

**LATIN AMERICAN AND THE CARIBBEAN
PLATFORM FOR SUSTAINABLE
INTENSIFICATION OF LIVESTOCK
PRODUCTION:
A REGIONAL STRATEGY FOR ADAPTATION AND
MITIGATION OF CLIMATE CHANGE**

Business Plan

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ACRONYMS

CCAC	Climate Clean Air Coalition
CIAT	International Center for Tropical Agriculture
CSL	Climate Smart Livestock
CTCN	Climate Technology Centre and Network
EST	Environmentally Sound Technologies
FAO	Food and Agriculture Organization
FONTAGRO	Regional Fund for Agricultural Technology
GCIAR	Consultative Group on International Agricultural Research
GHG	Greenhouse Gases
IDB	Inter-American Development Bank
IICA	Inter-American Institute for Cooperation on Agriculture
LAC	Latin America and the Caribbean
LEARN	Livestock Emissions Abatement Research Network
PROCISUR	Programa Cooperativo para el Desarrollo Tecnológico Agroalimentario y Agroindustrial del Cono Sur
TAS	Technical Administrative Secretariat

I. BACKGROUND

- 1.1 The total demand for animal source foods (ASF) at global level will increase by 70% between 2000 and 2050 due to population growth and increases in per capita consumption. Latin America and the Caribbean (LAC) are key for responding to the future demands due to its richness of natural resources, land availability, strong institutional frameworks and potential for developing and implementing innovations in the livestock sector.
- 1.2 However, the challenge for the region is to respond to such an increase in demand by improving livestock productivity through the rehabilitation of degraded lands and the sustainable intensification of production systems in areas with adequate conditions for livestock production. This will require the implementation of practices to overcome the constraints imposed by climate change (CC), such as: increase in temperature, shortening of the growing period, and increase in the frequency of extreme climate events (i.e., droughts, flooding), while conserving the natural resources and minimizing negative externalities such as greenhouse gases (GHG) emissions.
- 1.3 At global level, livestock production is being questioned by several actors for its contribution to global warming (about 15%). Therefore, there is an urgent need to assess and promote livestock production strategies with low GHG total and per unit emissions, while increasing productivity and contributing to the adaptation and mitigation to climate change.
- 1.4 In LAC, Argentina, Brazil, Chile, Costa Rica, Colombia, Paraguay and Uruguay, are among the leaders in creating and promoting the legal and institutional policy frameworks and other interventions for enabling the development of sustainable, competitive and low GHG emission production in the livestock sector.
- 1.5 Several institutions in LAC have made substantial progress in developing innovations for sustainable intensification of livestock production. For example, CATIE has been the pioneer and leader in the generation of silvopastoral technologies (SSP), as well as in measuring and valuing ecosystem services in livestock systems and emissions from these systems. CIAT is leading the evaluation and promotion of forage technologies for improving animal productivity and reducing GHG emissions in the tropics. Other institutions such as INIFAP and ECOSUR in Mexico and CIPAV in Colombia are working on developing integrated animal production systems for the tropics, whereas INTA in Argentina and the INIAs in Uruguay and Chile have developed technologies for increasing productivity, reducing greenhouse gases emissions (GHG), and adapting methodologies for measuring GHG emissions in the temperate areas of Latin America. Also, the UADY in Mexico has developed expertise in measuring GHG emissions in tropical livestock systems. On the other hand, EMBRAPA in Brazil and CORPOICA in Colombia have developed and tested animal genotypes that are more productive and tolerant to the prevailing heat stress in the tropics, a key intervention for climate change adaptation.
- 1.6 At the global scale, the Global Research Alliance on Agricultural Greenhouse Gases (GRA) was initiated to provide a framework for voluntary action to increase cooperation and investment in research, development and extension of technologies and practices that will help deliver ways to produce more food in more climate-resilient food systems, without increasing greenhouse gas emissions. The GRA seeks to increase international cooperation, collaboration and investment in both public and private research activities to:
 - improve knowledge sharing, access to and application by farmers of mitigation and carbon sequestration practices and technologies, which can also enhance productivity and resilience;
 - promote synergies between adaptation and mitigation efforts;
 - develop the science and technology needed to improve the measurement and estimation of greenhouse gas emissions and carbon sequestration in different agricultural systems;

- develop consistent methodological approaches for the measurement and estimation of greenhouse gas emissions and carbon sequestration to improve research coherence and the domestic monitoring of mitigation efforts, considering the differences between agricultural systems in Members' specific environmental, social and economic contexts;
 - facilitate the exchange of information;
 - help scientists gain expertise in mitigation knowledge and technologies, through developing new partnerships and exchange opportunities; and
 - develop partnerships with farmers and farmer organizations, the private sector, international and regional research institutions, foundations and non-governmental organizations, to facilitate and enhance the coordination of research activities and sharing of good practices and technologies.
- 1.7 Given the scarcity of resources and clear overlaps in priorities, it is timely to establish a common and coordinated regional agenda for research, innovation and policy development, and knowledge sharing, on the sustainable intensification of livestock production in LAC. Such an effort should consider the diverse agro ecological, socioeconomic and policy conditions found in the region and the challenges imposed by climate change.
- 1.8 It is proposed the establishment of a Latin American and Caribbean Platform to serve as a regional hub of the Global Research Alliance's Livestock Research Group, contributing to the implementation of the GRA's activities, including its Flagship Projects; support the implementation of a possible CCAC Phase II Enteric Fermentation Hub being proposed by the FAO and NZAGRC; and integrate relevant existing and future projects of FONTAGRO and other partners.
- 1.9 The Platform will gather, analyze, develop, share and disseminate information available on innovations for the sustainable intensification of livestock systems considering climate change adaptation and mitigation strategies, among different stakeholders in the public and private sectors in participating countries. Also, the platform will provide means by which participating countries and institutions can seek and mobilize resources for the implementation of a common regional agenda for promoting an efficient livestock sector with reduced GHG emissions.
- 1.10 The platform will be established with relevant stakeholders (i.e. research institutions, universities, government agencies, NGOs, farmers' associations, as well as other private sector national and regional organizations, i.e. FECALAC, FEPAL, FARM-MercoSur, and international organizations. i.e. CIAT).
- 1.11 To that effect, a group of 30 managers and researchers from 14 member countries of FONTAGRO and representatives of other organizations and non-member countries got together in Turrialba, Costa Rica on April 26, 2016 and agreed on the creation of this platform. Participants selected CATIE as the coordinator of the platform, proposed the creation of a Steering Committee to advance the initiative, and requested FONTAGRO support to implement the platform.
- 1.12 This initiative builds on and complements a number of existing projects:
- a) Projects co-funded by FONTAGRO and the New Zealand Government: "Improvement of Livestock Systems with emphasis on Dairy in the Andean Region, within the context of Climate Change (IICA-UNA La Molina, and partners in Peru, Bolivia, Ecuador, Colombia)"; "Development of Competitive Low GHG Emission Livestock Production Systems in Central America (CATIE and Central American partners)", and "Climate Change and Beef Cattle Production: Quantification and Mitigation of Methane and Nitrous Oxide Emissions from Grazing Beef Cattle (INIA-Uruguay, INTA-Argentina, INIA-Chile, Universidad Nacional de Colombia and INIAF-Dominican Republic)".

b) FONTAGRO projects on “Sustainable Intensification of Dairy Systems (INIA-Uruguay and various LAC partners)”, and “Increasing livestock productivity and soils quality while reducing GHG emissions in LAC: use of legumes in grazing systems (PROCISUR, INTA-Argentina, INIA-Chile, INIA-Uruguay, IPTA-Paraguay)”. A project implemented by FONTAGRO which is co-financed by the Global Environment Facility (GEF) and IDB entitled “Mechanisms to Transfer Technologies for Climate Change Adaptation”.

1.13 This initiative is consistent with the agreements established in on-going projects co-financed by FONTAGRO with New Zealand Ministry of Primary Industries, as well as with the GEF/IDB. In those projects funds have been approved for the strengthening of technical capacities and networking, and therefore they will be used to implement the first years of the business plan. Additional funding will be provided by other sources and CATIE will lead efforts to mobilize additional resources.

1.14 This document describes the three-year business plan for the Latin American and Caribbean (LAC) Platform for Sustainable Intensification of Livestock Production.

II. OBJECTIVES

2.1 The general objective is to develop a platform to network key public and private stakeholders with interest in promoting the sustainable intensification of livestock production systems and value chains in LAC as a global strategy for adaption to and mitigation of climate change.

2.2 The Specific Objectives of the platform are:

- a) To develop and facilitate a coordinated regional agenda for research and development of livestock production technologies and practices for adaptation to climate change, while minimizing GHG emissions;
- b) To facilitate knowledge sharing within the LAC region by documenting and disseminating success stories of sustainable intensification of livestock production systems for climate change adaptation and mitigation;
- c) To strengthen the capacities of key stakeholders (public and private) in the livestock sector to address adaptation to and mitigation of climate change impacts in the livestock sector;
- d) To contribute to the formulation and dissemination of policies on sustainable intensification of livestock production systems in LAC and in the global fora, and
- e) To jointly seek and mobilize resources to support the above activities.

III. BENEFICIARIES

3.1 Direct beneficiaries of the project in LAC will be at least:

- 150 researchers and lecturers working on sustainable livestock production;
- 400 extension staff and technical assistance providers;
- 1000 graduate and undergraduate students majoring in animal production, veterinary, environmental and soil sciences;
- 10 farmers’ organizations; and
- 20 policy makers and institutions using the tools and information generated through the Platform.

3.2 Indirect beneficiaries will be at least:

- 4000 livestock farmers and workers in different nodes of the livestock value chains; and
- other private and public organizations involved on livestock systems, marketing and processing of ASF products, and other related topics.

IV. EXPECTED RESULTS

Expected results are:

1. A platform established to **facilitate dialogue** between scientists, policy makers, academicians, development agents, farmers' organizations and other stakeholder in order to generate common agendas, and for delivering research products that could be applied by the end-users;
2. Active **sharing of information and novel approaches, tools and methodologies** for the development and validation of innovations – utilizing all relevant existing conferences and fora, including GRA, GALA¹, annual FONTAGRO technical meetings, GASL, CCAC, ALPA, etc.
3. **Joint proposals prepared to seek funding** support from national governments, regional and international institutions, and backstopping provided to institutional members;
4. **Researchers, extension staff and faculty** in the participating institutions better prepared to deal with the new approaches of sustainable intensification of livestock systems;
5. The **university curricula for animal and veterinary sciences incorporated concepts** and methodological approaches for sustainable intensification of livestock production under climate change;
6. **Policy makers at national and regional level**, as well as networks (i.e., PROCITROPICOS, PROCISUR, FORAGRO, SE-CAC, CAS), using policy briefs produced, as well as the knowledge available in the platform for planning and implementing strategies and programs to accelerate the adoption of practices for the sustainable intensification of low-GHG emission livestock production, including for example the formulation of proposals for Livestock NAMAs.
7. **Extension and technical assistance staff, farmers leaders and other value chain actors** using the information available in the platform for the design and implementation of good practices for adaptation to climate change and mitigation of GHG emissions, as well as the sustainable intensification of livestock production;
8. **Private sector companies** (including transnationals, i.e., Nestle, McDonalds), **and consumers** become aware of and assign additional value to **ASF** products coming from livestock systems with lower GHG emissions.

V. COMPONENTS AND ACTIVITIES

5.1 To achieve the proposed objectives, the platform will consider the following components and activities:

COMPONENT 1. REGIONAL AGENDA FOR RESEARCH AND DEVELOPMENT (Total cost \$90,000). This component will include the following activities:

Activity 1.1. State of the art report on research and development in the areas of sustainable intensification of livestock systems under climate change, identifying research gaps and challenges for innovation.

Activity 1.2. Survey of research programs and themes of NARS and Universities and regional centers- analysis to identify overlaps and synergies.

Activity 1.3. Workshops with key institutions and actors in the region to develop a coordinated research agenda, plan for implementation, and review progress.

Product 1. Document on state of the art on research and innovation for sustainable intensification of livestock systems and adaptation/mitigation to climate change.

Product 2. Document on strengths and weaknesses of current research programs.

¹ 3RD Conference on GHG emissions in Latin-American agricultural systems.

Product 3. A coordinated regional agenda for research and development in sustainable intensive livestock systems in the context of climate change, and an implementation plan.

COMPONENT 2. KNOWLEDGE MANAGEMENT AND COMMUNICATIONS (Total cost \$90,000). This component will facilitate knowledge sharing on livestock production technologies to adapt to climate change while generating low-GHG emissions. It will document and disseminate methodologies and success stories of climate change adaptation and mitigation for the sustainable intensification of livestock. It includes the following activities:

Activity 2.1. Design and maintain a regional database on sustainable livestock production technologies, practices and innovations to adapt and mitigate climate change in LAC.

Activity 2.2. Organization of fora and other side events to promote information exchange on low GHG emission intensive livestock systems among private and public stakeholders.

Activity 2.3. Design and maintenance of a webpage on the topic.

Product 4: A regional database on sustainable livestock production technologies, practices and innovations, including methodologies and approaches to adapt to and mitigate climate change in LAC, as well as of people working on those topics.

Product 5: At least six local and regional events organized (two per year) for sharing information with farmers and other stakeholders, on low GHG emission intensive livestock systems and technologies to adapt to climate change.

Product 6. Webpage of the platform linked to the websites of key partners.

COMPONENT 3. CAPACITY BUILDING (Total cost \$118,683). This component aims at strengthening capacities among public and private stakeholders by diagnosing needs and opportunities for capacity building on sustainable livestock production systems. Training materials for workshops and online courses will be developed. It includes the following activities:

Activity 3.1. Diagnosis of needs and opportunities for strengthening capacity on sustainable livestock production systems for different stakeholders in the platform.

Activity 3.2. Development of training materials for workshop and online courses on the topics relevant to the platform members interest.

Activity 3.3. Implementation of workshops and online training of trainers courses on sustainable intensification of livestock systems.

Product 7. Document of needs and opportunities for capacity building on sustainable livestock production systems.

Product 8. Training materials.

Product 9. At least two workshops and three online courses.

COMPONENT 4. POLICY DESIGN (Total cost \$55,000). This component aims at developing policies that promote the sustainable intensification of livestock production systems in LAC, as well as organizing public-private rounds tables among stakeholders to agree on policies and actions. The component includes the following activities:

Activity 4.1. Design of policies briefs based on best experiences and practices on sustainable intensification of livestock production systems in LAC.

Activity 4.2. Organization of public-private round tables for the promotion of enabling policies for sustainable livestock production in LAC.

Product 10. An inventory of existing and new policies for the promotion of sustainable intensification of livestock production systems in LAC, by country.

Product 11. Policy briefs for the promotion of low GHG emission intensive livestock systems in LAC countries.

COMPONENT 5: RESOURCE MOBILIZATION (Total cost \$45,000). This component aims at preparing and negotiating regional proposals for the scaling-up of successful experiences in the region. The component includes the following activities:

Activity 5.1. Alignment of participating countries' and institutions' research agendas.

Activity 5.2. Preparation and negotiation of regional proposals for the scaling-up of successful experiences in the region.

Product 12. At least 6 regional proposals prepared.

VI. FUNDING SOURCES, BUDGET AND TIMETABLE

- 6.1 This platform will be financed by several sources. Each source will be allocated to a specific activity depending on the topic and the last day of disbursement of on-going FONTAGRO projects. The sources of funding and amounts are cited in Table 1 and the funding distribution among activities in Table 2. Most of the activities are financed for the first and part of the second year. However, additional funding as indicated in the budget will be needed for Year 2 and Year 3, and CATIE will lead resource mobilization efforts.

Table 1. Amount and last day of disbursement by source of funding

Operation	\$	Last Disbursement Day
FTG/RF-14654-RG (FONTAGRO/NZ)	\$46,671.33	9-Jun-17
ATN/CX-14837-RG (FONTAGRO/GEF)	\$60,000.00	17-Apr-19 (1)
FTG/RF-15564-RG (FONTAGRO COUNTERPART GEF)	\$60,000.00	17-Apr-19 (1)
Subtotal	\$166,671.33	

Note: (1) Extensions of these technical cooperations are currently in negotiation.

Table 2. Timetable of activities for the three-year period and by funding source

Component / Activity	Funding Source	Current Fundings	Year 1 (2017)				Year 2 (2018)				Year 3 (2019)			
			I MAM	II JJA	III SON	IV DJF	I MAM	II JJA	III SON	IV DJF	I MAM	II JJA	III SON	IV DJF
COMPONENT 1. REGIONAL AGENDA FOR RESEARCH AND DEVELOPMENT														
Activity 1.1 - Product 1 State of the art	FTG/RF-14654-RG AND OTHER SOURCES	13,671.33	X	X	X	X								
Activity 1.2 - Product 2 Strengths and weaknesses of current research programs	FTG/RF-14654-RG AND OTHER SOURCES	30,000.00	X	X	X	X	X							
Activity 1.3 - Product 3 Coordinated regional agenda for R&D	FTG/RF-14654-RG AND OTHER SOURCES	46,328.67	X	X	X	X	X	X	X	X	X	X	X	X
Subtotal (before June-9-2018)		90,000.00												
COMPONENT 2. KNOWLEDGE MANAGEMENT AND COMMUNICATIONS														
Activity 2.1 - Product 4 Regional database	FTG/RF-15564-RG AND OTHER SOURCES	25,000.00	X	X	X	X	X	X	X	X	X	X	X	X
Activity 2.2 - Product 5 Regional KMC strategy	FTG/RF-15564-RG AND OTHER SOURCES	35,000.00	X	X	X	X			X				X	
Activity 2.3 - Product 6 Memoirs of regional events	FTG/RF-15564-RG AND OTHER SOURCES	20,000.00				X				X				X
Activity 2.4 - Product 7 Webpage	FTG/RF-15564-RG AND OTHER SOURCES	10,000.00	X	X	X	X	X	X	X	X	X	X	X	X
Subtotal (before March-4-2018)		90,000.00												
COMPONENT 3. CAPACITY BUILDING.														
Activity 3.1 - Product 8 Opportunities for capacity building	ATN/CX-14837-RG	50,000.00	X	X	X	X	X	X	X	X	X	X	X	X
Activity 3.2 - Product 9 Training materials	ATN/CX-14837-RG AND OTHER SOURCES	34,341.50		X	X	X	X	X	X	X	X	X	X	X
Activity 3.3 - Product 10 Memoirs of workshops and online courses	ATN/CX-14837-RG AND OTHER SOURCES	34,341.50		X	X			X	X			X	X	
Subtotal (before April-17-2019)		118,683.00												
COMPONENT 4. POLICY DESIGN														
Activity 4.1 - Product 11 Inventory of Policies	ATN/CX-14837-RG AND OTHER SOURCES	45,000.00	X	X	X	X	X	X	X	X	X	X	X	X
Activity 4.2 - Product 12 Policy briefs	ATN/CX-14837-RG AND OTHER SOURCES	10,000.00			X	X			X	X			X	X
Subtotal (before April-17-2019)		55,000.00												
COMPONENT 5: RESOURCE MOBILIZATION														
Activity 5.1 - Product 13 Docuemnts with new proposals	ATN/CX-14837-RG AND OTHER SOURCES	45,000.00	X	X	X	X	X	X	X	X	X	X	X	X
Subtotal (before April-17-2019)		45,000.00												
TOTAL		398,683.00												

Notes: Areas in grey color will require extra funding.

VII. GOVERNANCE

- 7.1 This section presents a description of the executing agencies, roles and implementation process.
- 7.2 The **executing agency** of this initiative is the **Tropical Agricultural Research and Higher Education Center (CATIE)**². CATIE is an international organization located in Costa Rica that combines science, education and innovation for agricultural and rural development. Its mission is to “Increase sustainable and inclusive human well-being in Latin America and the Caribbean, promoting education, research and outreach for the sustainable management of agriculture and conservation of natural resources”. Its vision is “To be an excellent international land-grant type of university specialized in agriculture and natural resources that effectively integrates education, research and outreach in alliance with multiple partners and countries through a solid regional scientific platform”. As strategy, CATIE promotes the development of climate-smart territories to achieve sustainable and inclusive human well-being and the effective integration of actions in education, research and innovation for development, in alliance with multiple public and private partners. CATIE has a reputable livestock and environmental management group that has been very successfully in the generation of silvopastoral technologies and development of low emission livestock systems in the Meso-American region and Colombia, and this program has played an important role in strengthening the capacities of local organizations through its higher education program and strategic courses to train experts in the field of livestock and environment. In addition, CATIE has been successful in working with policy makers to develop strategies for climate smart livestock systems in the region and has developed a network of research and development organizations to cooperate in this sector.
- 7.3 CATIE will act as a coordinator of the platform. A Steering Committee will be established to plan, implement, monitor and evaluate network activities. There will be three types of members: a) country representatives, b) grassroots organizations, and c) representatives of donors and cooperating agencies. The Steering Committee will meet once a year and periodic consultations will be done electronically.
- 7.4 At the meeting in Costa Rica in April 2016, the following composition was proposed: CATIE, IICA, FONTAGRO, GRA, Ministry for Primary Industries of New Zealand, ILRI, INTA Costa Rica (representing Central America), UNALM Peru (representing the Andean Region), INIA Uruguay (representing the Southern Cone), Heifer International, and other funding agencies. After the first two years, it is proposed to renovate the composition of the sub regional representatives and the grassroots organizations in the steering committee, as well as incorporate representatives of other stakeholders.

² <https://www.catie.ac.cr/>