoring and accounting methods and assessing feasibility and impacts in regional and national research institutions	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	Together with colleagues from ICRAF, IRRI, CIFOR and several universities, ILRI is collaborating in the establishment of the SAMPLES project, to develop a low-cost protocol to quantify greenhouse gas emissions and identify mitigation options for small holder farmers. In 2012 this work entailed a rethinking of the criteria and methods suitable for such systems, which include forestry, agroforestry, crops and livestock. A journal manuscript has also been submitted to Environmental Research Letters.

Theme 4. Integration for Decision Making	
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	
Regional site and baseline characterization	
Prepare a succinct summary of activities and deliverables, organised by Output level of the CCAFS objectives	Data characterizing 3000 households and their farming activities were collected across 15 CCAFS benchmark sites in West Africa, East Africa and South Asia. The data are stored in a centralized database at IRLI. Plans for cross-center and cross-site analysis are well under-way. Local partners were trained in the survey instrument. In East Africa a policy outreach workshop was held to discuss adaptation strategies to enhance food security, livelihoods and the environment using the four scenarios developed by CCAFS. SCenarios development is proceeding in West AFrica and South Asia.

## List of publications that acknowledge CCAFS support

(a) Each Program Participant must list all publications that acknowledge CCAFS support. Only include publications that came out in final version in the calendar year. Please do not include journal papers under review (submitted etc) or out in electronic format ahead of print, except of course for electronic-only journals.

(b) Please try to format references in the Harvard style. A clear guide can be found here:

<http://libweb.anglia.ac.uk/referencing/harvard.htm>

(c) For journal articles, please indicate all of the references that are "green open access" with a single asterisk and those that are "gold open access" with a double asterisk. This is now a requirement from CGIAR donors. Green open access means that the authors have made a free copy available on a website. Gold open access means that the journal allows free download (either as standard practice or because the authors paid for it).

(d) For all publications that are up online, please provide a web link if possible. This will help us to advertise your work more widely.

### CCAFS Center Led Activities

#### ILRI - International Livestock Research Institute

Publication 1	<b>Type</b>	<b>Citation identifier</b>
	Working papers	ISBN 92-9146-283-7
	<b>Citation</b> Silvestri, S., P. Osano, J. de Leeuw, M. Herrero, P. Ericksen, J. Kariuki, J. Njuki, C. Bedlian and A. Notenbaert. 2012. Assessing the potential of payments for environmental services in livestock inclusive agricultural production systems in developing countries. ILRI, Nairobi, Kenya.	
Publication 2	<b>Type</b>	<b>Citation identifier</b>
	Conference proceedings	
	<b>Citation</b> Rufino, M.C., P.K. Thornton, S.K. Ng'ang'a, I. Mutie, P. Jones, M.T. van Wijk and M. Herrero. 2012. Transitions in agro-pastoralist systems of East Africa: impacts on food security and poverty. Tropentag, 19-21 September 2012, Gottingen, Germany. Book of Abstracts.	
Publication 3	<b>Type</b>	<b>Citation identifier</b>
	Working papers	
	<b>Citation</b> van Wijk, M.T., M.C. Rufino, D. Enahoro, D. Parsons, S. Silvestri, R.O. Valdivia, M. Herrero. 2012. A review of farm household modelling with a focus on climate change adaptation and mitigation. Working Paper No. xx, CCAFS, Copenhagen, Denmark.	

Publication 4	<b>Type</b>	<b>Citation identifier</b>
	Journal papers	DOI 10.1007/s10584/s10584-012-0640-0
	<b>Citation</b> Bryan E., Ringler, C., Okoba, B., Koo, J., Herrero, M., Silvestri, S. 2012. Can agriculture support climate change adaptation, greenhouse gas mitigation and rural livelihoods? Insights from Kenya. Climatic Change DOI 10.1007/s10584-012-0640-0	
Publication 5	<b>Type</b>	<b>Citation identifier</b>
	Journal papers	
	<b>Citation</b> Silvestri, S., Bryan, E., Ringer, C., Herrero, M., Okoba, B. 2012. Climate change perception and adaptation of agro-pastoral communities in Kenya. Regional Environmental Change: 12(4): 791-802	
Publication 6	<b>Type</b>	<b>Citation identifier</b>
	Journal papers	DOI 1.1007/s10113-012-0368-4
	<b>Citation</b> Notenbaert, A., Karanja, S., Herrero, M., Maute, F., Moyo, S. 2012. Derivation of a household -level vulnerability index for climate change and adaptation. Regional Environmental Change, 10.1007/s10113-012-0368.	
Publication 7	<b>Type</b>	<b>Citation identifier</b>
	Working papers	
	<b>Citation</b> Ng'anga, S.K., Maute, F., Notenbaert, A., Herrero, M., Moyo, S. 2012. Coping strategies and vulnerability to climate change of households in Mozambique. CCAFS Working Paper No. 28.. Copenhagen, Denmark.	
Publication 8	<b>Type</b>	<b>Citation identifier</b>
	Journal papers	
	<b>Citation</b> Smith, P., C.A. Davies, C.A., Ogle, S., Zanchi, G., Bellarby, J., Bird, N., Boddey, R.M., McNamara, N.P., Powlson, D., Cowie, A., van Noordwijk, M., Davis, S.C., Richter, D.D., Kryazowski, L., van Wijk, M., Stuart, J., Kirton, A., Eggar, D., Newton-Cross, G., Adhya, T.K., Braimoh, A.K. 2012 Towards an integrated global framework to assess the impacts of land use and management change on soil carbon: current capability and future vision. Global Change	
Publication 9	<b>Type</b>	<b>Citation identifier</b>
	Working papers	
	<b>Citation</b> van Wijk, M.T., Rufino, M.C., Enahoro, D., Parsons, D., Silvestri, S., Valdivia, R.O., Herrero, M., 2012. A review of farm-household modelling with a focus on climate change adaptation and mitigation. CCAFS working document.	

## 2012 Case studies

Number of case studies to be submitted is dependent on budget size so please refer to the table on the explanatory notes. Each case study should be about half a page, and Program Participants are expected to build a portfolio of case studies over the years that demonstrate all different types.

### CCAFS Center Led Activities ILRI - International Livestock Research Institute

#### CASE STUDY 1

<b>Title</b>		<b>Author</b>	
Household data collection across CCAFS benchmark sites		Polly Ericksen, Mariana Rufino	
<b>Type</b>	<b>Date (DD/MM/YYYY)</b>	<b>Countries</b>	
Inter-center collaboration	31/1/2013	all CCAFS benchmark sites	
<b>Keywords</b>		<b>Photo URL</b>	
household surveys, characterization			
<b>Introduction/Objectives (400 characters)</b>			
The objective of the cross-benchmark site data collection is to compile a detailed, standardized farm level characterization of representative households in each of the CCAFS benchmark sites. This data can be used to analyze baseline trends, analyze ex-ante impact assessment of shocks, and model the potential of farm-level adaptation and mitigation strategies.			
<b>Description of the project, procedures etc. (1100 characters)</b>			
A standardized detailed survey instrument (Impactlite) was used with 200 households at each of the 15 benchmark sites. Households were filtered by farming system and randomly sampled within this. The data collected include detailed information about household size, production systems and activities, land and labour allocation, income from different sources, and household consumption of food. Cross-centre collaboration with ICRAF resulted in additional information about agroforestry being included. Discussions with IFPRI will result in the addition of a gender module in 2013. At each site data were collected and recorded using the same protocols. A database of all 3000 households is being finalized at ILRI and will be uploaded to Dataverse. ILRI has developed a database platform that enables multiple CCAFS scientists to access the data for analysis. Plans for data analysis and paper writing are being developed through team meetings that include multiple CG centres. The multi-center and partner team also plans to share analytical scripts so that findings can be compared across sites. This shared analysis is also a concrete way to enhance cross-site and cross-team learning about data analysis and household modelling.			
<b>Project results (be concrete as possible), innovate findings, novel outcomes and short discussion on the implication of these results (1100 characters)</b>			
The first novel result is the compilation of a representative and cross-CCAFS site database of 3000 households, which multiple scientists can have access to. This sort of data is extremely hard to come by. The second important result is the tremendous potential for analysis using this data. In terms of characterization, this data will be used to compare the sites in terms of agreed indicators, including biophysical (rainfall, LGP), production systems (livestock, mixed crop-livestock, commercial crops, etc.), social (household size, household income, gender household head, poverty status). This will be the starting point for analysing the tradeoffs that households will have to consider when adopting either adaptation strategies or implementing mitigation strategies, across all of the agricultural systems and household types that the CGIAR addresses. The true potential of the data will be realized with household modelling to do ex-ante impact assessments of the potential for households to adopt adaptation and mitigation interventions or strategies, and the consequences of such adoption for food security, nutrition and health, poverty alleviation, and environmental outcomes. The household models can be contextualized at the regional scale by using the CCAFS Regional Scenarios as "boundary conditions" for four different plausible futures, within which adaptive capacity is quite different. Hence the adaptation and mitigation "pathways" that households can plausibly follow are different in each. This combined approach will enable the testing of "robust" adaptation and mitigation strategies. The shared learning taking place throughout the project, from data collection to analysis and paper writing, is also a novel approach to capacity development across CG centres and with non-CG partners. It will engender a strong team with excellent analytical skills.			
<b>Partners involved and their role (250 characters)</b>			
ILRI scientists led the training with participation from the CCAFS regional teams (W. Africa, E. Africa and S. Asia) as well as one or more partner CG centres. ICRAF assisted in East Africa and West Africa. ICRISAT assisted in West Africa. IITA assisted in East Africa. IWMI assisted in West Africa and South Asia. CCAFS regional teams also facilitated the identification of local partners to implement the surveys. The inter-centre writing and analysis team is composed of all those centres.			
<b>Links/Sources for further information</b>			
Rufino, M.C., et al. 2012. Developing generic tools for characterizing agricultural systems for climate and global change studies. CCAFS Report. Rufino, M.C. et al. 2012. In			



## CASE STUDY 2

<b>Title</b>	Building African capacity to measure and mitigate greenhouse gases in livestock systems		<b>Author</b>	Polly Ericksen, Silvia Silvestri, Mariana Rufino, Klaus Butterbach-bol	
<b>Type</b>	Capacity enhancement	<b>Date (DD/MM/YYYY)</b>	1/30/2012	<b>Countries</b>	Burkina Faso, Ethiopia, Ghana, Kenya, Mali, Niger, Senegal, South Africa, Tanzania, Uganda
<b>Keywords</b>	GHG emissions, GHG measurement, mitigation, livestock systems		<b>Photo URL</b>		
<b>Introduction/Objectives (400 characters)</b>					
ILRI has committed to the goal of establishing a pan-African network of excellence designed to identify climate change mitigation options for livestock systems and to improve GHG inventories in Africa. This will allow developing countries to contribute on equal terms to climate negotiations. This includes establishing state-of-the-art analytical facilities to estimate GHG emissions as well as building regional capacity to generate knowledge and translate it into policy and practice. The information produced will be used to design region- and system-specific management options both to mitigate livestock-related GHG emissions and to improve livestock-based livelihoods.					
<b>Description of the project,, procedures etc. (1100 characters)</b>					
A training workshop was held in September 2012 with several goals. Overall, the workshop aimed to improve understanding of livestock systems in Africa, their greenhouse gas emissions and the special characteristics of African livestock systems. It showcased existing research programmes and documented critical data, knowledge and capability gaps in order to identify activities that will enhance the region's ability to measure, monitor and develop options to mitigate greenhouse gas emissions intensity from livestock systems while also improving the livelihoods of smallholder farmers. An additional goal of the workshops was to identify opportunities for future collaboration and coordinate capacity building activities in livestock mitigation research across African countries. At the workshop, African participants were trained by leading international scientists in the IPCC greenhouse gas inventory methodology; the current state of the African inventory including available sources of data; emission factors and measurement techniques; and mitigation pathways and opportunities. The participating countries also shared their own knowledge and inventories, and discussed challenges they face in improving measurement and estimation of measurements. The workshop concluded with the development of a specific workplan to improve collaboration, training, inventory development and mitigation actions.					
<b>Project results (be concrete as possible), innovate findings, novel outcomes and short discussion on the implication of these results (1100 characters)</b>					
Improving the environmental performance of livestock systems in developing countries, where demand for livestock products is growing rapidly, is a critical input to stabilizing global warming. But Africa lags behind in the detailed knowledge and data necessary to develop GHG mitigation strategies that will a) be accepted by international protocols b) be implemented by farmers. Without this knowledge, the livestock sector in Africa is unlikely to benefit from Clean Development Mechanism projects or other emerging carbon markets. The project that ILRI plans will deliver a network of centres measuring GHG emissions across Africa and trained regional capacity for measuring GHGs, developing national inventories and identifying mitigation options. The collaboration with the Global Research Alliance on Agricultural Emissions initiated in this case study is a first step towards these longer term goals. The training initiative identified key capacity and data needs for West and East Africa, in consultation with some of the leading scientists in the world on greenhouse gas emissions in livestock systems. It also established a preliminary network of experts for the next step of establishing a pan-African network.					
<b>Partners involved and their role (250 characters)</b>					
Global Alliance Livestock Research Group and ILRI, along with Theme 3 of CCAFS conducted a training for 20 participants from government, research institutes and universities in the 10 African countries listed above.					
<b>Links/Sources for further information</b>					
Silvestri, S. and D. Knox. Measurement and mitigation of greenhouse gases in African livestock systems: building capacity to meet the challenge. Workplan and Workshop					

## CASE STUDY 3

<b>Title</b>	Index Based Livestock Insurance (IBLI)		<b>Author</b>	Polly Ericksen and Andrew Mude	
<b>Type</b>	Innovative non-research partnership	<b>Date (DD/MM/YYYY)</b>	1/2/2013	<b>Countries</b>	Ethiopia (and Kenya)
<b>Keywords</b>	adaptation interventions, climate insurance		<b>Photo URL</b>		
<b>Introduction/Objectives (400 characters)</b>					
In 2012, building upon the three plus years of work with IBLI in Kenya, the ILRI-Cornell team were ready to launch IBLI in the Borena region of Ethiopia. To prepare, the IBLI team undertook a number of preparatory activities, and also identified Oromia Insurance Company as an appropriate partner for commercial sales of IBLI.					
<b>Description of the project,, procedures etc. (1100 characters)</b>					
IBLI (or Index-based livestock insurance) is an innovative product aimed at providing an explicit climate risk management tool for a marginalized group, pastoralists, who are highly adaptive to climate risk but also highly vulnerable to the changes in precipitation patterns induced by climate change. To modify the IBLI product, which had been developed in Kenya, for use in Ethiopia, a number of tasks were necessary. These included designing a suitable contract, based upon the specific characteristics of the pastoral production and livelihood system in Borena and the availability of data. Secondly awareness of what IBLI is and has to offer pastoralists had to be built, so that the first sales season would be a success. Third, a manual to build partners' capacity in Borena had to be written. In addition, IBLI is monitoring herd migration using GPS collars on 30 herds.					
<b>Project results (be concrete as possible), innovate findings, novel outcomes and short discussion on the implication of these results (1100 characters)</b>					
In 2012, IBLI was able to design a NDVI-based contract that could be sold. This is a major result as the design of such contracts requires considerable analysis of economic and biophysical data. Second, identifying a commercial partner and building a relationship with them is another milestone, as IBLI's experience in Kenya illustrates. Commercial partners need a lot of training in the IBLI product, and pastoral communities need a lot of explanations of what livestock insurance is and can do for them. There are no novel results yet for IBLI Borena, but the launching of the product is a considerable achievement.					
<b>Partners involved and their role (250 characters)</b>					
Oromia Insurance Company is the commercial partner for selling the IBLI product. Professor Chris Barrett from Cornell University serves as the Principal Investigator on the project, providing technical leadership. The Oromia Pastoral Area Development Commission is key to assisting in the awareness raising and sales process.					
<b>Links/Sources for further information</b>					
livestockinsurance.wordpress.com					

## 2012 Outcome report

Frequency of reporting outcomes is dependent on budget size so please refer to the table on the explanatory notes. (max 1 page)

### CCAFS Center Led Activities ILRI - International Livestock Research Institute

#### OUTCOME 1

**What is the outcome of the research (use of research results by non-research partners)?**

ILRI's work on revised mitigation protocols for the livestock sector has been included in the IPCC Fifth Assessment Report Chapter 11 on Mitigation from

**What outputs produced in the three preceding years resulted in that outcome?**

ILRI's modelling work on land use change, livestock systems and greenhouse gas emissions enabled papers produced in 2011 (Herrero et al 2011, Global Livestock: biomass use, products, emissions and excretions. PNAS; Bouwma.A.F. et al, 2011. Havlik, P, et al 2011. The role of livestock systems transition in the future of food production and climate change mitigation PNAS; Exploring global changes in nitrogen and phosphorus cycles in agriculture induced by livestock production. PNAS doi/10.1073/pnas.1012878108) and 2012 (Smith, P. et al. 2013. How much land based greenhouse

**Which partners helped in producing the outcome?**

Partners at IIASA (International Institute for Applied Systems Analysis).

**Who used the output?**

The Inter-governmental Panel on Climate Change (IPCC).

**How was the output used?**

It was included in the Fifth Assessment Report to make recommendations about mitigation options in livestock systems.

**What is the evidence for this outcome: Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it? Please provide a reference or source.**

No study. The evidence is in the authorship and content of the IPCC Fifth Assessment Report.

## OUTCOME 2

What is the outcome of the research (use of research results by non-research partners)?

The East African Scenarios were used with civil society partners to develop "Strategic Futures" for enhancing food security and livelihoods under climate

What outputs produced in the three preceding years resulted in that outcome?

The regional scenarios workshops in East Africa that ILRI supported with CCAFS. The modelling and data collection to quantify the scenarios done using

What partners helped in producing the outcome?

ILRI, IFPRI, ASARECA, Kenya Agricultural Research Institute, Society for International Development for Eastern Africa, Ethiopian Institute for Agricultural Research, Tanzanian Min of Agriculture, Food Security and Cooperatives, IGAD Climate Predictions Centre (ICPAC) and others listed in the CCAFS East African Scenarios Report.

Who used the output?

A group of non-state actors and policy advisors convened by the East African Community and SID-East Africa, along with CCAFS, at a "Strategic Futures"

How was the output used?

The output was used to develop robust adaptation strategies and interventions to ensure food security, livelihoods and environmental goals under climate change across the East African Community. The next step will be more policy outreach to a) support the East Africa Farmers Federation to be a stronger voice in policy negotiations; b) establish a strategic futures unit for the EAC; c) build more awareness about priority actions for climate change adaptation.

What is the evidence for this outcome: Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it? Please provide a reference or source.

CCAFS East Africa Scenarios Working Report (in prep); CCAFS East Africa Strategic Futures Workshop for Non-State Actors (see CCAFS website) workshop

## Gender and Social Differentiation related activities summary report - 2012

CRPs that have presented their Gender Strategy to the Consortium in 2012 should show progress in 2013 in relation to implementing the Strategy. Therefore it is expected from Program Participants that findings of gender and social differentiation activities and their significance to be referred in this summary report. It is essential to relate progress towards outcomes to the baseline gender-differentiated conditions being used to measure change. This report should also refer specifically to what is being learnt about gender and how this knowledge is being used to inform research priority-setting and approach. If none or few of your activities integrate gender please explain why it is not relevant to your research portfolio.

2

### CCAFS Center Led Activities ILRI - International Livestock Research Institute

ILRI's activities in 2012 contributed to three gender and social differentiation results. The first comes under all of the household data collection and analysis conducted for Themes 1 and 4. In both of these efforts, all data are gender disaggregated so that any resultant analyses will differentiate between men's choices and women's choices, the impact of adopting new strategies or interventions on men's and women's labour allocations and income earnings separately, and also the consequences for food security and nutrition. In subsequent years the fruits of this investment in gender disaggregated data will pay off as the analyses and modelling is done. Second, gender and social differentiation emerged as key influences on adaptive capacity in the regional scenarios exercises that ILRI supports. A challenge to date has been the limited ability of the global models to capture differentiation in terms of income or gender. Hence the scenarios discuss income, gender and age differences largely in qualitative terms. Third, ILRI hosted a workshop at the request of ACIAR on the topic of "Gender and Climate Smart Agricultural Systems in Sub-Saharan Africa: Current Status, Experience, Gaps and Future Directions." The meeting brought together experts from across Africa to share experiences and discuss specific strategies for integrating gender into crop-livestock and climate change research.