

Thirty-ninth Regular Meeting of the Executive Committee

**Reports of the Tropical Agriculture Research and
Higher Education Center (CATIE) presented to the
Governing Council**

San Jose, Costa Rica
16-17 July 2019

Annual Report 2017



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Introduction



In 2017, CATIE focused its efforts on formulating integrated solutions to address the complexity of current problems facing agriculture and natural resources in Latin America and the Caribbean.

The direct beneficiaries of these actions were small producers located fundamentally in areas delimited by agriculture, poverty and conditions of vulnerability. Governmental and private organizations at local and national levels, extensionists and decision makers at technical and policy levels were also key to implementation and transfer of the knowledge and experiences generated by CATIE in alliance with multiple partners.

To increase the impact of our work in well-being and sustainability, in 2017 we developed new lines of work framed within global guidelines such as the Sustainable Development Goals (SDGs) in order to contribute to the development of a green, resilient and inclusive agricultural economy and to the conservation of natural resources required by the Latin American and Caribbean region in the 21st century.

We strengthened the regional scientific platform specialized in agriculture and natural resources, with the consolidation of strategic alliances, more researchers from highly prestigious institutions and strategic projects to attend to the urgent needs of the region. This platform takes advantage of the integration in research carried out by students in the graduate school and the infrastructure for extension that CATIE has in the countries.

We also moved forward in strengthening the educational offer, with greater possibilities for financing, solid alliances with prestigious institutions and consolidation of a first-class faculty for continuous training of leaders of change.

This report presents an overview of the work done by the institution during 2017. Our commitment will be to continue working year after year to achieve sustainable and inclusive human well-being of rural populations.



Muhammad Ibrahim, PhD
Director General
Tropical Agricultural Research
and Higher Education Center

Governing bodies of CATIE

CATIE has three upper-level governing bodies

1

The Inter-American Board of Agriculture (IABA) is the supreme governing body of CATIE. It is made up of 34 member countries that hold a regular meeting every two years.

2

The Council of Ministers is made up of the countries of Latin America and the Caribbean that are regular or affiliated members of CATIE. The Inter-American Institute for Cooperation on Agriculture (IICA) has a permanent seat on the Council, as does the Inter-American Board of Agriculture.

Costa Rica
Luis Felipe Araúz
Minister of Agriculture and Livestock

Belize
Godwin Hulse
Deputy Prime Minister and Minister of Natural Resources and Agriculture

Bolivia
César Hugo Cocarico
Ministry of Rural Development and Lands

CATIE
Dr. Muhammad Ibrahim
Director General

Ecuador
Rubén Flores
Minister of Agriculture and Livestock

El Salvador
Orestes Fredesman Ortez Andrade
Ministry of Agriculture and Livestock (MAG)

Guatemala
Mario Estuardo Méndez Cobar
Ministry of Agriculture, Livestock and Food

Honduras
Dr. Santiago Ruiz
Minister Secretariat of Agriculture and Livestock

IICA
Dr. Manuel Otero
IICA Director General

México
Lic. José Eduardo Calzada Rovirosa
Secretariat of Agriculture, Livestock, Rural Development, Pesca Fisheries and Food

Nicaragua
Edward Centeno
Ministry of Agriculture and Forestry (MAGFOR)

Panamá
Dr. Eduardo Enrique Carles
Ministry of Agricultural Development

Paraguay
Rolando de Barros Barreto
Secretary of Environment (SEAM)

Dominican Republic
Ángel Estévez
Ministry of Agriculture

Venezuela
Wilmar Castro Soteldo
Ministry of Popular Power for Agriculture and Land

3

The Board of Directors consists of various members who serve ad honorem and meet at least twice a year.

Government of Costa Rica:	Luis Felipe Araúz	Minister of MAG
	Manuel Otero	IICA Director General
	Mariuxi Gómez Torres, Ecuador	IABA Representative
	Nigel Poole (President of Board of Directors)	International Community
	José Juventino Gálvez (Vice President of Board of Directors)	Member Country
	Alan Bojanic	Member Country
	Esteban Girón, Panamá	Governing Council Representative
	Mirna Cunningham	Member Country
	Walter Fust	International Community
	Laura Scandurra	International Community
	Carlos Casamiquela	International Community
	Inocencio Higuera	Member Country
	Helmut Eger	International Community

CATIE: mission, vision and values

Mission

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.

Vision

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.

Values

Appreciation of diversity, entrepreneurial spirit, excellence, innovation, integration, service and accountability



The three pillars that underpin our philosophy

Education

CATIE is a graduate-level university that enjoys ample prestige and international recognition, for the following reasons, among others:

- › It has the oldest International Graduate Program in Agriculture and Natural Resources in Latin America (since 1946), with more than 2300 graduates.
- › Its academic offer includes options for strategic courses, diplomas, specializations, academic master's, professional master's and international doctorates in different fields.
- › Its students and graduates come from 40 countries located in different continents, principally America.
- › The faculty consists of teachers and scientists from more than 25 countries around the world.
- › Its graduate programs are international in their focus, approaches and contents.
- › It has joint master's and doctoral programs with prestigious international universities (for example, Bangor University, University of Idaho, University of North Texas).
- › It has agreements with more than 50 universities and 400 partners in different parts of the world.

Research

The research carried out by CATIE has a systemic approach, for example, the climate-smart-territories approach. It starts from a holistic assessment of the problems and opportunities in the rural areas, with an emphasis on inclusion and gender. We maintain some specialized lines of research whose implementation and sharing of results are framed in projects with systemic approaches that contribute in an integrated way to achieving sustainable and inclusive human well-being.

The principal actions of research and development are carried out through three scientific programs: the Agriculture, Livestock and Agroforestry Program (PRAGA, Spanish acronym); the Research Program on Development, Economy and Environment (PIDEA, Spanish acronym); and the Forests, Biodiversity and Climate Change Program (PBBYCC, Spanish acronym). These programs cover a broad thematic area (coffee, cacao, climate change, sustainable livestock, policy formulation, forests, watershed management, and biological corridors and protected areas, among others) and with lines of work that aim for a scientific contribution in keeping with the demands of its member countries and Latin America in general.

Outreach

We have 13 member countries in Latin America and the Caribbean and our actions have different levels of impact. Our work includes transfer of technology and knowledge and influence on policies at different scales, which contributes to the reduction of poverty and the economic, social and environmental development of the region.


Lines of research



Member countries

CATIE and the Sustainable Development Goals



From CATIE's perspective, the main challenges confronting Latin America and the Caribbean include persistent poverty, growing inequality high vulnerability to climate change and progressive degradation of forest and productive landscapes.

 CATIE's theory of change (ToC) (see Appendix 1) describes the way in which the work of research and education at CATIE is conceptualized and articulated in the effort to fulfill its strategic mission and more specifically aim at the generation of products that, placed in the hands of our target groups, will generate measurable effects that together reduce poverty and increase the well-being of rural populations through the development of a green and inclusive economy.

This impact is clearly aligned with the Sustainable Development Goals (SDGs), in particular, with the goals of ending poverty (SDG-1), elimination of hunger (SDG-2), gender equality (SDG-5), responsible consumption and production (SDG-12), climate action (SDG-13) and its key link with the Paris Agreement and life on land (SDG-15). The impact will also contribute to achieving the Convention on Biological Diversity's five Aichi Targets and, in terms of restoration of degraded lands, the Bonn Challenge and Initiative 20x20.

The CATIE lines of work support achievement of the SDGs, understanding that CATIE's work is inherently systemic, so that our lines of work contribute to multiple SDGs.



-  **Line 1:** Ecological intensification of agricultural, agroforestry and livestock systems to increase their productive efficiency and their resilience
-  **Line 2:** Ecosystem services for human well-being
-  **Line 3:** Restoration of ecosystem functions and services: water, soil, carbon sequestration
-  **Line 4:** Architecture of financial and nonfinancial instruments for the sustainable management of ecosystems and productive sectors
-  **Line 5:** Public policies and instruments of governance for human well-being and sustainable management of ecosystems
-  **Line 6:** Green, inclusive and sustainable value chains
-  **Line 7:** Vulnerability assessment and planning for climate action at national, regional and global levels
-  **Line 8:** Ecosystem and hydrological modeling and quantification of flows of carbon and greenhouse gases
-  **Line 9:** Analysis of decision making about production and consumption at the household level



Highlights
of 2017

Systemic and transdisciplinary research

289 publications



Proposals prepared

87 requests for funds were prepared, for a total of **USD 87 558 906**

Material available to producers



- About 7.5 tons of forestry seeds were distributed to 18 countries in Latin America, the Caribbean, Asia and Africa, generating income of almost half a million dollars.
- 600 000 hybrid F1 plants distributed to producers through the Gaia Artisan Coffee alliance

CATIE: a strategic partner

Cooperation agreements, letters of understanding and accords

Country	Argentina	Belize	Bolivia	Brazil	Chile	Colombia	Costa Rica	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	Dominican Republic
Cooperation agreements	•					•	•		•	•	•	•	•	•	•		•	•
Letters of understanding			•	•		•	•			•	•	•	•	•	•		•	•
Accords /contracts	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

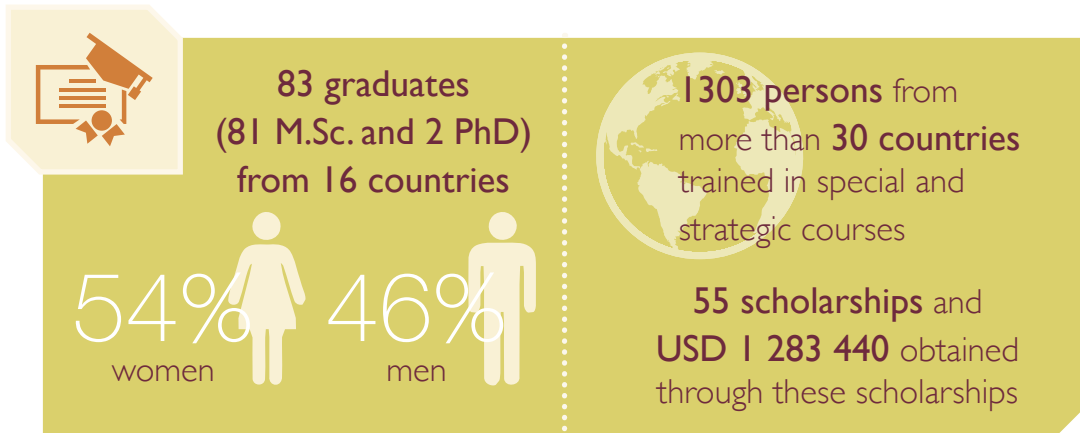
73 projects developed involving **USD 11 469 408.91** and more than 50 partners

Scientific platform



1. Luxembourg Development Cooperation Agency (LuxDev), Luxembourg
2. Forever Costa Rica Association Bank (IDB), United States
3. International Development Bank (IDB), United States
4. World Bank (WF), United States
5. Bioversity International, Italy
6. CAB International (CABI), England
7. Center for International Forestry Research (CIFOR), Indonesia
8. Cataluña Forestry Science and Technology Center (CTFC), Spain
9. French Agricultural Research Center for International Development (CIRAD), France
10. International Center for Tropical Agriculture (CIAT), Colombia
11. World Agroforestry Center (ICRAF), Kenya
12. Chinese Academy of Tropical Agricultural Sciences (CATAS), China
13. Executive Committee of the Cocoa Plan, Cocoa Research Center (CEPEC/CEPLAC), Brazil
14. Dominican Coffee Council (COODOCAFE), Dominican Republic
15. Korean Cooperation for Food and Agriculture in Latin America (KoLFACI), Korea
16. German Agency for International Cooperation (GIZ), Germany
17. Colombian Corporation for Agricultural Research (CORPOICA), Colombia
18. Daito Cacao Co., Ltd. Japan
19. Environment for Development Initiative (EFD), Sweden
20. Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Germany
21. Honduran Agricultural Research Foundation (FHIA), Honduras
22. Global Crop Diversity Trust, Germany
23. Global Green Growth Institute (GGGI), Korea
24. Institute of Animal Science (ICA), Cuba
25. National Institute for Forestry, Agriculture and Livestock Research (INIFAP), Mexico
26. International Cocoa Quarantine Center (ICQC), England
27. International Development Research Center (IDRC), Canada
28. International Network for Bamboo and Rattan (INBAR), China
29. International Union of Forest Research Organizations (IUFRO), Austria
30. Korea Forest Research Institute (KFRI), Korea
31. Haiti Ministry of Defense (MIDE), Haiti
32. Ministry of Environment and Natural Resources (MARN), El Salvador
33. National Institute of Forest Science (NIFoS), Korea
34. Food and Agriculture Organization of the United Nations (FAO), Italy
35. Oxfam Intermón, Spain
36. Program on Climate Change, Agriculture and Food Security (CCAFS), The Netherlands
37. Regional Cooperative Program for Technological Development and Modernization of Coffee Production (PROMECAFE), Guatemala
38. Rijk Zwaan, Spain
39. Secretariat of Energy, Natural Resources, Environment and Mines (MiAmbiente +), Honduras
40. Tropenbos International, Holand
41. International Union for Conservation of Nature (IUCN), Switzerland
42. University of Darmstadt (GreeTS), Germany
43. World Cocoa Foundation (WCF), United States
44. World Coffee Research (WCR), United States
45. World Resources Institute (WRI), United States
46. World Vegetable Center (WorldVeg), Taiwan

Scientific and professional training



Financial sustainability



Dissemination and positioning



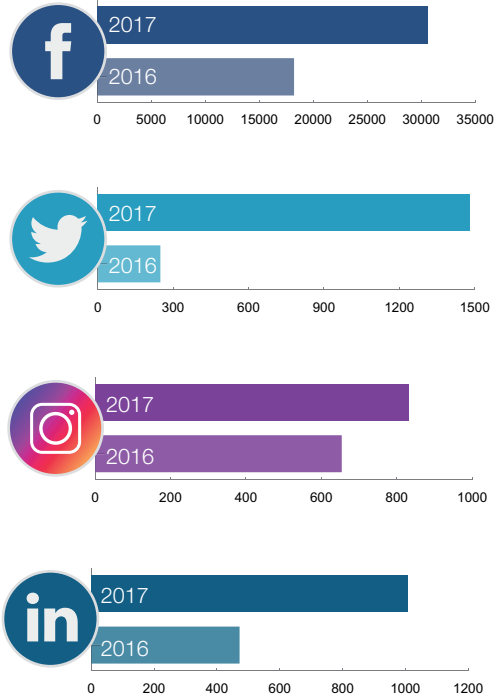
211 press releases published in the media

230 notes on the website

509 705 users from **203 countries** visited the website

3 391 070 people reached in social networks

Increase in followers on social networks



Personnel



255 staff members

59
M.Sc.



20
Ph.D





Promoting
quality
education

Promoting quality education

In May 2017, Dr. Isabel Gutiérrez became the first woman to assume the post of dean of the Graduate School, evidence of the institution's substantive progress in the application of the Gender Policy and with it, a commitment to the empowerment of women in strategic positions.

The Graduate School also consolidated its major role in training leaders, and in 2017, two graduations were held: one on July 14 and the other on December 8. A total of 83 new professionals graduated (38 women and 45 men) who will return to their countries to promote sustainable and equitable rural development.



You are now ambassadors for the name of CATIE; We are confident that you will know how to carry out our mission to promote the sustainable management of agriculture and the conservation of natural resources wherever you go," Muhammad Ibrahim, Director General of CATIE, July 2017 graduation..

The contribution of our students has been relevant at the research level: the professors and students in the Graduate School generate more than 80% of CATIE's research, offering important studies and technologies to the countries.

To encourage this process, in October, the Graduate School held the First Research Symposium during which 28 drafts of academic master's theses were presented that will impact nine countries. The symposium was divided into four areas tied to CATIE's work: economy, development and climate change; agroforestry and sustainable agriculture; management and conservation of tropical forests and biodiversity; and integrated management of watersheds

Gutiérrez is Colombian and has been at CATIE for 12 years, where she



received a Master's in Integrated Management of Natural Resources in 1996, with an emphasis on management and conservation of biodiversity. She received a degree in biology from the National University of Colombia and also holds a PhD in Rural Sociology from Iowa State University, obtained in 2005.



Geographic reach of research in CATIE's education program

Other outstanding actions during 2017



More opportunities for growth

In 2017, about USD 2.7 million were managed. Some concrete examples include:

- › Improvements to infrastructure and Internet access carried out in student residences (proposal to USAID-ASHA for USD 720 000)
- › Two new sources of scholarships explored: 1. PRONABEC Peru, with 15 scholarships (minimum) per year for five years (USD 1 800 000) and 2. Belgian Technical Cooperation in Bolivia, with three scholarships (minimum) per year for three years (approximately USD 216 000).
- › Advances made in the consolidation of an agreement with the Ministry of Science, Technology and Telecommunications (MICITT) of Costa Rica to hold a call for CATIE-specific scholarships (at least five annual scholarships: about USD 170 000).

Admissions

The Office of Admissions attended to some 500 requests for information and processed 269 admissions for the 2018–2019 period. A total of 193 students were admitted: 98 men and 95 women. Nine institutions gave scholarships to a good number of students; for example, some 43 candidates applied for the German Scholarship Program DAAD, where six were awarded to the 2018–2019 class, to students from El Salvador, Honduras and Belize. The Scholarship Program for Indigenous Peoples (PROBEPI-CONACYT) in Mexico presented five scholarships for this same period. The CRUSA Foundation awarded scholarships to four Costa Rican women, and the Open Society Foundation (OSF) gave a scholarship to a student from Ruanda, a student from Uganda and a Haitian professional.

Promotion

The Graduate School participated in diverse events to publicize its academic offerings and reaffirm its commitment to human capital in the region:

- › CATIE International Fair
- › Expo Calidad, organized by the National Accreditation System of Higher Education (SINAES, Spanish acronym) of Costa Rica
- › International Congress of Financing and Educational Credit (APICE)
- › Visits to the National Council of Science and Technology (CONACYT), Graduate Scholarship Program for Indigenous Peoples (Probepi), Kellogg Foundation and the Inter-American Institute for Cooperation on Agriculture (IICA) in Mexico
- › Visits to financial entities in Guatemala (Guatefuturo, Secretariat of Planning and Scheduling of the Presidency—SEGEPLAN, etc.) Costa Rica—United States Foundation (CRUSA) and the University of Forest Sciences (UNACIFOR) in Honduras

Agreements

To broaden the processes of publicizing the graduate programs while at the same time leverage funds to finance students, agreements with 10 institutions were renewed and signed:

- › Ministry of Public Education—MEP (Costa Rica)
- › Sustainable Amazonas Foundation (Brazil)
- › Francisco de Paula Santander University (Colombia)
- › Marista University of Merida (Yucatan, Mexico)
- › University of North Texas (United States)
- › CONACYT (Mexico)
- › Polytechnic University of Madrid (Spain)
- › Government of Nariño (Colombia)
- › COLFUTURO (Colombia)

A young man with dark hair and glasses, wearing a blue and white plaid shirt over a white t-shirt, is focused on examining a branch of a coffee plant. He is holding a cluster of coffee cherries, some of which are red and ripe, while others are still green. The background is a lush, green coffee plantation with many other branches and leaves visible. The lighting is natural, suggesting an outdoor setting during the day.

Cutting-edge
research

Cutting-edge research

Forests, Biodiversity and Climate Change

The Forests, Biodiversity and Climate Change Program (PBByCC, Spanish acronym) represents CATIE in top subcontinental and regional initiatives in the institution's field of action. One of these is the Ibero-American Model Forest Network (IAMFN), which manages the knowledge and interchange of experiences in Ibero-American Model Forests. In 2017, Roger Villalobos of PBByCC was named president; therefore, the actions of this network are articulated and coordinated from CATIE. For example, in 2017, IAMFN incorporated two Amazonian model forests: the Amazonas Tapajós Model Forest (state of Pará, Brazil) and the Villa Rica Model Forest (province of Oxapampa, Peru). IAMFN now has 34 model forests in 15 countries of Central America, South America, the Caribbean and Spain.

Through the IAMFN, an important synergy was developed for CATIE's participation in the 20X20 Initiative on degraded lands with the World Resources Institute, where it contributed its experience in technical assistance to fulfill the initiative's objectives, developing seven events (courses and workshops) in Mexico, Central America and Peru.

Through the Kenton Miller Chair on Protected Areas and Biological Corridors, CATIE's position was reinforced with respect to territorial management approaches with assumption of the coordination of the Biological Corridors Network for Latin America and the Caribbean, a platform that brings together national coordinators of biological corridors of the countries in the region.



Kenton Miller Chair in 2017

- › Organized the XI Latin American Symposium of Biological Corridors, drawing more than 200 participants.
- › Helped strengthen protected marine-coastal areas in Honduras.
- › Completed the multidisciplinary analysis for the establishment of new protected areas in Costa Rica.
- › Began consolidation of the national monitoring system for 33 individual protected areas in Costa Rica.



Helping countries address climate change

The focus on mitigation and adaptation to climate change was reflected in a CATIE collaboration with the El Salvadoran Ministry of Environment and Natural Resources (MARN, Spanish acronym) through the Ecosystem and Hydrology Modeling Unit (UMEH, Spanish acronym) and the Forest Management and Global Change Unit (UMFCG, Spanish acronym), to complete the new forest map of the country, give technical assistance for development of its REDD+ MbA (mitigation based on adaptation) National Strategy and design a system to monitor the cobenefits generated by that strategy.

Along the same lines, the UMFCG generated a regional report and three reports for Brazil, Guatemala and Mexico on the state of forest monitoring and the use of technologies within the framework of the project entitled Transfer of Technology Mechanisms and Networks Related to Climate Change, in which CATIE leads the actions on technology transfer that improves forest-resources monitoring systems. This project seeks to promote the development and transfer of environmentally rational technologies in Latin America and the Caribbean in order to contribute to the final goal of reducing greenhouse gas emissions and vulnerability to climate change in specific sectors in the region.

Another important 2017 contribution to the region by the institution was the analysis done by CATIE's Latin American Chair in Policy and Forest Economy (CLAPEF) in Honduras, Guatemala, Colombia and Panama on the effect of actions to strengthen application of Forest Law Enforcement, Governance and Trade (FLEGT) in mitigation of climate change in the context of the REDD+ strategy. The analysis identifies clear potential synergies between FLEGT and REDD+ for the four countries and provides operational recommendations and a policy synthesis.

Internationally recognized research

- › With support from the Latin American Chair for Ecology in Management of Tropical Forests, four researchers published articles in international scientific journals on the effects of global change drivers on tropical ecosystems. Two of these publications stem from research the chair has carried out since 1987 in the San Juan-La Selva Biological Corridor in Costa Rica.
- › CATIE's participation in international research networks through this chair also contributed to another high-level international publication on the factors that influence the functioning of tropical forest ecosystems.
- › Finally, a researcher from the Ecosystem and Hydrology Modeling Unit is the coauthor of another high-level international publication, included as one of the 25 scientific articles on climate change most cited in the press and social media during 2017.



Innovative projects in forest restoration and sustainable management

During 2017, several innovative projects were spearheaded by CATIE. The Territorial Forest Management Chair (CGFT, Spanish acronym) implemented two projects on sustainable management of secondary and degraded forests (MFSS, Spanish acronym) as tools for land restoration with private-sector investment.

In the first project, the chair advised the Luxembourg cooperation agency LuxDev and the Forestry and Climate Change Fund (FCCF). To date, 31 potential projects have been identified, encompassing indigenous communities, farmer organizations and others in Guatemala, Nicaragua and Costa Rica. In the projects chosen, which can receive financing from FCCF in the short or medium term, innovative structuring of various financial credit instruments for MFSS will be developed.

These include the transformation and marketing of products and capitalization of a business to promote the formation of a “timber bank” that will work to connect various links in the chain of the timber market, linking forest owners and facilitating placement of their forest resources in the markets at good prices and within the value chain system.

The second is the innovative project Development of Sustainable Management Models in Secondary Forests and Their Connections with the Private Financial Sector, with financing from the IKI program of the German government. The project seeks policy impacts, links to national and international investors and e-commerce platforms, the development of demonstration areas and training in MFSS, and innovation in the application of cutting-edge technologies to forest monitoring. The financial potential from sustainable management of secondary forests as a tool of restoration of degraded lands was demonstrated by an increase of some USD 32 000 in the value of CATIE’s biological assets a project generated from the inventory of 30 ha of secondary forest.

Databases available to researchers



- › The Ecosystem and Hydrology Modeling Unit reestablished the database service for researchers and other users in the region.
- › The Ecology in the Management of Tropical Forests Chair developed a system for management of its databases on long-term ecological research.

These data and their dissemination through publications and user requests have influenced the management of forests and territories in the region, contributing to the countries' fulfillment of their commitments to international conventions.

Actors from biological corridors in Mesoamerica, the Dominican Republic and Colombia share their experiences in Costa Rica

In November 2017, actors that manage various biological corridors in the Mesoamerican region and in the Dominican Republic and Colombia gathered in Costa Rica to share their experiences, advances in research and challenges, specifically at the XI Latin American Symposium on Biological Corridors. The event was organized by the Biological Corridors Thematic Interest Group of the Mesoamerican Society for Biology and Conservation (SMBC, Spanish acronym), which has been coordinated by CATIE since 2007. The participating experts from CATIE shared from their research, including the contributions of a livestock farm to conservation of biodiversity and landscape connectivity, tools for connectivity in productive landscapes in Colombia, adaptation based on ecosystems in an urban context, the conservation plan for the Río Torres Interurban Biological Corridor, and the challenge of climate change for biological corridors. In conjunction with the National Commission for the Knowledge and Use of Biodiversity (CONABIO) of Mexico, the institution also introduced the Biological Corridors Network (CoBioRed) as a platform for learning and knowledge management.

Development, Economy and Environment

El Research and Development Program in Economy and Environment (PIDEA) continued consolidating a dynamic, research team, successful in terms of producing evidence to support decision making at different levels, publications and generation of financing for research and international collaboration.

Decision making based on evidence

Evidence being used by institutions in the region to improve the efficiency of their policies, programs and actions has been produced within the framework of various projects.

The identification of priority areas for the conservation or restoration of hydrological services for rural human consumption in Central America, carried out by the AC3 Research Project, has enabled the Community Organizations for Water and Sanitation Services (OCSAS, Spanish acronym) in peri-urban and rural areas to make informed decisions and implement effective actions for adaptation to climate change. Many of these actions are, in turn, being incorporated into national strategies, plans and policies for adaptation to climate change in this subregion.

The result of a study carried out by CATIE for the Office of Climate Change of the Costa Rican Ministry of Environment and Energy, with funds from the Euroclima project of the Economic Commission for Latin America and the Caribbean (CEPAL), identified the economic impact of air pollution and how much the country would be able to save by implementation of policies that contribute to decontamination of the air. The results indicate that the country would be able to save:

- › USD 17 million a year in medical care for bronchitis (and its impact on disabilities and quality of life)
- › USD 55 000 for asthma
- › USD 233 000 in hospitalizations

These results are being used as potential benefits to be generated by projects under development, for example, electric transportation.

Technical assistance to institutions in the region



Costa Rica: assisted the National Irrigation and Groundwater Drainage Service with the design of a project on irrigation, potable water and hydroelectric energy.

Nicaragua: advised the Nicaraguan Electricity Company on design of a payment scheme for ecosystem services.

Workshop on political interaction brings together researchers, cooperatives, government agencies and the private sector to discuss the challenges and opportunities for the coffee sector in Costa Rica

In August 2017, an Environment for Development (EfD) Initiative workshop on political interaction brought together researchers and decision makers from the Costa Rican coffee sector to present their contribution to the political discussions on agricultural and environmental topics. The objective was to identify priority areas for future research efforts, institutional strengthening and development of public policies in line with the needs identified. Key aspects were identified during the workshop, such as the need for a holistic approach to diminish the pressures on the coffee sector, reduce vulnerability to climate change and adopt more appropriate production models. The final reflection focused on the lack of bidirectional information for all sectors involved and on how to create spaces and efforts to improve decision making and the strategies of the public and private sectors and academia. The event attracted relevant governmental agencies such as the Ministry of Agriculture and Livestock (MAG, Spanish acronym), National Coffee Institute (ICAFE) and National Insurance Institute; private and public banks; international cooperation, represented by the German Agency for Technical Cooperation (GIZ) and the Inter-American Development Bank, as well as research institutions such as the Research Program on Climate Change, Agriculture and Food Security (CCAFS) and important coffee cooperatives.

Other outstanding actions during 2017

Capacity building

El proyecto CASCADE fortaleció las capacidades de más de 150 técnicos de Guatemala, Honduras y Costa Rica en acciones de adaptación basadas en servicios ecosistémicos. Estas capacitaciones fueron replicadas por nueve instituciones locales alcanzando más de 1000 agricultores.

Collaboration and networking

PIDEA researchers reinforced their collaborative and networking efforts both at national and international levels with institutions such as the Costa Rican Institute of Aqueducts and Sewers, Costa Rican Coffee Institute (ICAFE), Forest Financing Fund and Costa Rican Ministry of Environment and Energy; the National Environmental and Planning Agency of Jamaica, and the Ministry of Agriculture, Forestry, Fisheries, Environment and Sustainable Development and Immigration of Belize. It also worked with coffee cooperatives and with international organizations such as Conservation International and the Food and Agricultural Organization (FAO) of the United Nations. The actions undertaken include advice in preparation of projects on topics that range from adaptation to climate change in rural areas and climate-smart agriculture to the design of payment schemes for environmental services.

Agreements

Strategic alliances: two relevant alliances fortified during 2017 include those with Bioversity International and the Climate Change, Agriculture and Food Security Program (CCAFS), both with CGIAR. With the first, a research project being jointly executed applies innovative crowdsourcing and citizen science tools to enable small producers to identify the varieties of beans best adapted to climate variability in the Central American Dry Corridor.

Dissemination of knowledge

This dissemination was generated by CATIE's participation in various forums and international congresses, both through joint organization or presentation of relevant research results or development of methodologies. Highlights among the events were the Regional Workshop on Environmental Accounting for Latin America and the Caribbean (ALC), organized jointly with CEPAL and the World Bank; the First National Conference on Climate Change in Honduras and Guatemala; the 23rd Annual Conference of the European Association of Environmental and Resource Economists; and the Seminar on Methodologies for the Analysis of Potential Impacts of Climate Change on Food and Nutritional Security in Central American Integration countries, organized by CEPAL, among others

Sustainable agribusiness

Some 17 consultancies/projects were carried out on this topic, whose main impacts were trade agreements for USD 604 000 generated in a round of negotiations for cocoa (Mesoamerican Cacao Project); strengthening of rural associative businesses in Costa Rica through development of eight value-added products (Reaching Scale Project); strengthening of financial capacities and design of a web tool for cocoa costs (Cocoa Mobile Project). Also, 54 people (25 women) took the Virtual Diploma Development of Rural Associative Businesses (DERA), and the foundation for strengthening the cocoa value chain in Costa Rica was defined for 2018–2018.

Agriculture, Livestock and Agroforestry

PRAGA integrates CATIE actions in three major areas of work: 1) agroforestry, coffee and cacao; 2) agrobiodiversity and 3) sustainable livestock. A synthesis of the main achievements in these areas in 2017 follows.

I. Agroforestry, coffee and cacao

Agroforestry

- › In 2017, the second phase of the global initiative Forests, Trees and Agroforestry (FTA) began, in which CATIE participates as a member of a global research consortium made up of the Center for International Forestry Research (CIFOR), World Agroforestry Center (ICRAF), CATIE, Bioversity International, the French Agricultural Research Center for International Development (CIRAD), International Network for Bamboo and Rattan (INBAR) and Tropenbos International (TBI). As part of this initiative, CATIE carries out research and development on the management and restoration of agricultural landscapes, climate change, and agroforestry systems with coffee and cacao and in silvopastoral systems.
- › The Shademotion 4.0 (www.shademotion.net) software was launched, a modeling and design instrument for improved agroforestry systems, with users from more than 25 countries around the world.
- › A restoration-reforestation project was begun with five agroforestry system modalities in five priority watersheds in Panama. (La Villa, Chiriquí, Chiriquí Viejo, Río Grande and Río Santa María), with a budget of USD 1.535 million for two years of execution.
- › Work proceeded actively with the private sector, for example, with Fazenda da Toca (Brazil), where a center for research, studies and promotion of agroforestry is being set up on a large scale and for big commercial farms. Long-term experiments are established in this business in agroforestry systems with citrus, bananas, coffee and livestock.

Cacao

- › The Mesoamerican Genetic Improvement Program formalized its ties with the Korean Government Cooperation (KoLFACI) in 2017 in a research and development project that includes the participation of eight countries: five in Central America (Costa Rica, Honduras, Guatemala, El Salvador and Nicaragua), two in South America (Colombia and Peru) and one in the Caribbean (Dominican Republic). This project, together with key actors and research centers in each country, will evaluate modern cacao technologies, from assessment of new germplasm to the agricultural and agroforestry management technology for a sustainable diversified production. Based on these evaluations, it is expected that strategic recommendations can be made for small producers.
- › In partnership with the United States Department of Agriculture (USDA), a field trial was begun in Mayaguez, Puerto Rico, that includes new improved genotypes from Puerto Rico and clones selected by CATIE.

A laboratory in the field



In 2017, 17 years of continuous studies in a long-term experiment on agroforestry systems in coffee planted on the CATIE farm in Turrialba ended. In the experiment at CATIE, more than 30 master's, doctoral and postdoctoral theses have been conducted, generating key information for researchers, technicians, producers and decision makers in the region. The contributions have been many and, in particular, have generated knowledge that has been used as input for public policies, technical assistance and training programs, among others. A replica of this experiment is found in Masatepe, Nicaragua.

- › The CATIE improved clones (known as the CATIE_Rx series, with R indicating tolerance to moniliasis) continue to show a high potential in yield and quality at the sites where they have been distributed (Central America, Mexico, Brazil). In 2017, these clones were recognized in the quality competition held in Managua, Nicaragua, where the Panamanian company KOTOWA won the silver medal in the 85% chocolate bar category.
- › The CATIE_Rx clones have been officially registered in the seed offices in Costa Rica and Honduras
- › (Nicaragua in process) and an agreement with the private company ECOM in Nicaragua has been reached for massive multiplication of these clones.
- › CATIE's work in genetic improvement of cacao was presented in international seminars in Korea, China, Haiti, Jamaica, Ecuador, Mexico, Nicaragua, Peru and Honduras and has been described in various articles that earned broad coverage, including *El Financiero* (Costa Rica), *Viva el Cacao* (Venezuela), *The New York Times* (United States), *New Scientist* (England) and the *Journal Chocolat* (Sweden), among others.

Coffee

- › A species of coffee (*Coffea sessiliflora*) was discovered in the CATIE germplasm collection that has a high potential for commercialization as a coffee with high cup quality. In partnership with the private sector (Japanese Company DAITO and C.O.D.A Investment Limited of Costa Rica), a project has been developed to study the agronomy and organoleptic characteristics of this species more in detail in several agroecological environments in Costa Rica. The expectations are high because of market opportunities and the fact that this species originated in low areas, which would offer producers around the world opportunities to cultivate gourmet coffee at low altitude.
- › A second phase of the PCP scientific partnership platform was developed and approved for 10 years between CATIE and CIRAD. The second phase has a new scientific framework to increase the link between biophysical and social research and improve the impact of results on the development and well-being of small producers.
- › Joint work continues with the Chinese Academy of Tropical Agricultural Sciences (CATAS) and with the South Korean Research Institute on Climate Change and Agriculture (ARICC) on the development of new varieties of arabica coffee that will be evaluated in China's tropical regions and the subtropical regions of Korea to facilitate expansion of coffee growing in those countries
- › The year 2017 was the first for the project entitled Technological-Financial Alternatives for the Renovation, Rehabilitation and Promotion of Coffee Plantations in the Dominican Republic, executed in partnership with the Dominican Coffee Council (CODOCAFE) and financed by the Dominican Republic Fund for Science and Technology (FONDOCYT). This project focuses on the calibration of a model for renovation and rehabilitation of coffee plantations that will provide solid quantitative information to guide the government's national program for coffee plantation renovation and the efforts of the private and state bank that finances the producers' initiatives.

Knowledge management



In coordination with World Coffee Research (WCR), a manual on coffee rust was published for technicians, which has been downloaded on the CATIE website by more than 20 000 users.

In coordination with IICA-PROCAGICA, the Regional Climate Change Program and its partners and coffee associations of Guatemala, Honduras, Nicaragua and Costa Rica have developed a manual for each country on coffee and climate that has enabled each country to initiate generation of knowledge and data in that country on analysis of vulnerability and adaptive capacity of coffee farms to climate change.

- › CATIE maintains its presence on the board of directors of the technical committee of PROMECAFE, a regional platform that brings together the coffee institutes of 10 coffee-growing countries in Latin America and the Caribbean and carries a lot of weight in the operation of the coffee sector in those countries.
- › The launch of the field actions for the project PROCAGICA (Central American Program for Integrated Management of Coffee Rust) began in 2017, led by IICA, in which CATIE is in charge of outreach, technical assistance and experimental validation of the performance of the technological alternatives promoted by the project in four Central American countries (Nicaragua, Honduras, El Salvador and Guatemala) and the Dominican Republic. The aim is to help recuperate the productive capacity of the coffee plantations that were affected by coffee rust, benefiting more than 1000 producer families that depend on this activity.

2. Agrobiodiversity

- › In 2017, the Forest Seed Bank (BSF, Spanish acronym) distributed 7.5 tons of forest seeds to 18 countries in America, Asia and Africa and generated income of almost half a million dollars. The seed source of *G. arbórea* at CATIE is the only one in Latin America with a certified A category.
- › The F1 coffee hybrids, produced for almost 20 years in a joint effort between PROMECAFE, CIRAD and CATIE, is in full expansion in Latin America. Clonation of the F1 coffee hybrids has expanded from rooted minicuttings to a strong investment in infrastructure that enables increasing the greenhouses to nine to establish clonal multiplication gardens and areas for rooting and acclimatization. New hydroponic clonal gardens were established in 2017 that contain almost 20,000 parent plants and greenhouse infrastructure increased for production of 20 000 plants/year of coffee ready to go to the field. The alliance with the Gaia Artisan Coffee business continued to bear fruit and permitted getting nearly 600 000 F1 hybrid plants to coffee growers, with plans to reach 1 million plants in 2018.
- › In 2017, for the fifth year, the Cabiria Farm-Collections and the Botanical Garden were awarded the Blue Flag ecological recognition and the certificate for tourism sustainability given by the Costa Rican Tourism Institute (ICT).
- › A working group called Safeguarding the CATIE Article 15 Collections was established with the participation of researchers from Costa Rica and consultants from the Global Crop Diversity Trust and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) to ensure financing for cryoconservation of genetically diverse seeds of tomatoes, peppers, squash and other important food crops in the CATIE seed chamber.

3. Sustainable livestock

- › Actions began on the new project Promoting the Conservation of Biodiversity Through Climate-Smart Agrosilvopastoral Practices In Landscapes Dominated by Livestock in Three Regions of Mexico (Jalisco, Chiapas and Campeche), known as BioPaSOS. This project is co-implemented by IICA jointly with the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA) and the National Commission for the Knowledge and Use of Biodiversity (CONABIO) and is financed by the government of Germany through its International Climate Initiative IKI. The project will strengthen the capability of thousands of producing families to improve the management and conservation of biodiversity in livestock landscapes and support the design of public policy to promote the topic at a national level.
- › In Panama, Honduras and Guatemala, significant contributions are being made to development of strategies for Nationally Appropriate Mitigation Actions (NAMAs) in the livestock sector, participating in the technical support groups and generating scientific evidence useful in design of the strategies.
- › CATIE is a member of the Technical Advisory Group on Biodiversity and Ecosystem Services of the Livestock Environmental Assessment and Performance Partnership (LEAP), a platform between governments, private sector associations and NGOs led by the FAO's Division of Production and Animal Health for development of comprehensive

methodological guides to understand the environmental performance of livestock value chains in order to construct policies and make decisions based on evidence.

- › CATIE actively participates in important networks connected to various components of the livestock chains in Latin America and the world.
- › The institution leads a platform for interchange of knowledge and experience in sustainable livestock, financed by FONTAGRO, IDB, the government of New Zealand and the Global Research Alliance on Greenhouse Gases in Agriculture (GRA). We also participate in the sector's two most important continental forums: FORAGRO and FONTAGRO.
- › In Jalisco, Mexico, we coordinate the knowledge management component of the Initiative to Reduce Emissions (IRE), a national initiative to reduce emissions in the agricultural sector.
- › We work with the International Center for Tropical Agriculture (CIAT) in validation of strategies for greenhouse gas (GHG) emission-reduction strategies.
- › We reactivated relations with two livestock groups in the Dominican Republic and Cuba, with whom various financing proposals have been developed that we hope will bear fruit in 2018.
- › We co-organized the 14th Meeting of the Commission on Livestock Development for Latin America and the Caribbean (CODEGALAC), the Mesoamerican chapter, held in Costa Rica. An official declaration came out of the meeting on the need to begin a development path toward sustainable agriculture, ecocompetitiveness that reduces greenhouse gas emissions and improves adaptation to climate change in the Mesoamerican region and in which CATIE participates, supporting knowledge management, education and research.

Research on sustainable livestock supports decision making in the countries

Important studies were done in Guatemala, Honduras, Nicaragua, Costa Rica and Panama to increase efforts to determine the emissions by livestock in the region of methane, N₂O and soil and water contaminants (nitrates and phosphates). Some important results follow:

1. In the southeastern region of Guatemala, enteric methane constitutes 80% of greenhouse gas (GHG) emissions; dairy farms that do apply good practices emit 2.25 kg CO₂eq/kg of milk, while if they do not, they emit 3,0 kg CO₂eq/kg of milk. In the case of livestock farms producing meat, those that apply good practices emit 10 kg CO₂eq/kg of meat while those that do not emit 12.5 kg CO₂eq/kg of meat. The studies also showed that the livestock farms that retain a good tree population achieve a positive carbon balance.
2. Similar results have been obtained in other projects working in Honduras, Nicaragua, Costa Rica and Panama, using indirect methods for estimating emissions of GHG.
3. Joint studies in Costa Rica with the National Institute of Agricultural Technology (INTA) at its experimental farm Los
4. Diamantes and at CATIE's commercial farm showed how the different stages of animal development modify their GHG emissions.
5. The N₂O emissions that result from the applications of fertilizers (urea, conventional fertilizer, organic fertilizer) in animal production are affected mostly by rainfall and not so much from the source of fertilization.
6. The results of research on GHG emissions and pollutants provide information for the development of public policies for the livestock sector and national actions to comply with goals and commitments assumed in global conventions related to climate change. For example, in Honduras, in coordination with the Ministry of Environment, the Secretariat of Agriculture (SAG), the Honduran National Federation of Ranchers and Farmers (FENAGH) and the Honduran Chamber of Milk (CAHLE), three structures of local governance were formed (local coordination tables) and a national table to promote low-emission sustainable livestock.

Integrative programs

CATIE can contribute solutions to the challenges facing the region and the world, which are complex for their high degree of interrelationships (for example, agriculture, food and nutritional security, climate change, etc.) and that therefore require the integration of various disciplines, sectors, spatial scales and actors at all levels. An example of this integration to attend to the demands of the countries is the Regional Climate Change Program of the United States Agency for International Development (USAID).

In 2017, this program supported preparation of the REDD+ strategies in Central America and the Dominican Republic on topics relevant to social and environmental safeguards; free, prior and informed consent (FPIC); monitoring, reporting and verification (MRV); reference levels; and financing. It also developed Centro Clima, a system of regional climate information oriented to users for decision making at different scales, from the government and the private sector to local users and communities. Users of the coffee, fishery, forestry, water and energy sectors also have climate information tools developed by the program.

In another instance, more than 30 organizations strengthened their capabilities in using meteorological data to evaluate and use data that reduce risks caused by climate change. Finally, the program donated specialized equipment for analyzing wastewater to five laboratories (one in Honduras and four in Panama).

Sico Paulaya: an example that participation in governance of the territory guarantees sustainable management of natural resources

Citizen participation is key to overcoming the effects of climate change; therefore USAID and CATIE helped consolidate and strengthen the Environment and Production Table of Sico Paulaya (MAPSP). Among the actions promoted are capacity building of the people and partners of the Table, promotion of sustainable forest management and good silvoagricultural practices, as well as quantification of carbon captured by forests in the territory. With that, it was possible to energize the MAPSP, doubling the number of members and integrating more relevant actors, such as livestock farmers and coastal Garifuno indigenous peoples. Currently, MAPSP functions as a platform for territorial management with influence at national and international levels, with a more robust governance directed by the local actors themselves, with producers and families better trained and identifying with their own local development. Above all, they are capable of facing the challenges of climate change and guaranteeing the sustainable development of natural resources.



A photograph of a waterfall cascading down a rocky cliff face. The water is white and frothy as it falls over the rocks. The surrounding area is lush with green vegetation, including moss on the rocks and various green plants at the base of the waterfall. The overall scene is vibrant and natural.

**CATIE and IICA: partners
for sustainable development**

CATIE and IICA: partners for sustainable development

As partners, the Inter-American Institute for Cooperation on Agriculture (IICA) and CATIE have worked for more than 40 years on sustainable development in the region. In compliance with what is in the Bilateral IICA-CATIE Agreement, in 2017 both institutions worked on the mechanisms for coordinating and managing operations to ensure coordination of joint actions of technical cooperation, capacity building and corporate services.

The actions focused on five areas 1) providing assistance to member states to address climate change and mitigate its effects; 2) strengthening the processes of productive innovation; 3) developing institutional frameworks and capabilities for sustainable management of rural territories; 4) collaborating to increase food security of small and medium producers and family agriculture; and 5) other technical cooperation initiatives in the process of analysis and formulation of projects.

The alliance between these institutions should be emphasized for their work on strengthening the sustainability and resilience of the livestock sector in the project Promoting the Conservation of Biodiversity through Climate-Smart Agrosilvopastoral Practices in Landscapes Dominated by Livestock in Mexico (Jalisco, Chiapas and Campeche), known as BioPaSOS. This project is carried out in conjunction with SAGARPA and CONABIO.





**Responding to
the region's
demands**

Responding to the region's demands

CATIE's mandate addresses the demands and needs of the countries of the Latin American region and the Caribbean, cooperating with them through education, research and technical assistance for human well-being and sustainable and inclusive rural development. In this area, its actions focused mainly on eight countries in the region, among them its member countries.

CATIE's most outstanding achievements in each country



Amazonian Watershed

In the countries of the Amazon Basin, CATIE currently has nine agreements in force with institutions in Colombia, Peru and Brazil, which are being analyzed, aiming to reactivate them and maintain relations and projects.

During 2017, the work focused on beginning a new relationship with the Amazon Environmental Research Institute and the German agency GIZ, with the goal of developing joint projects in 2018 in the Legal Brazilian Amazon, possibly on topics such as sustainable livestock and sustainable tourism as well as reforestation and forest restoration, including environmental services.

Also, an agreement was signed with the Sustainable Amazonas Foundation (FAS, acronym in Portuguese), and there is active participation in the project Capacity Building and Small Grants to Support Mitigation and Adaptation to Climate Change in Amazonia. This project, coordinated by FAS, integrates Peruvian, Colombian and Brazilian Amazonian institutions. The project will be presented to the Green Climate Fund (GCF) or the Global Environment Facility (GEF); the preparation phase is financed by the Development Bank of Latin America (CAF). It will provide solutions on the subject of sustainable development to local communities in the Amazon Basin and have a direct influence on adaptation to climate change and food security.



Actor in the agricultural sector

- › CATIE El Salvador coordinated joint actions to implement the regional agenda of the Regional International Organization for Agricultural Health (OIRSA) and participated in the International Cooperation Roundtable on Agriculture.
- › Also, within the framework of the PROCAGICA project, research actions on 50 coffee farms were supported.

El Salvador

One of the most important CATIE initiatives in El Salvador during 2017 was the WaterClima LAC project, financed by the European Union. Actions were undertaken to provide sustainable management of coastal zones, focusing mainly on strengthening the human capital of the Association of Municipalities of Los Nonualcos to prepare them to manage a plan for local sustainable development.


To strengthen more human capital in different entities in the country, a diploma was developed on territorial environmental management for coastal areas, in which 31 Salvadoran officials participated. Likewise, WaterClima LAC innovated in the area of climate information, installing one meteorological station in the municipality of Jiquiliso and a station located in San Ramón Grifal, Tecoluca, San Vicente for monitoring rainwater and river water.

Other relevant achievements in El Salvador were forged through the alliance between CATIE and the Ministry of Environment and Natural Resources (MARN), such as, for example, technical assistance that the center provided in development of the National REDD+ MbA Strategy. With the United Nations Development Program (UNDP), the Vice Ministry of Development Cooperation (VMCD) of El Salvador and MARN, CATIE designed and conducted a semi-presence diploma on climate financing for the country.

Guatemala

CATIE initiatives in Guatemala were aimed at having a more direct impact on national policy and its instruments, as well as with international agreements, working more directly and in response to the country's strategic topics.

Thus, with respect to the National Policy on Food and Nutritional Security and the National System of Food and Nutritional Security (SIINSAN, Spanish acronym), CATIE helped strengthen national capabilities to monitor the reduction in chronic malnutrition and implement more cost-effective multisectorial policies and programs based on evidence. As part of these efforts, we worked with public institutions such as the Ministry of Public Health and Social Assistance; the Ministry of Agriculture, Livestock and Food; the Ministry of Development; the Ministry of Education, the Municipal Development Institute and the Ministry of Public Finance.



Solid participation and strategic support

- › During 2017, CATIE was strongly involved in the Guatemalan System of Climate Change Sciences, the Forest Landscape Restoration Table and the Promotion Group for the Guatemalan Strategy for Sustainable Low-Emissions Livestock.
- › With the Promotion Group for the Guatemalan Strategy for Sustainable Low-Emissions Livestock, CATIE began work to prepare the NAMA in livestock. While, with ANACAFE and the Ministry of Environment and Natural Resources, meetings were held to start moving on the NAMA in coffee.

On another topic, and within the framework of the Guatemalan System of Protected Areas (SIGAP, Spanish acronym), support was given to the co-management process for good governance in sustainable management and conservation for the Acatenango-Fuego volcanic complex, providing assistance in the implementation of technical and financial instruments, tourism facilities, ecosystem recuperation and strengthening of the municipalities of Acatenango and San Pedro Yepocapa. Input on knowledge management was generated through farmer field schools (FFS) directed to more than 100 families. This initiative involved coordination with strategic actors, among them the Private Institute for Climate Change Research (ICC), the Guatemalan Tourism Institute (INGUAT), the National Council for Protected Areas (CONAP) and the Community Development Councils.

With support from UNDP, we also worked with 25 pilot farms in Jutiapa, Jalapa and Santa Rosa, to create instruments to reduce emissions of the main greenhouse gases and increase carbon sinks through participatory implementation of silvopastoral systems and other good livestock practices. This is accomplished through implementation of improvements in the productive process based on the silvopastoral-systems approach..

With the Regional Consortiums on Agricultural Research (CRIA), we also contributed to capacity building for the consortiums of local actors to help them manage and participate in applied research in 10 productive chains.

Three flagship projects

Support provided in Guatemala is framed within three large projects

- › National Nutrition Information Platform (PiNN, Spanish acronym), executed in coordination with the Secretariat of Food and Nutritional Security (SESAN). Funding from the European Union in Guatemala.
- › Territorial Co-Management for Conservation and Sustainable Management of the Acatenango Volcanic Complex, with funding from the Tropical Forest Conservation Fund (FCA).
- › Climate-Smart Production Systems Based on Silvopastoral Systems in 15 Municipalities in Southeastern Guatemala.



Honduras

The Honduran government, communities and different productive sectors have begun to pay attention to vulnerability to climate change and demand information and knowledge in order to make better decisions in light of the need to adapt to or mitigate the effects of this phenomenon. In 2017, CATIE contributed significantly to responding to this demand through the implementation of three projects:

- › Productive Landscapes
- › Building the Capacity of Forest Communities to Face Climate Change (CLIFOR)
- › Strengthening the Subsystem of Protected Areas on the Northern Coast of Honduras

Substantial progress was made through the Productive Landscapes project on a strategic plan to work toward sustainable livestock in the country; in addition support was given to the livestock NAMA, providing indispensable input for the development of a differentiated mechanism that promotes sustainable livestock practices.

Meanwhile, the CLIFOR project was key to building the capacities of forest communities in decision making around climate change. This project worked directly with the communities to define the vulnerability to climate change and the pressure on forest resources. It also strengthened the network of agroforestry groups and national academic institutions on the issue of climate change and reduction of climate vulnerability. CATIE is a fundamental part of the Interinstitutional Environmental Sciences Committee (CICA, Spanish acronym), an entity that brings together 20 universities in the country to address these important topics.

Finally, the Strengthening the Subsystem of Protected Areas on the Northern Coast of Honduras project addressed the topic of adoption and mitigation of climate change in the country's most important coastal areas, in particular along the Atlantic Coast, where work was carried out with the communities and governmental and nongovernmental agencies to find alternative to stop degradation and encourage adaptation.



Nicaragua

For CATIE in Nicaragua during 2017, the alliance with partners was key, such as the Ministry of Environment and Natural Resources (MARENA, Spanish acronym), Nicaraguan Institute of Agriculture (INTA) and the Ministry of Family, Community, Cooperative and Associative Economy (MEFFCA).

Working together with these institutions, CATIE helped with management of protected areas, providing technical assistance and financial support to the Peñas Blancas Collaborative Management Committee; shared strategies and lessons learned from the projects and CATIE actions in international congresses on sustainable coffee, agroecology and livestock; and trained 25 technicians on climate change and adaptation tools, as well as training diploma students on adaptation of coffee to climate change.

Another topic of special attention in Nicaragua was water harvesting since it guaranteed access to water for 1106 families, who received advice on management of this resource to diversify crops in the country's dry corridor. Also, 797 farm plans and three technical assistance plans were developed, all as part of the Water Harvesting Project.

A systematization of the experiences of this project was documented and recorded and a diploma on water, climate change and watersheds was begun to train 25 technicians.

Presence in national platforms

- › In Nicaragua, CATIE supported the organization of two Nicaraguan Research and Agricultural Innovation System national platforms on coffee and livestock. It also actively participated in the Science and Agriculture for Development Platform, the Soils and Water Platform, the National Watershed Network and the Cacao Platform of the National Center for Agricultural Information and Documentation (CENIDA).

Technicians and families trained

- › A total of 2002 technicians (35% women) received training in workshops and seminars on more than 10 different topics related to natural resource management and the environment.
- › Through farmer field schools (FFSs), 5070 producer families from various municipalities in the country were trained.



Mexico

In 2017, Mexico was one of the countries in which CATIE undertook new initiatives to promote solutions in the areas of livestock, climate change and water resource management. The actions were coordinated through three projects:

- › BioPaSOS, financed by the German government through the International Climate initiative IKI
- › Mechanisms and Networks for Technology Transfer Related to Climate Change in Latin America and the Caribbean. Coordinated by the Inter-American Development Bank (IDB) and financed by the Global Environment Fund (GEF)
- › WaterClima LAC, financed by the European Union (EU)

With BioPaSOS, producer families will receive training in management and conservation of biodiversity through farmer field schools (FFSs). Later, it is expected that these families will be linked to development of a green economy value chain that will enable them to improve their livelihoods and achieve sustainability in their production systems.

At the state level, BioPaSOS works with the Secretariats of Agriculture and Environment to form an interinstitutional coordination platform and a research agenda constructed from assessment of the needs of the livestock sector.

On the issue of climate change, with the project Mechanisms and Networks for Technology Transfer Related to Climate Change in Latin America and the Caribbean, CATIE's main ally has been the National Forestry Commission (CONAFOR). In the framework of this project, the center has led actions for transfer of technology to improve monitoring systems for forest resources.

Additionally, and in coordination with Reforestamos Mexico, CATIE worked in training of decision makers at a national level and of students from southern Mexico in the Wildlife Without Borders Program-Mexico (WWB.MEX).

In the area of water resources, with the WaterClima-LAC project, and the University of Monterrey in La Paz, a pilot study was started that encompasses water balance and a model of subterranean flow with transport of chemicals and identification of recharge zones.

A study was also conducted to determine self-sufficient rates for the Potable Water Operating Agency and alternately will install meteorological stations to gather data to be used to evaluate actual and future vulnerability to the impacts of climate change and its effects.



Panama

The main protagonist for CATIE's impact in Panama during 2017 was the Regional Climate Change Program of the United States Agency for International Development, which ended that year. There were also four local projects and administration and beginning of a consultancy on watershed restoration.

The institution also carried out work on forest policy, contributing knowledge and experiences on topics such as management of natural forests, community participation on REDD+ topics, rural development policy, and planning to address climate change in the agricultural sector.

Regarding contributions to training of Panamanian professionals, it was also quite a significant year, as CATIE, through the Institute for Training and Development of Human Resources (IFARHU, Spanish acronym), was able to award 10 scholarships that enabled young people from the country to begin graduate studies at the Center.

Some 840 families benefited directly and indirectly from CATIE activities in the country, which contributed in different ways to their development and well-being, principally through projects such as Capacity Building for Coffee Producers in the Panama Canal Watershed, Updating the Gualaca Altitudinal Biological Corridor, Capacity Building for Executors of the Forest Life Program, and Strengthening of Technical Capabilities for MiAmbiente-PROCUENCAS.

The coordination and support of key partners in the country was maintained, for example with the Ministry of Agricultural Development (MIDA), the Ministry of Environment (MiAmbiente), the UNDP Small Donations Program, the National Commission for Rural Territorial Development, Global Water Partnership (GWP) and the International Center for Sustainable Development (CIDES, Spanish acronym).

Impacts on policies

- › Forest management
- › Climate change in the agricultural sector
- › National REDD+ Strategic Plan Rural development
- › Management of protected areas



Peru

CATIE successfully ended the project Climate-Smart Territories as Approach and Management for the Design, Implementation, Monitoring and Evaluation of Adaptation-to-Climate-Change Projects in Peru. This project, funded by USAID, benefited 13 776 Peruvians.

The lessons learned through this project were published in the Workbook for Identification, Formulation and Social Evaluation of Public Investment Projects on Ecosystem Services, a didactic document developed in coordination with the Ministry of Environment and the Ministry of Economy and Finances. This tool was applied to develop 11 projects on ecosystem services, of which five achieved the validation for funding via the Peruvian public investment system Invierte.Pe, for a value of USD 2 437 481.

In order to guide the implementation of the most identified actions beyond the life cycle of the project, CATIE promoted, organized, trained and brought into operation the Management Committee for the Sub-basin of the Rio Shullcas. This committee was given tools that include: an assessment of the sub-basin, a management plan, the committee's operational statute and a document systematizing the experiences of CATIE.

Also, a geographic information system (GIS) was created, with a collection of maps that will help inform and support decision making about land use, intended to increase the resilience of the sub-basin of the Rio Shullcas. This information is available to the public on the geoserver of the Water and Environmental Engineering Institute's Water Center for the Andes at the National University of the Center of Peru, with which CATIE has an agreement.

All of the instruments and products developed by the project are available through the institutional portal <https://www.catie.ac.cr/climate-smart-territories-peru-proyect/>

Another important contribution is the incorporation of the Villa Rica Model Forest to the Ibero-American Model Forest Network (IAMFN), an initiative coordinated for several years by CATIE. The board meeting of the IAMFN was held in Lima, where the Equity and Gender Strategy was approved.



**Institutional
strengthening**

Institutional strengthening

Cutting-edge technology

The great technological development that has taken place recently has made it necessary for the institution to make efforts needed to strengthen its Technology of Information and Communication department. For example, we have established a new CATIE Virtual Room, which has a modern videoconferencing system and a space for production of high-quality audio and video.

Thanks to negotiations with Microsoft, we obtained the Microsoft Imagine program, which enables CATIE students and professors to use free licenses for their academic work, valued at more than USD 500 000.

In order to optimize its operating processes and have modern and efficient systems, a search has begun for a new ERP (Enterprise Resource Planning) software, which will replace the SIIF (Integrated System of Financial Information) that has been used for several decades.

Another important milestone in this area is doubling the Internet velocity (from 40 MB to 80 MB), which allows mail, navigation, telephone and conferencing services, among others, to operate more efficiently.

Finally, in the realm of telephony, CATIE has gone from Lync 2013 to a more professional and dynamic Skype for Business, and implementation of a digital telephone link called SIP TRUNK is almost completed, which will enable CATIE to reduce its telephone bill by 33%.

Improvement continues

In 2017, CATIE underwent an external evaluation process. The team was made up of representatives of the international/regional community, including specialists to cover four principal CATIE areas: education, research and dissemination, administration/finances and commercial activities. The results allow us to measure the degree of our institution's development, enabling us to take pertinent measures for improvement.

Office of Strategic Alliances

Since creation of the Office of Strategic Alliances in June 2017, mechanisms for close coordination have been established in order to maximize funding opportunities.

Our finances



Our finances

CATIE's directors continue to work diligently to identify new sources of external funding, such as donations, scholarships, and agreements with partners, that ensure financial stability in the short and medium term.

Also, significant measures have been taken to maintain financial stability, enabling a net positive result of USD 9036 for the year 2017.

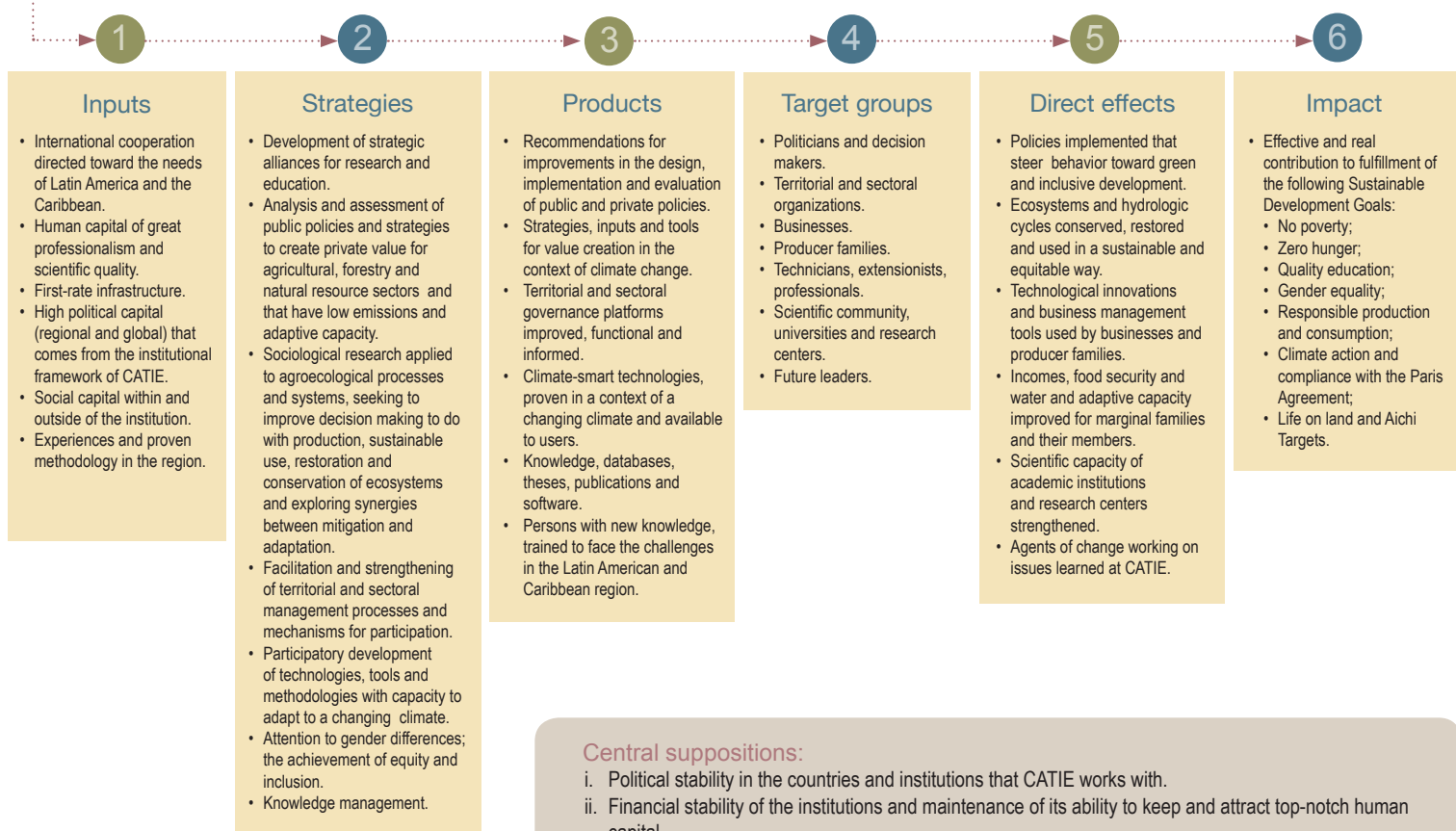
Determined efforts continue toward stabilizing funds managed as funds in custody, which provide financial support while funds are received from the donors. Thanks to these efforts, the deficit in these funds was reduced in 2017 by 13% (USD 130 000).



Appendix I. CATIE Theory of Change

Context

- Poverty and deterioration of rural livelihoods generate a growing vulnerability of rural populations
- Generational succession in rural areas, particularly related to family agriculture
- Social and gender inequality
- Growing deterioration of ecosystems and the provision of ecosystem services
- Strong changes in the climate and high climate variability
- Actions anchored in the framework of global conventions (UNFCCC, CBD, UNCCD, etc.)



Central suppositions:

- Political stability in the countries and institutions that CATIE works with.
- Financial stability of the institutions and maintenance of its ability to keep and attract top-notch human capital.
- The pattern of extreme meteorological events (for example, drought and floods) and biological events (for example, attacks by pests) behave within the parameters expected by the climate models.

The Tropical Agricultural Research and Higher Education Center (CATIE) is a regional center dedicated to research and graduate education in agriculture, and the management, conservation and sustainable use of natural resources. Its members include Belize, Bolivia, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Venezuela and the Inter-American Institute for Cooperation on Agriculture (IICA)





Solutions for environment and development
Soluciones para el ambiente y desarrollo

2018 | ANNUAL REPORT



Governing Bodies of CATIE

The Inter-American Board of Agriculture (JIA): is the supreme body of CATIE. It is made up of 34 member countries which meet on a regular basis every two years.

The Governing Council: is composed of countries of Latin America and the Caribbean which are regular or adherent member countries of CATIE. The Inter-American Institute for Cooperation on Agriculture (IICA) has a permanent position in the Governing Council, as does the Inter-American Board of Agriculture.

Costa Rica

Renato Alvarado
Ministry of Agriculture and Livestock

Belize

Godwin Hulse
Deputy Prime Minister and Minister of Natural Resources and Agriculture

Bolivia

César Hugo Cocarico
Ministry of Rural Development and Lands

CATIE

Muhammad Ibrahim
Director General CATIE

Colombia

Andrés Valencia Pinzón
Ministry of Agriculture and Rural Development

Ecuador

Alexandra Peralta
Representative of the Inter-American Board of Agriculture (JIA)

El Salvador

Orestes Fredesman Ortiz Andrade
Ministry of Agriculture and Livestock

Guatemala

Mario Méndez Montenegro
Ministry of Agriculture, Livestock and Food

Honduras

Mauricio Guevara
Secretary of State of the Agriculture and Livestock Offices

IICA

Manuel Otero
Director General IICA

Mexico

Víctor Manuel Villalobos Arámbula
Secretary of Agriculture, Livestock, Rural Development, Fisheries and Food

Nicaragua

Edward Centeno
Ministry of Agriculture and Forestry

Panama

Eduardo Enrique Carles
Ministry of Agricultural Development

Paraguay

Rolando de Barros Barreto
Secretary of the Environment

Dominican Republic

Osmar Benitez
Ministry of Agriculture

Venezuela

Wilmar Castro Soteldo
Ministry of People's Power for Agriculture and Land

The Board of Directors: consists of several members who provide their services ad honorem and meet at least twice a year.

Renato Alvarado
Minister, Ministry of Agriculture and Livestock of Costa Rica

Manuel Otero
Director General, Inter-American Institute for Cooperation on Agriculture (IICA)

Muhammad Ibrahim
Director General of CATIE

Alexandra Peralta
Ecuador, representative Inter-American Board of Agriculture (JIA)

Nigel Poole
President of the Board of Directors, International Community

Gale Garnett
Member country

Ivonne García
Member country

Esteban Girón
Panama, representative of the Governing Council

Daniel Barthelemy
International Community

Juventino Gálvez
Member country

Laura Scandurra
International Community

Carlos Casamiquela
International Community

Inocencio Higuera
Member country

Helmut Eger
Comunidad internacional

CATIE: mission, vision and values



Mission

To achieve sustainable and inclusive human well-being in Latin America and the Caribbean, promoting education, research and outreach for the sustainable management of agriculture and natural resource conservation.



Vision

To be the international land grant university specializing in agriculture and natural resources that effectively integrates education, research and outreach in partnership with multiple partners and countries through a solid regional scientific platform.



Values

- Appreciation for diversity
- Entrepreneurial spirit
- Excellence
- Innovation
- Integration
- Service
- Accountability

The three pillars that support our philosophy



Education

CATIE is a graduate level university with wide prestige and international recognition, which is evidenced, among other reasons, by the following:

▶ It has the oldest International Graduate Program in Agriculture and Natural Resources of Latin America (since 1946) with more than **2500 graduates**.

▶ Its academic offer includes options for strategic courses, diploma courses, specializations, academic masters, professional masters and international doctorates in different thematic fields.

▶ Its students and graduates come from more than 40 countries of different continents, mainly America.

▶ The faculty consists of teachers and scientists from more than 25 countries in different regions of the world.

▶ It has joint master's and doctoral programs with prestigious international universities (eg, Bangor University, University of Idaho, University of North Texas).

▶ Its graduate programs are international in their approaches, modalities and contents.

▶ It has agreements with more than 50 universities and 400 partners in different parts of the world.



Research

The research carried out by CATIE has a systemic approach, for example, the climate-smart landscapes approach. Its starting point is a holistic evaluation of the problems and opportunities of rural areas with an emphasis on inclusion and gender. We maintain some specialized lines of research whose implementation and transfer of results is framed in projects with systemic approaches that contribute in an integral way to achieving sustainable and inclusive human well-being.

The main research and development actions are carried out by three scientific programs: the Agriculture, Livestock and Agroforestry Program (PRAGA), the Research Program on Development, Economy and Environment (PIDEA), and the Forests, Biodiversity and Climate Change Program (PBBCC). These programs address broad thematic areas (coffee, cocoa, climate change, sustainable livestock, policy formulation, forests, watershed management, biological corridors and protected areas, among others) and the lines of work pursue scientific contributions in accordance with the demands of our member countries and Latin America in general, the Sustainable Development Goals and international conventions.



Projection

We have 13 member countries in Latin America and the Caribbean and our actions reflect different levels of impact.

Our work includes the transfer of technology and knowledge and influence on policies at different scales, which contributes to poverty reduction and the economic, social and environmental development of the region.



Lines of research



Member countries

CATIE responds to the Sustainable Development Goals (SDG)

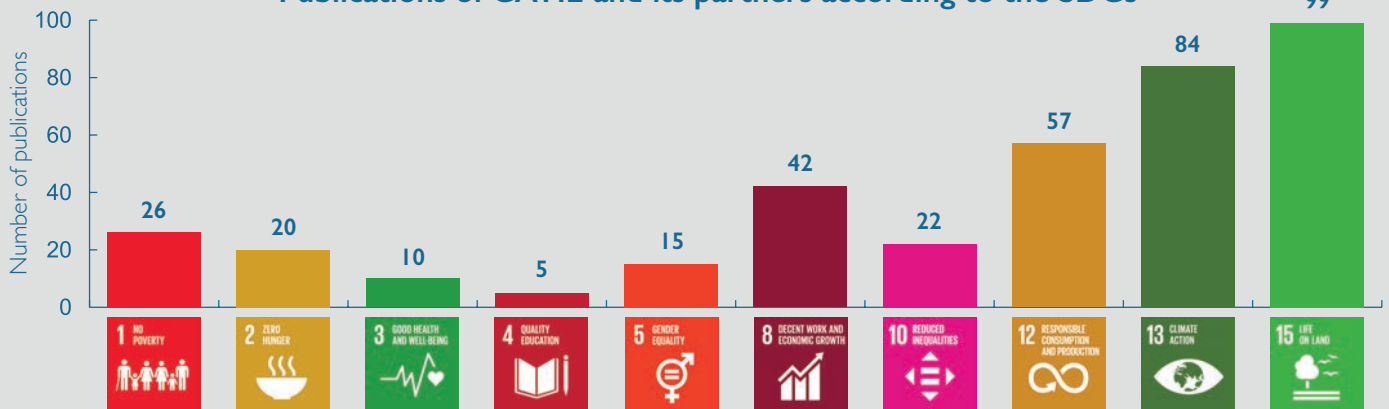
The research and development lines of CATIE's work are articulated with the Sustainable Development Goals (SDG). During 2018, the institution has generated important results for several of the goals. For example, the relationship that exists between the number of CATIE publications and the SDGs.

A high percentage of the publications have generated knowledge about life in terrestrial ecosystems (SDG 15), climate actions (SDG 13), responsible production and consumption (SDG 12), decent work and economic growth (SDG 4), poverty (SDG 1) and zero hunger (SDG 2). Apart from the publications, CATIE has worked with different international, regional and national institutions to develop plans and strategies, as well as policies that are important for countries in their efforts to comply with the SDGs. For example, CATIE has worked with the World Bank on the analysis of supply chains in the production of coffee, cocoa, meat, soybeans and African palm which put high pressure on forests and exacerbate deforestation.

This has allowed us to study and propose policy and market instruments that contribute to the reduction of deforestation and encourage responsible production and consumption.

On the other hand, CATIE is a member of the H20x20 program managed by the World Resources Institute (WRI) which has achieved increases in obtaining financial resources from the private sector and an increase in the restoration of degraded areas in Latin America (SDG 15). In Jamaica, with a project of the Inter-American Development Bank (IDB), progress has been made on the formulation of a proposal for payments for environmental services (PES) associated with the conservation of ecosystem services (SDG 15). In addition, CATIE has supported several countries in the region in the implementation of their strategies to intensify sustainable livestock and the coffee and cocoa production chains (SDG 12), as well as in the management of watersheds (SDG 15). Improvements in family farming that increase the productivity of food systems (SDG 2) and improve the quality of the human diet are also encouraged, contributing to the requirements for healthy food and nutrition (SDG 3).

Publications of CATIE and its partners according to the SDGs



CATIE lines of research and the SDGs



Line 1: Ecological intensification of agricultural, agroforestry and livestock systems to increase their productive efficiency and their resilience



Line 2: Ecosystem services for human well-being



Line 3: Restoration of ecosystem functions and services: water, soil, carbon sequestration



Line 4: Architecture of financial and nonfinancial instruments for the sustainable management of ecosystems and productive sectors



Line 5: Public policies and instruments of governance for human well-being and sustainable management of ecosystems



Line 6: Green, inclusive and sustainable value chains



Line 7: Vulnerability assessment and planning for climate action at national, regional and global levels



Line 8: Ecosystem and hydrological modeling and quantification of flows of carbon and greenhouse gases



Line 9: Analysis of decision making about production and consumption at the household level



The most outstanding in 2018



Systemic and transdisciplinary research

117 Publications

- | | |
|---|---|
| 36 Articles in scientific journals | 5 Reports and other publications |
| 9 Articles in technical journals | 3 Chapters in books |
| 1 Presentations at congresses | 15 Technical series |
| | 48 Theses |

Proposals for new projects

- | | |
|---|--|
| Developed 61 proposals and 37 are in process | USD 14 702 463
Signed or verbally approved proposals |
| Two project agreements were signed and 6 projects were approved verbally | USD 18 054 338
Proposals in process |

Promotion of sustainable livestock production



Establishment of a climate-smart tropical dairy model that also functions as a training center.

With this model of sustainable intensification, the following changes have been achieved:

- ▶ The land area dedicated to the activity has been reduced by almost 45% and the area liberated has contributed to an increase in forest area.
- ▶ The pastures have living fences to provide shade and thereby reduce the caloric stress of livestock.
- ▶ Jersey cattle have been crossed with other Zebu breeds to improve adaptation to climate change and variability.
- ▶ Efficiency in the use of water and fertilizers has been improved, the use of both has been reduced by more than 50%.
- ▶ Integrated manure management generates 50% of the electricity demand for the milking operation. Biofertilizer is also produced for the pastures and other agricultural crops of the farm.
- ▶ Milk productivity has increased by 500% and income by almost 200%.

Genetic material for the region

Cacao deliveries

2000 grafted plants to cocoa producers in Costa Rica
8300 seeds to three trading partners from two countries
5000 cuttings to a business partner
Clones of the CATIE-Rx series and genotypes from the International Cacao Collection to producers, private companies and research institutions of Costa Rica, Panama and the United States
In partnership with the ECOM company, we started the production and large-scale sale of **CATIE-Rx clones in Nicaragua**

Distribution of forest seeds

4800 kg of forest seeds for **40** species to **220** customers in **11** countries
16 accessions of horticultural seeds to eight clients in Costa Rica

Production and sale of coffee genetic material

22,000 plants for somatic embryogenesis
148,000 plants from rooting coffee cuttings
In partnership with Gaia Artisan Coffee, close to **1 million** plants were distributed to the Central American coffee sector

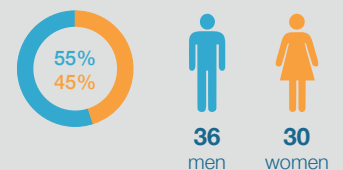


Scientific and professional training



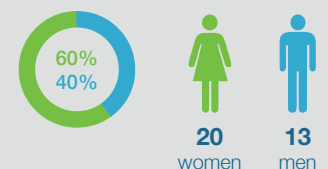
First year students in 2018

66 students from 20 countries



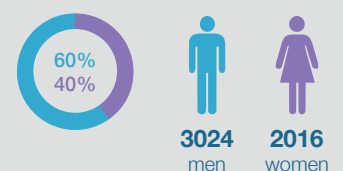
2018 Graduates

33 students from 11 countries



Professionals trained in special and strategic courses

5040 professionals from 22 countries



Scholarships and USD obtained through scholarships

53 scholarship recipients from 19 countries

USD 639 032 Amount of contribution in scholarships

Donors: Fundátropicos, CATIE's own funds, external scholarships (e.g. German academic exchange service DAAD, USAID, CONACYT of Mexico, IFARHU of Panama, Guatefuturo, AGROSAVIA and Colfuturo de Colombia, etc.) and CATIE project grants.



CATIE a strategic partner

Country →	Belize	Bolivia	Brazil	Chile	China	Colombia	Costa Rica	El Salvador	United States	Guatemala	Haiti	Honduras	Jamaica	England	Mexico	Nicaragua	Panama	Paraguay	Peru	Dominican Republic	Uruguay	Totals	Amount in USD
Agreements/Contracts	1	1	-	-	-	3	33	1	1	7	1	2	1	-	-	3	7	1	1	1	1	65	USD 11 774 265,22
Cooperation agreements	-	-	-	-	-	-	6	-	-	3	-	1	2	-	-	2	1	-	-	2	-	17	USD 1 341 872,91
Commercial contract	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	USD 647 500
Letters of understanding	-	-	1	3	1	4	7	3	-	3	-	3	-	1	8	-	2	-	2	5	-	43	



Dissemination and positioning

2 525 530

public reached on social networks

(Twitter, LinkedIn, Instagram, Facebook)



Webpage

511 636

Pages viewed

178

Countries

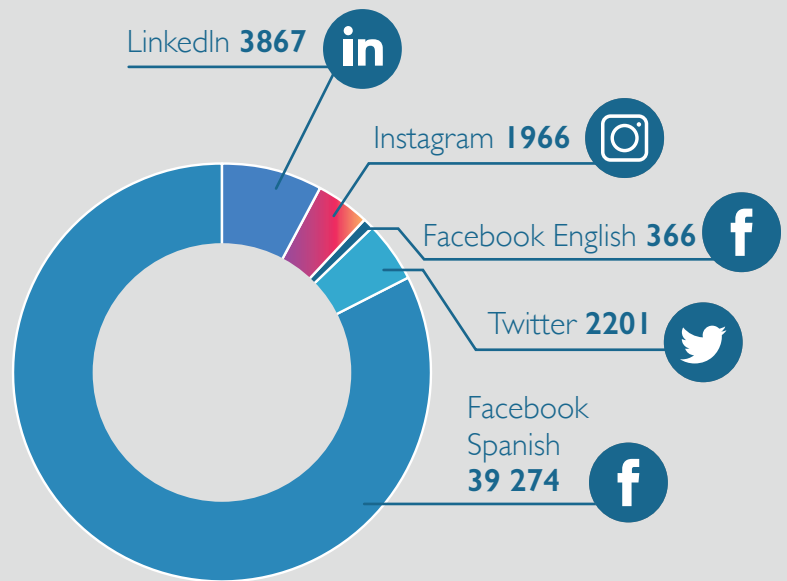
198

Web News

232 469

Visits to notes

Number of followers on social networks as of December 2018



Financial sustainability

There was a positive balance of **USD 15 030** for 2018.

USD 1.2 million in country quotas were recovered.



Personnel

Number of personnel: **270 employees**

Employees with doctorate degrees: **21**

Employees with master's degrees: **59**



Promoting quality education

*In 2018,
we promoted
a dynamic
teaching system
adapted to
the social and
labor demands
of today's
world.*



The CATIE Graduate Program is characterized by a clear commitment to service to the communities of Latin America and the Caribbean and to encouraging excellence, leadership and cooperation among the student community.

Strategic alliances

- ▶ Two joint doctoral agreements (University of Bangor and University of Idaho) were renewed to continue offering the joint programs.
- ▶ Three agreements with institutions of the Dominican Republic committed to higher education: Ministry of Higher Education Science and Technology (MESCyT), the Fundapec educational credit foundation and the General Directorate of Multilateral Cooperation (DIGECOOM) to finance full scholarships to Dominican students.
- ▶ Two agreements with mixed institutions that support higher education (Guatefuturo and Hondufuturo) for joint financing of students who wish to pursue graduate studies at CATIE.
- ▶ Two agreements with Colombian institutions (Agrosavia-formerly Corpoica and Fundación Natura) for scholarships and joint research.
- ▶ Agreement with the National University of Forestry Sciences (UNACIFOR) to support study at CATIE for the teaching staff.

All these agreements allow the Graduate School to ensure a significant influx of human and financial resources.



Towards virtuality

In a globalized world increasingly immersed in the continuous advancement of new technologies, it is necessary to have master's degrees that offer countries a study opportunity through excellent online education. Apart from the virtual mastery of Integrated Watershed Management, in 2018 progress was made on the definition and design of two new virtual masters:

Management of Agribusiness and Sustainable Markets

Agroecological Intensification and Nutritional Food Security (with support from IICA)

A digital marketing plan was implemented for these master's degrees, in order to ensure the enrollment of students in each one.



Orton Memorial Library in numbers

Updating of the databases

1051 digital or print documents processed and entered in the Orton Catalogue and the Institutional Repository

Orton Catalogue-SIDALC

564 403 visits (Google analytics)

CATIE Repository

71 179 visits (Google analytics)

Journal articles downloaded through the Consortium of CGIAR Libraries

2434



Success stories



Photo: Le Nouvelliste.com

Jobert C. Angrand
(Haiti, class of 2000-2001)
Ministry of Agriculture,
Natural Resources and
Rural Development
of Haiti

He was appointed in April 2018 and is recognized as having served for several years as executive coordinator of the National Coffee Institute of Haiti. He is an agricultural engineer and has an academic master from CATIE in the area of agroforestry.

"It is gratifying to see how many of CATIE's Haitian graduates occupy or have held leadership positions in academic, research, public sector and private sector institutions, which demonstrates the quality of the education they received at CATIE, where they obtained the tools and capabilities necessary to perform with excellence and face the challenges of the world," Isabel Gutiérrez-Montes, Dean of the Graduate School.

Elba Tatiana Espinosa Quiñones
(Peru, class of 2007-2008) Jane Goodall Hope Recognition and Inspiration Ranger Award



She received this award for the conservation work she has carried out as founder/director of ARBIO for more than 15 years in the department of Madre Dios in the Peruvian Amazon, protecting forests from the threat of deforestation. It is the first time that this award has been won by a person from Latin America.

Quiñones is an engineer in Forestry Sciences with experience in forest administration and management in the Peruvian Amazon: permanent production forests, management of non-timber forest products, ecotourism and conservation. She has a master's degree in Management and Conservation of Tropical Forests and Biodiversity from CATIE with an emphasis in Environmental Socioeconomics and Climate Change.



Strategic research areas

Research on Development, Economics and Environment

In 2018, the staff of the Research Program in Development, Economics and Environment (PIDEA) was strengthened with the promotion of an official as director of the Latin American Chair in Environmental Decisions for Global Change (CLADA) and the creation of a postdoctoral position to work on matters related to public policies and economic incentives, as well as to strengthen the staff of professors of the Master's Degree in Economics, Development and Climate Change. This last position is financed with funds from the Environment for Development initiative (EfD).

In addition, the program participated in the execution of 31 projects/consultancies in the fields of water management, environmental services, improvement of livelihood resilience, green and inclusive value chains and green economics.



Strategic actions

Water management

A pre-feasibility study was carried out to stimulate socioeconomic development and adaptation to climate change in the dry corridor region of Costa Rica as part of the Water Supply Project for the Tempisque River Watershed and Coastal Communities (PAACUME).

In addition, through CLADA and under the framework of the ChorotAgua project (a project developed in Costa Rica to address the effects of climate change on water resources), agroforestry practices were studied that contribute to climate change adaptation in several cantons of Guanacaste province in Costa Rica.

On the other hand, within the Community Water Monitoring Project (EGAP), the use of information technology tools was implemented to facilitate adaptation to climate change by local institutions in Central American regions with water shortages.

Finally, community water management in rural aqueducts was strengthened in the flow and connectivity areas of the Guácimo-Pococí Aquifers of the Tortuguero Priority Geographic Area in Costa Rica to influence the conservation, maintenance and restoration of tropical forests.

Environmental services

In 2018, the design of a payment program for environmental services for the protection of water resources in the Yallahs and Hope basins in Jamaica began, which aims to technically support the development and implementation of a payments for environmental services program for the protection of the main river basins of the cities of Kingston and St. Andrew in Jamaica.

The Ecosystem Services Accounting for Development project (ESaforD) continues to contribute to the development of accounting for ecosystem services in Costa Rica and other countries worldwide, by improving knowledge and empirical experience in the appraisal of such services in line with national accounting principles.

Resilient livelihoods

Work was done on the formulation of a manual and a Field School curriculum on Climate Smart Agriculture (CSA) in Belize, to support the capacity-building activities developed by the extension service of Belize to help farmers improve their capacity to adapt to climate change.

Other technical advising consisted of the identification and selection of measures to adapt to climate change, in order to improve the resilience of vulnerable people in Guatemala. Within the framework of this study, the technical, environmental and social feasibility of the most appropriate adaptation measures to be implemented in the project "Increase in the climate resilience of rural families through the restoration of landscapes and degraded lands in Guatemala" were defined, to be submitted by FAO to the Green Climate Fund.

After six years (2012-2018), the CASCADA project evaluated the vulnerability of subsistence smallholders and coffee producers to climate change and developed strategies for Ecosystem-based Adaptation (EbA).

Green and inclusive value chains

In the framework of the value chain initiative for non-timber forest products, research, technical assistance and education activities were carried out with 60 producers in cocoa, medicinal plants and pepper value chains. Market opportunities were identified through specific studies and in a business roundtable.

The project for the Evaluation of Five Value Chains in Central America (consortium ProFound-CATIE) evaluated cocoa, coffee, fresh and processed fruits and vegetable value chains, as well as aquaculture in six countries: Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama. The aim is to provide the necessary inputs to the Center for the Promotion of Imports from developing countries (CBI) for the selection of the chains where the regional project on Strengthening Central American capacity to trade in goods and services will be developed in order to take advantage of the EU/CA Association Agreement (2018-2022).

The evaluation of the social, economic and commercial impacts of single-use plastic and compostable and renewable alternatives was also carried out as a basis for the National Single-Use Plastic Substitution Strategy, led by the United Nations Program for Development (UNDP).

Under the framework of the Indigenous Training project and special projects in the Brunca area of Costa Rica, research, technical assistance and training activities were developed with the objective of preparing 195 indigenous people to formulate sustainable production projects.

Green economy

The EFD Collaborative Project: Oceans and Marine Resources focused on reducing marine (plastic) pollution, developing effective regulation to control non-sustainable fisheries, and determine the economic benefits of sustainable aquaculture for developing countries.

Similarly, the project "LatinoAdapta: Strengthening Links between Science and Politics in Latin America", which was carried out under the CLADA framework, also prepared and published the National Report of Costa Rica: "Knowledge gaps for the implementation of plans and actions for adaptation to climate change".

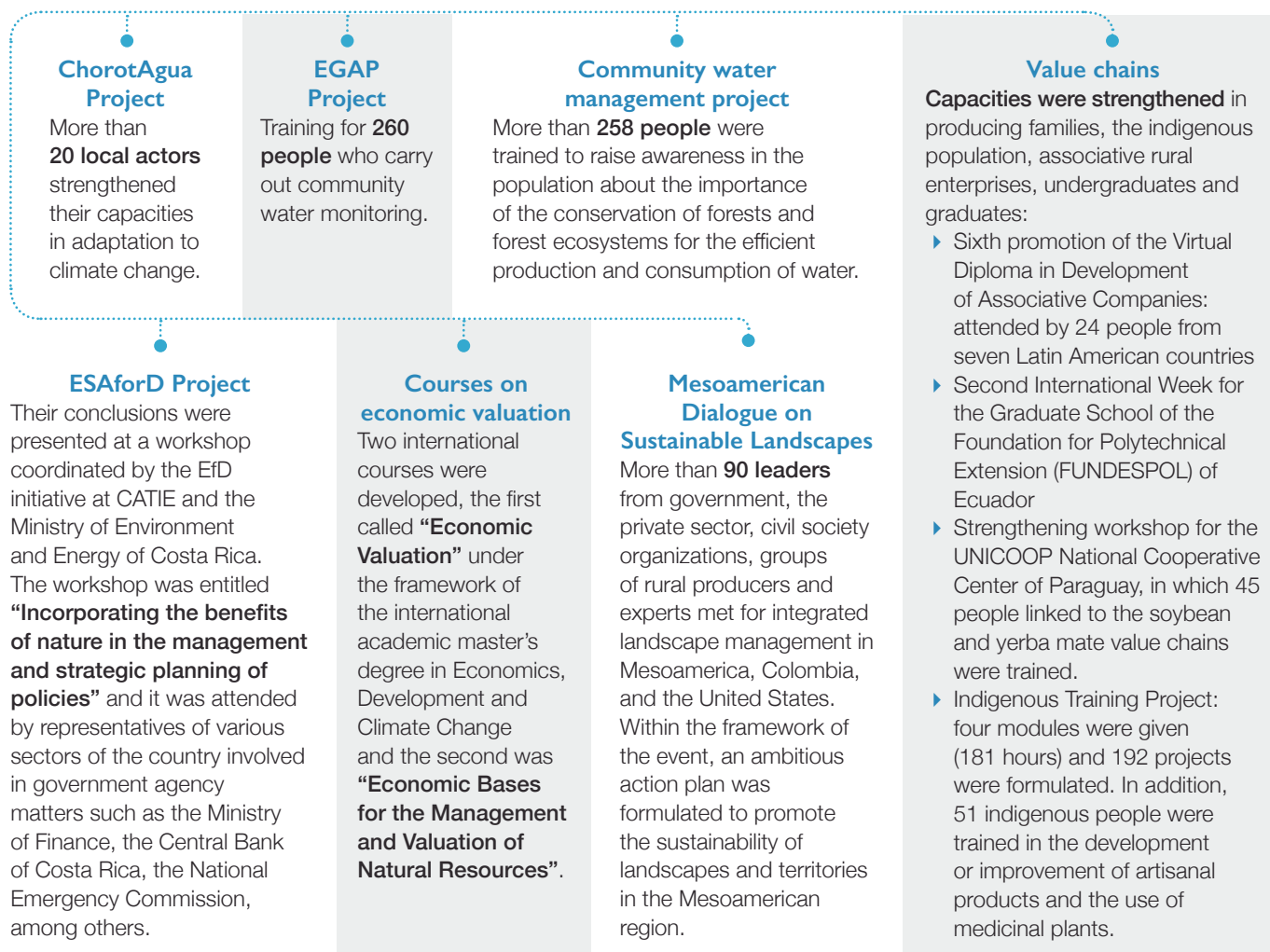
On the other hand, through technical advising, investment plans were prioritized and prepared for the 28 priority actions identified in the Nationally Determined Contributions (NDCs) of Costa Rica. This work served as an input for the decisions of the Directorate of Climate Change of the Ministry of Environment and Energy of Costa Rica.

Since the beginning of 2018, the IDEA program has coordinated the implementation of cooperation activities between CATIE and the Climate Technology Centre & Network (CTCN). CATIE is one of the 16 "consortium partners" that were selected based on their extensive experience in adaptation and mitigation matters, the technology cycle, and the use and development of climate technologies.





Capacity-building



Innovative tools and methodologies

The ChorotAgua project implemented an innovative leisure/recreational methodology called ChorotAgua Festivals that aimed to educate and raise awareness about the stewardship of water resources and the environment.

Similarly, under the ESAforD framework, a methodology was developed to identify the value of ecosystem services provided by ecosystems at different distances, for example, from an agricultural field. The use of spatial and geographically representative data allowed the derivation of unit values for the ecosystem service benefits studied. This methodology was implemented simultaneously by CATIE (EfD centers for Central America) and other EfD centers in China, Ethiopia, Kenya, Tanzania, South Africa and Sweden.

The collaborative EfD program: Oceans and Marine Resources provides comprehensive knowledge-based advice to national policy processes to achieve Sustainable Development Goal 14. The program involves researchers from 10 different countries: Chile, China, Colombia, Costa Rica, Ghana, India, Nigeria, South Africa, Tanzania and Vietnam.



Outreach

The ESAforD results will support current efforts in the statistical division of the UN, the World Bank (WAVES) and several countries for the accounting of ecosystem services that aim to more comprehensively incorporate the economic contributions of nature to the gross domestic product (GDP).



Success story

“We see CATIE as the strategic partner we have very much needed,” Xinia Espinoza, director of the Brunca Regional Mixed Assistance Institute (IMAS), recognizing the good results of CATIE’s Agribusiness Unit in the Indigenous Training project. This project highlights innovative elements such as tools adjusted to the indigenous reality, an integral process that respects their cosmivision and promotes the empowerment of a historically invisible population with high participation (91%) during a 181-hour training process and personalized advising. In addition, it has been one of the most interesting interventions in terms of results and alliances between government entities, private companies and academia.



Partners

Environment for Development (EfD) • Climate Technology Center and Network (CTCN) • National Underground Water, Irrigation and Drainage Service (SENARA) • Fundecooperation for Sustainable Development • Johns Hopkins University • Costa Rica Forever Association • National Environmental Protection Agency (NEPA) of Jamaica • Inter-American Development Bank (IDB) • Foundation for the Development of the Central Volcanic Mountain Range (FUNDECOR) • Ministry of Agriculture, Fisheries, Forestry, the Environment, Sustainable Development and Immigration of the Government of Belize (MAFFESD) • United Nations Development Program (UNDP) • Organization of the United Nations for Food and Agriculture (FAO) • CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) • Bioersity International • EcoAgriculture Partners



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Agriculture, Livestock and Agroforestry

In 2018, the Agriculture, Livestock and Agroforestry Program (PRAGA) achieved substantial progress in its four lines of action: agrobiodiversity, livestock production, cocoa-coffee and agroforestry.

Strategic actions

Quality coffee

International Coffee Collection: thanks to financial support from the Coffee Institute of Costa Rica (ICAFFE), agronomic management work was carried out in the collection, which included shade adjustment, weed management, fertilization and pruning. In addition, 103 accessions of coffee seeds were distributed to four countries: Guatemala, Panama, Costa Rica and El Salvador.

Genetic improvement: to meet the demand for new genetic materials in the Central American region, 52 new coffee hybrids were created using seven accessions with rust tolerance and five varieties with excellent cup quality. Among the progenitors used, four rust-tolerant accessions were used for genetic improvement processes for the first time.

Core Collection: in alliance with World Coffee Research (WCR), all the accessions conserved at CATIE were morphologically characterized. The information is available on the Genesys platform. The fruits of all the accessions were tasted by the Fine Coffee Association of Costa Rica and the Origenes Coffee Grower, Costa Rica, selecting 25 accessions, which were later tasted by Q-Grader tasters, with six of them achieving an excellent quality grade.

Central American Program for Integrated Coffee Rust Management, PROCAGICA (developed in cooperation with IICA and Cirad): in both Central America and the Dominican Republic, coffee rust management technologies are being validated on farms. In addition, an agreement was reached between regional PROCAGICA and PROCAGICA-Dominican Republic for CATIE to orient interventions that improve the redesign of the coffee plantations to be renovated with the implementation of the best agronomic and agroforestry practices.

Dominican Coffee Institute (INDOCAFE): within the framework of this project, expert opinions on the types of coffee plantations in the Dominican Republic were systematized and biophysical and structure data were collected in 400 coffee plantations. The project aims to generate the information necessary to guide interventions for renovation and/or rehabilitation of Dominican coffee plantations.

Ecuadorian coffee and cocoa program: this program established a long-term agroforestry coffee trial in Ecuador. CATIE guided the process and left a plan for ecosystem services assessments over time.

GAIA Artisan Coffee: work continued on the provision of quality genetic material and evaluation of new materials to make them available to the coffee sector in partnership with the private sector. A new agreement was signed for the production of 30,000 hybrid coffee plants.

Project: Conserving neotropical migratory birds through the management of ecosystem services on coffee farms: funded by the US Fish and Wildlife Service (USFWS) to work with coffee farms distributed within the area of influence of the Volcanic Biological Corridor Central Talamanca (CBVCT). To date, the project has achieved participation commitments from at least 30 coffee producers, and it has begun to establish experiments (bird and bee exclusions) for the simultaneous evaluation of the ecosystem services of pest control by birds and pollination by bees.

New projects: an agreement was signed with the GAIA Artisan Coffee and Cafetalera Origenes companies, with the aim of investigating new genetic materials from CATIE's International Coffee Collection that have promising characteristics and potential to be marketed for their cup quality.



Superior cacao clones

Research on the genetic improvement of cacao has allowed identification of the best clones with tolerance to the main diseases that affect this crop, in partnership with renowned organizations in the region. In 2018, methodologies were also developed for the ideal spatial arrangement of cacao clones in order to maximize their productivity.

In 2018, we continued the implementation of four projects related to genetic improvement funded by the United States Department of Agriculture (USDA) -Mars, USDA-Puerto Rico, World Cocoa Foundation and Nestlé-Switzerland, respectively. These projects generated data that will help identify the best clones with tolerance to diseases such as monilia and black pod in the next two and three years. With the USDA-Puerto Rico project, data related to the capacity of cacao clones to absorb cadmium metal was generated. Progress was also made in the generation of data to identify high quality cocoa bean clones, under three projects funded by the chocolate factories Lindt in Switzerland, Guittard Chocolate Company in the United States and Max Felchlin in Switzerland.

On the other hand, in conjunction with the Maya Kakaw cooperative in Guatemala, the methodology for the construction of compatibility and incompatibility matrices was adjusted, so that the degree of compatibility of 10 clones of interest for Guatemala is already known. The germplasm conservation project with the Franceschi Chocolate company in Venezuela allowed us to have important materials in custody that in the future could be used for genetic improvement.

Finally, in the framework of the actions of the cocoa project KOLFACI, funded by the government of Korea, in 2018 it was possible to establish a network of 32 plots for participatory cacao research, where the performance of promising clones will be evaluated in eight countries (Peru, Colombia, Panama, Costa Rica, Nicaragua, Honduras, Guatemala and the Dominican Republic), with the application of modern agronomic-agroforestry techniques. Thanks to the positive evaluation of the project's progress, the disbursement was made to finance the second year of the initiative in 2019.

Sustainable and climate-smart livestock production

Finally, in livestock production, CATIE continued to consolidate its position as a leader in the promotion of sustainable, low carbon, and biodiversity-friendly intensive livestock systems. In this area the program executed several projects in Latin America. Moreover, various processes for formulating national policies and strategies linked to the livestock sector for Central American and Caribbean countries, were accompanied; in addition, technical support was provided for the formulation of Nationally Appropriate Mitigation Actions (NAMA) for livestock.

During 2018, there was participation in seven projects framed under sustainable livestock management and intensification in five countries: Costa Rica, Mexico, Belize, Honduras and Uruguay, as well as a project at the Latin American level with the Regional Agricultural Technology Fund (FONTAGRO) and the government of New Zealand.

In three states of Mexico, progress was made on the implementation of the Biodiversity and Sustainable Agrosilvopastoral Livestock Landscapes project known as BioPaSOS, of the International Climate Initiative (IKI), which is executed by CATIE and the Inter-American Institute for Cooperation on Agriculture (IICA), in coordination with the National Commission for the Knowledge and Use of Biodiversity (CONABIO) and the Secretariat of Agriculture and Rural Development (SADER). In this project, six investigations focused on evaluating different ecological and productive aspects, livestock management, biodiversity and ecosystem services. Outstanding studies include:

1. Analysis of the perception of livestock producers about the factors that exist and that continue to contribute to the loss of biodiversity in landscapes dominated by livestock.
2. The evaluation of the contribution of cattle ranches to biodiversity conservation, by studying floristic composition, richness, abundance and diversity of arboreal species in cattle ranches.
3. The impact of forest fires on ecosystem services in livestock landscapes, among others.



At the institutional strengthening level, more than 10 agreements for the establishment of strategic alliances with partners of the governmental and private sectors, and academic institutions have been signed.

Within the framework of the project “Delivering multiple global environmental benefits through the sustainable management of productive landscapes” and in conjunction with the Ministry of Environment of Honduras and the GEF-UNDP Global Environment Facility, CATIE developed a strategic plan for the establishment of a National Sustainable Livestock Platform, which will be launched in 2019. In addition, a differentiated credit proposal was designed to promote sustainable livestock production and at least 14 successful experiences of sustainable livestock production were documented in Honduras. In addition to this, two strategic investigations were carried out on 1) carbon balances in livestock farms, and 2) the prioritization of adaptation and mitigation practices. Both studies will be part of the livestock NAMA for the country as instruments for the achievement of their Nationally Determined Contributions (NDC).

As part of the actions for the new project of the Inter-American Development Bank (IDB) called *Developing a*

climate-smart and green cattle sector through technological innovations and strengthening local institutions, which is carried out with the Belize Livestock Producers Association (BLPA), a pilot project was negotiated to promote bovine production chains that are climate-smart and where CATIE will support farm plan designs based on silvopastoral systems, as well as the design of production chains and project monitoring and evaluation.

In 2018 the Environmental Livestock Production Unit made progress on strengthening regional and national platforms and provided support to the countries to develop their strategies for the sustainable intensification of livestock. For example, CATIE continued with the coordination of the regional platform in Latin America called “Platform for the Sustainable Intensification of Livestock Production”, which is financed by New Zealand, FONTAGRO and CATIE. In 2018, it was possible to develop a regional agenda for research related to sustainable livestock intensification in Latin America. Four webinars were also developed for the dissemination of knowledge about greenhouse gas estimation methodologies, the management of silvopastoral systems, and best manure management practices on livestock farms.

Agrobiodiversity

In 2018, 4800 kg of forest seeds of 40 species were distributed to 220 customers in 11 countries (Belize, Costa Rica, Ecuador, Colombia, Ghana, Mexico, Nigeria, Peru, Sierra Leone, Thailand and the United States) along with 16 accessions of horticultural seeds to eight clients in Costa Rica.

The quality of the seeds is increasingly recognized worldwide, which was reflected in a significant increase in exports of forest seeds to companies in Asia and Africa, in addition to the traditional market in the American tropics.

GAIA received over 22,000 mother plants of five different hybrids (Centroamericano, Milenio, Casiopea, Excelencia and Esperanza). Due to growing demand from coffee producers, CATIE and GAIA signed a new agreement at the end of 2018 to increase the number of plants that the Center’s Biotechnology Laboratory distributes to GAIA from 21,000 to 30,000, thereby consolidating the commercial relationship between CATIE and this private company.

In addition, the Biotechnology Laboratory initiated the in vitro establishment of selected coffee and cacao materials, in order to diversify the offering of promising varieties.

In the collections in long-term storage, regeneration was achieved for 100 squash (*Cucurbita moschata*), bean (*Phaseolus* spp.), jicama (*Pachyrhizus erosus*) and corn (*Zea mays*) accessions, and 10,886 seeds were collected from 13 coffee accessions which will be used in cloning programs and for distribution to coffee growers.

As part of the celebration of the tenth anniversary of the Svalbard World Seed Vault in Norway, CATIE sent duplicates to this vault of 591 accessions of 29 crops, this being the largest number of seeds that CATIE has ever sent to the vault. With this, a total of 1,534 duplicate accessions has been reached, representing 24.7% of the total germplasm preserved by CATIE in its cold chamber.

In 2018 the Botanical Garden was visited by 4,453 people and it received an award from the Ecological Blue Flag Program and the Sustainable Tourism Certificate and Code of Conduct. A botanical revision of 165 species was also carried out and a new garden with 40 Bromeliad species was established.





Capacity building

PROCAGICA

CATIE provides **technical assistance and training** to technicians and coffee producers from six different countries.

Multiplication gardens

Following the successful propagation of **coffee F1 hybrids** through rooted cuttings, several companies became interested in using this propagation method for the multiplication of other select varieties of CATIE's International Coffee Collection. Toward this end, the establishment of multiplication gardens began with five select varieties and a first delivery of 8500 plants was made, some of which had not been propagated previously using clonal methods.

Cacao agroforestry systems

At least **20 technicians working with cacao** in eight Latin American countries (Peru, Colombia, Panama, Costa Rica, Nicaragua, Honduras, Guatemala and the Dominican Republic) were trained in the management of cacao agroforestry systems.

BioPaSOS Project

The project has achieved the establishment of learning communities in its three intervention territories, through which it has achieved the implementation of more than **60 Field Schools (ECA)**, strengthening the capacities of more than 900 livestock families, approximately 30% of which are women, on issues related to the adoption of good livestock practices, as well as the importance of biodiversity conservation to promote climate-smart livestock production.

International workshop

CATIE, FONTAGRO, Global Research Alliance, New Zealand and FAO organized the international workshop **"Climate change and livestock development in Latin America and the Caribbean: requirements for the formulation of knowledge, policies and projects for investment"** with 65 representatives of national, regional and international organizations from 20 countries attending. Under the workshop framework it was agreed to establish a plan for the standardization of methodologies for the estimation of greenhouse gas emissions, as well as the lines of research and financial mechanisms to promote the adoption of technologies for sustainable livestock production intensification.



Innovative tools and methodologies

Through the PROCAGICA regional and PROCAGICA-Dominican Republic projects, the Zig-Zag methodology is implemented for training and extension work on innovative practices and approaches. This methodology is based on training workshops given every two or three months to the technicians, which facilitates feedback on the learning and monitoring throughout the productive cycle among technicians and producers.

The propagation of CATIE's cacao clones has traditionally been done by grafting, which requires the production of scions in large bags for subsequent grafting. During 2018, four trials were run to determine the effects of auxins, stake type and length, foliar area, shade types and substrate types on the rooting capacity of cuttings, achieving important progress. In 2019 we expect to consolidate the technique and start commercial production of cacao clones via the rooting of young tissue cuttings.



Outreach

CATIE joined the Cacao Committee of Central America and the Dominican Republic (SICACAO), a regional platform created in 2018, in order to promote initiatives that affect the policies of the Central American countries.

At the same time, in countries such as Honduras, Costa Rica, Nicaragua, Panama and Cuba, CATIE supported governments and the livestock sector in designing public policies and participating in governance spaces for the development of sustainable, low-carbon livestock production. In Costa Rica, CATIE supported the implementation of the livestock production NAMA. In Honduras and Nicaragua, the institution focused on designing a document for the national sustainable livestock strategy; while in Panama the ANAGAN breeders' association was supported in designing the technical sheet for the NAMA technical team. Finally, in Cuba, an inter-institutional group was supported in the development of a low carbon strategy document for the livestock production sector.

The Government of Costa Rica declared the conservation of genetic resources in the long-term public interest through executive decree number 002-2018-MAG. In the context of this declaration, the Ministry of Agriculture and Livestock (MAG) made a transfer of money to CATIE for the conservation of orthodox seeds in the cold chamber that the institution maintains.



Success story

The family of Karen Ledezma and Freddy Ruiz lives in Upala, Alajuela, Costa Rica and they have been growing cacao for eight years. They did not have experience, however, when seeing the plantations of their neighbors, they were interested in starting, so they approached the Association of Cocoa Producers where both, especially Karen, began training at the Field Schools in plantation management and grafting processes. After training, they planted a small plot with the clones selected by CATIE and thanks to their good performance and enthusiasm, they expanded the planting to other areas of their farm using grafts with material available on their farm. Due to the good management of their plantations, in 2015 their cooperative selected them to establish a clonal garden, as part of the project supported by the National Institute for Cooperative Development (INFOCOOP) and CATIE, which is already in production and is a source of buds for the distribution of improved genotypes.



Freddy Ruiz and Karen Ledezma are very satisfied with the production on their farm, mainly clones such as CATIE-R6, and they thanked CATIE for all the support they have received through different projects.



Partners

PROFAFOR Latin America (Face Program of Forestation of Ecuador SA) • United States Department of Agriculture (USDA), USA • MARS Inc, USA • LINDT, Switzerland • Heifer International, United States • Penn State University, United States • Cirad, Mesoamerican Scientific Platform of Perennial Crops (PCP) • Rural Development Agency, South Korea • GAIA Artisan Coffee, Costa Rica • Colombian Agricultural Research Corporation (AGROSAVIA), Colombia • National Institute of Agricultural Research (INIA), Uruguay • National Institute of Agricultural Innovation (INIA), Peru • Autonomous University of Chiapas (UNACH), Mexico • Regional University Center of the Atlantic Coast (CURLA), Honduras • National Agricultural University (UNA), Nicaragua



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Forests, Biodiversity and Climate Change

The work of the Forests, Biodiversity and Climate Change Program (PBBCC) encompasses five main lines: climate change mitigation and adaptation in the forestry sector; forest and landscape restoration; biodiversity conservation strategies; forest ecology applied to multiscale forest management, and policies and governance for multi-scale forests, biodiversity and water management, with an emphasis on the consolidation of participatory platforms. The program ensures the key contribution that CATIE makes to regional efforts to restore degraded lands, innovating in the construction of effective relationships between forest producers and the private financial sector. It hosts a new Watershed and Water Security Unit that consolidates CATIE's leadership in this issue of paramount importance for the vulnerable populations of Central America and the Caribbean, as well as a unique long-term research program in the region on the effects of drivers of global change in tropical forests.

All the above is developed in the context of an enviable scientific and technical interdisciplinary capacity to meet the demands of countries faced with the serious threat of climate change. The PBBCC contributes new tools to combat this threat, with support to the countries in complying with their obligations to international agreements on climate and with innovative research on the degradation and restoration of ecosystem services in this context. The program was strengthened during 2018 through the consolidation of the Chair for Ecosystem Management under the leadership of Dr. Miguel Cifuentes and it interacts with multiple partners from the international centers of CGIAR to the rural and urban municipalities of Central American countries. His collaboration with the Center for International Cooperation in Agronomic Research for Development (Cirad) of France has been consolidated with the incorporation of two researchers from the Center into his professional team. Finally, the geographical scope of his work is, truly, the subcontinent of Latin America and the Caribbean.



Strategic actions

● Policies and participatory governance of territories: the Ibero-American Model Forest Network (RIABM)

By having the presidency and management of the RIABM, in 2018 CATIE evaluated a proposal for Model Forests in Brazil, an affiliate of the RIABM. The final approval of the proposal is expected to occur in May 2019.

The proposed model forest area of action has 2.5 million hectares. The model forest covers part of the states of Bahia and Espírito Santo and its focus is on the conservation and restoration of natural forests of the Atlantic Forest, a biome of global importance for the conservation of biodiversity and the ecosystem services it provides, in that only 11% of the original forest cover remains.



Forest restoration of degraded lands

The agreement with the *National Institute of Forest Sciences* (NIFOS) of the Republic of Korea was renewed, in order to continue the comparative research between the landscapes of Costa Rica and those of the Republic of Korea.

Through the Climate Technology Centre & Network (CTCN), CATIE provided technical assistance to Chile's Ministry of Environment on governance platforms for the restoration of forests and landscapes in areas affected by fires, based on participatory analysis of the governance context for the regions of Maule and O Higgins.

Support was also given to GIZ, an agency of the German Federal Government, to hold the National Course on Ecosystem and Landscape Restoration given in the Dominican Republic by the REDD+ Landscape program.

The execution of the project Development of Sustainable Management Models in Secondary Forests and its Nexus with the Private Financial Sector was continued, establishing demonstration areas in El Salvador, Guatemala, Honduras and Costa Rica. The project is financed by the IKI program of the German government and its aim is to develop sustainable models to promote the management of secondary forests as productive, relevant and habitual ecosystems present throughout Latin America. For this, the project promotes training in the topic of business models and in 2018 it promoted a forestry business roundtable in Costa Rica, as well as a call for business ideas. In addition, the project sponsored the publication of a guide for ecological monitoring in secondary forest management.

Also, in the context of this project, the structuring of a business model was achieved, financed by the impact fund Forestry and Climate Change Fund (FCCF), which brings together 19 forest owners from the Petén department in Guatemala, and a grassroots non-governmental organization (NGO) to develop a forestry business. This consists of a sustainable forest management project that aims to develop a value chain with various actors in the sector, based on a partnership management business model.

On the other hand, CATIE's leadership in the region in initiatives to restore degraded lands was underscored by the scientific publications for the year. A student of CATIE's Masters in Management and Conservation of Tropical Forests and Biodiversity published two articles in international journals on his research on ecosystem processes under different technical approaches to forest restoration, in collaboration with researchers from the Organization of Tropical Studies. In addition, researchers from the PBBCC and the aforementioned master's program participated in an important article on forest restoration through secondary natural succession, published in *Nature Ecology and Evolution*.

Within the framework of the global processes for degraded land restoration that responds to international initiatives such as the Bonn Challenge and the New York Declaration on Forests, CATIE has prominent participation in the project, which is also financed by IKI to support the 20x20 Initiative. This project is led by the World Resources Institute (WRI) and it also participates in the International Center for Tropical Agriculture (CIAT).

Likewise, it has been possible to support policies and institutions for the restoration of landscapes in Mexico, Guatemala, Costa Rica, Colombia, Peru and Chile. CATIE participated in various workshops, training and processes to analyze and define policy instruments in these countries.

Mitigation and adaptation to climate change and other drivers of global change

CATIE's work on climate change is carried out at global, regional and national levels, focusing on strengthening work with ecosystem services, blue carbon, cities, wetlands, technology transfer and adaptation-mitigation synergies (AMS), among others.

Global scope: the institution is part of the International Blue Carbon Science Working Group. In addition, one of the CATIE researchers is the lead author of the Special Report on the Ocean and the Cryosphere of the IPCC and other researchers are reviewers of special IPCC reports. Top notch scientific work has allowed the institution to publish the results of the work done with blue carbon in the prestigious international journal *Nature Climate Change*. In addition, a PBBCC specialist is a member of the Scientific Council on Climate Change of Costa Rica.

Regional and national scope: the technical phase of the sustainable landscapes component of the USAID Regional Climate Change Program (PRCC) has been concluded. Through it, technical assistance was provided for the development of national REDD+ strategies and monitoring, reporting and valuation (MRV) systems for REDD+ throughout the region, training government staff and local partners, producing technical manuals and strengthening political processes. The PBBCC maintains a technical relationship with the Inter-American Development Bank (IDB) to promote the transfer of monitoring technologies for the forestry sector throughout Latin America, with work especially in Brazil, Costa Rica and the Dominican Republic.



In El Salvador, technical assistance with the World Bank for the construction of important inputs for the country's national REDD+ strategy and its National Inventory of Greenhouse Gases (INGE) was concluded. In Costa Rica, cutting-edge issues are explored in “non-traditional” ecosystems –cities, paramos, coasts and wetlands– focusing on synergies between mitigation and adaptation to climate change, vulnerable populations, loss of ecosystem functionality and services and fire management; issues that will all be critical in the conservation and economic development of society in the coming decades.

Finally, a strong investment was made in technological infrastructure that will allow the exploration of new topics and keep the institution at the forefront of processes related to climate change mitigation and adaptation. For example, the cluster of processing servers was reconfigured and put online, the most modern geospatial infrastructure available for research and teaching institutions was installed, a new geospatial visualization platform was launched (<https://storymaps.catie.ac.cr/>) and several last generation drones were purchased.

Conservation strategies for forests, biodiversity and ecosystem services

The work on conservation strategies focuses on the management of protected areas and biological corridors and it has a strong emphasis on combating the drivers of global change. In Costa Rica, the process to develop ecological integrity indicators and their respective monitoring protocols at the local level for terrestrial and inland waters in 32 protected wild areas of the country was initiated. In addition, a project was finalized that developed participatory proposals for the creation and/or expansion of three protected wild areas with more than 50,000 ha, of which 78% corresponds to forests of national importance. Both projects were financed by the II United States-Costa Rica Debt Swap for Nature.

In Honduras, participation in the Project for the Consolidation of the Subsystem of Marine Protected Areas on the north coast was concluded. Funded by the Global Environment Facility (GEF), this project consisted of 43 technical products to consolidate the subsystem, improve the management effectiveness of individual protected areas and generate financial mechanisms that will contribute to the sustainability of protected areas over the long term.

Together with GIZ, the Punta Cana Group Foundation, Counterpart International and the Global Nature Fund, CATIE is participating in the Biodiversity and Business project, which aims to support the tourism sector with the restoration and protection of marine and coastal biodiversity in the Caribbean Sea. With funds from the European Union, this project focuses its actions on the Dominican Republic, Haiti and Honduras. Among the actions implemented by CATIE, the Cayos Cochinos Protected Area was identified as a

priority area for the restoration of marine ecosystems. Together with the Punta Cana Group Foundation, local communities were trained and coral gardens were established that will conserve marine diversity and serve as areas for specialized recreational diving.

CATIE is a leading institution in the region in efforts to ensure the resilience of priority landscapes through biological corridors. The Biological Corridor Network for Latin America and the Caribbean (CoBioRed) is a learning and knowledge management community that is coordinated by CATIE, consisting of a wide variety of actors. The network has the support of different organizations that jointly direct efforts to articulate biological corridor initiatives from the local to the national and throughout the Latin America and Caribbean region.

Once again, CATIE's leadership is reflected in its scientific and technical publications. Two examples stand out; the first of them, a CATIE researcher who edited a special issue of the international journal *Biotropica*, which was published in 2018 and consists of eleven articles that report on long-term research linking the phenology of forests to plant-animal interactions that contribute to forest resilience, within the framework of climate variation and change. The second is a publication that CATIE prepared through the Regional Climate Change Program of USAID, about an innovative tool to prioritize and implement measures that generate synergies between climate change adaptation and mitigation.



Watershed management and water security

In this line of work of vital importance for the countries of the region, CATIE targeted its actions on Haiti, one of the world's most vulnerable nations to global climate change. During 2018, the project Sustainable Reduction of Food Insecurity in the Communes of Haut Artibonite was implemented, which addresses the structural causes and problems of vulnerability by improving the capacity for resilience of vulnerable populations. The project generated baseline biophysical and socioeconomic information and implemented participatory processes that contributed to identify aspects of resilience to climate change in these territories.

In terms of innovation, CATIE expanded its use of the Resource Investments Optimization System (RIOS) software tool. Based on experience in 2017 with the Project WaterClima-LAC (coastal zone management), it was possible to incorporate this learning into the degree course theses and postgraduate courses during 2018. CATIE also worked with isotope hydrology, a system used to analyze aquifer recharge and groundwater renewal processes. This innovative tool was applied in El Salvador, in the Bajo Lempa watershed.

New projects

Water Harvesting II: Financed by the Swiss Agency for Development and Cooperation (COSUDE), the project will support the management and administration of water harvesting and capture infrastructure in 10 municipalities of Nicaragua's Dry Corridor.

Investment Program for the Restoration of Priority Watersheds -Procuencas in Panama: Financed by MiAmbiente, the project involves the Watersheds and Water Security Unit in the design of the project's monitoring and evaluation system.

Management Plan for the Lake Atitlán Basin: Financed by the Authority for the Sustainable Management of Lake Atitlán and its environs, the project will facilitate planning in the Atitlán basin with an emphasis on climate change and sustainability.



Capacity building

CoBioRed

In 2018, this network held its **XII Latin American Symposium on Biological Corridors** within the framework of the Annual Congress of the Mesoamerican Society for Biology and Conservation. The symposium provided an opportunity for the national coordinators of the Mesoamerican and Caribbean Biological Corridors to hold their annual meeting to monitor the 2020 Master Plan.

Water resources

CATIE organized and implemented the **"Tri-national Forum on Integrated Water Resource Management - Colombia, Costa Rica and Panama: progress, scope, challenges, policies and innovative practices."** A total of 44 women and 37 men participated in this forum, in which participants were able to update their knowledge and establish networks and opportunities for collaboration between academics, state institutions, civil society, students, the private sector, etc.

IAMFN

The network organized a seminar in Guatemala to discuss guidelines for planning and monitoring restoration processes at territorial level. The purpose of the seminar was to contribute to territorial management processes and support the governments associated with the Ibero-American Model Forest Network (IAMFN). In addition, participants prepared a **2018-2022 Strategic Plan** that will primarily assist the network's members, i.e. the 15 member countries, the 34 model forests of Ibero-America and their partner organizations.

Initiative 20x20

In the context of this Initiative, the **Third International Course on Restoration of Forest Landscapes** was held with support from the Regional Forest Landscape Restoration Program in Central America and the Dominican Republic (REDD+ Landscape) supported by GIZ. More than 30 people from different countries and institutions of the continent participated in the event. The course not only served to build capacity to guide restoration efforts in the region (policies, standards, projects, allocation of resources), but also to forge closer ties and create opportunities for interinstitutional interaction on these topics.





Innovative tools and methodologies

Standards for planning and monitoring restoration at the landscape level were developed through a thesis research project carried out by a student of CATIE's Master's program. The standards were implemented in four impact territories within Model Forests in which restoration efforts are underway in Costa Rica (Chorotega Model Forest), Colombia (Risaralda Model Forest) and Peru (Pichanaki and Villa Rica Model Forests).

The issue of Blue Carbon is becoming increasingly important in the region and related actions are being consolidated. CATIE produced a regional manual on methods for quantifying blue carbon in mangroves and a policy brief for the government of El Salvador. Together with Conservation International (CI), CATIE prepared a study for the Costa Rican Ministry of Environment and Energy (MINAEC) for the appraisal of ecosystem services provided by mangroves in the Gulf of Nicoya, in Costa Rica. This was the first study of its type in the world, given the innovative combination of methods used. The Blue Carbon actions with the government of Costa Rica will continue in 2019 with the construction of the National Blue Carbon Strategy. Another important contribution related to mangroves has been the formulation of a mangrove conservation strategy for the Gulf of Nicoya of Costa Rica.

CATIE also supported the Dominican Republic's Ministry of the Environment and Natural Resources in completing a National Forest Inventory, through a forest cover inventory in non-forest land (cocoa, coco and mango plantations, scrubland, pastures, etc.). The work involved the design and implementation of a field inventory and calculations of the biomass and carbon accumulated in these systems.



Outreach

Through its participation in Costa Rica's National Commission of Forest Sustainability (CNSF), CATIE helped to promote a decree setting official standards for the management of the country's secondary forests. This is expected to provide a valuable tool for promoting restoration activities and the Center will continue to promote the use of this tool.

In Guatemala, CATIE has made a significant contribution to the definition of priorities and criteria for allocating resources for landscape restoration. In this country, it has provided extensive support in training human resources together with the United Nations Food and Agriculture Organization (FAO), the GIZ agency, the United States Forest Service (USFS), the International Union for the Conservation of Nature (IUCN) and IKI.

In Mexico, CATIE has supported identification of restoration initiatives throughout the country and has promoted interinstitutional discussions on the possibility of defining a national strategy.

In Costa Rica, the participation of CATIE specialists was key in defining a national landscape restoration strategy. That process is continuing in the context of our participation in the National Commission of Forest Sustainability (CNSF).

In Chile and Peru, CATIE contributed to an analysis of opportunities for landscape restoration at the national level and, after a lengthy negotiation process, managed to integrate efforts by the Ministry of Environment, the Ministry of Agriculture, the National Forest Corporation (CONAF) and the Forestry Institute (INFOR) to organize the first National Workshop on Restoration Opportunities and Challenges at Landscape Level. Finally, CATIE is a member of Colombia's National Landscape Restoration Group and has participated in discussions to develop a national plan.



Success story

The International Course on Diversified Management of Natural Tropical Forests: the most established course of its kind in the world.

In 2018, CATIE organized the thirtieth edition of this course, making it the longest- running forest management course at the global level. Since the first course was held in 1987, and to the present day, it has trained 581 people from several regions of the world (309 from Central America and the Caribbean, 212 from South America, 24 from North America, 21 from Europe and five from Africa).

However, the course has evolved in terms of its content, since the initial version focused more on the silvicultural aspects of forest management, while the current course covers the topics related to the diversified management of goods and services provided by forests, taking into consideration the change of paradigms linked to climate change, landscape restoration and governance for territorial management.



Partners

CIRAD • World Resources Institute (WRI) • Ibero-American Network of Model Forests (RIABM) • National Institute of Forest Research (NIFOS), Republic of Korea • University of Idaho • Inter-American Development Bank • Swiss Agency for Development and Cooperation (COSUDE) • International Union of Forest Research Organizations (IUFRO) • the German government's International Climate Initiative (IKI) • Ministry of Environment and Natural Resources (MARN) of El Salvador • Wetlands Program - National System of Conservation Areas-Costa Rica • Institute of Forest Conservation and Protected Areas of Honduras (ICF) • Municipality of Curridabat-Costa Rica • International Center for Tropical Agriculture (CIAT) • United Nations Food and Agriculture Organization (FAO) • Center for International Forestry Research (CIFOR).



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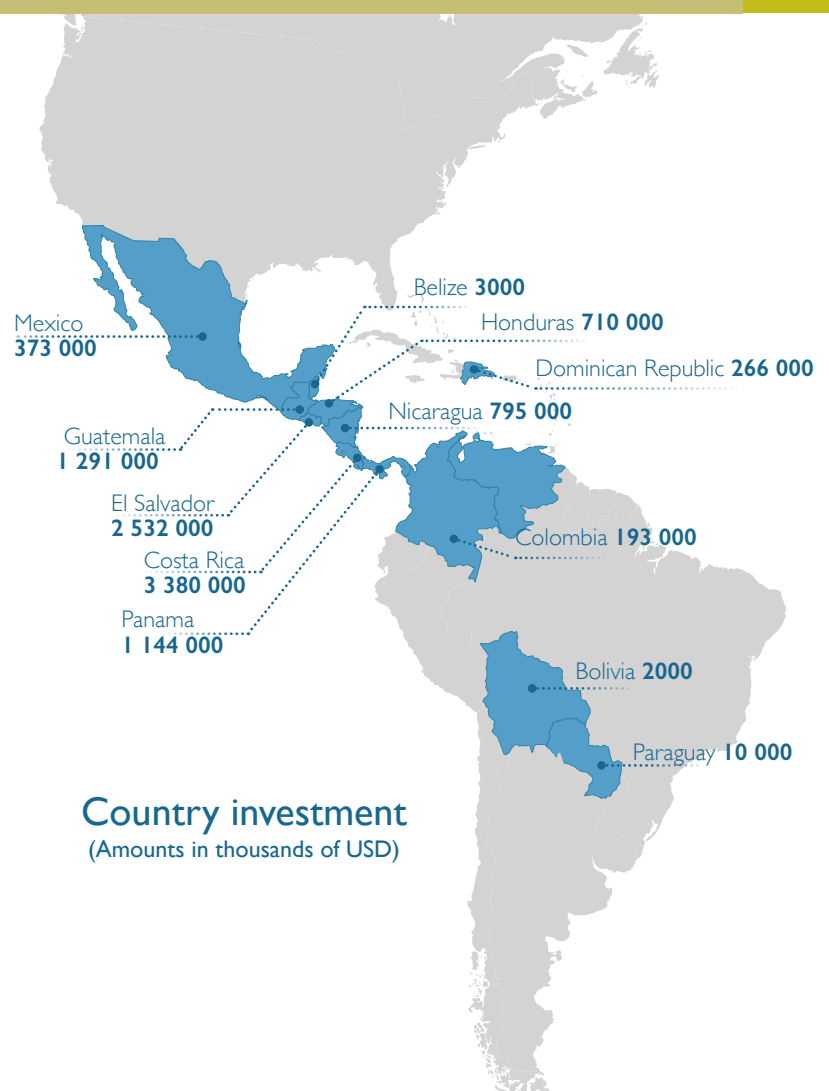
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Addressing regional demands

CATIE's mandate focuses on supporting the sustainable management of agriculture and natural resources in Latin America and the Caribbean. We work in 13 member countries and our Country Offices and institutional links focus on meeting the demands of each country with different levels of impact. Our work includes training, project implementation and consultancy services, and technical assistance, among other actions.



PANAMA

Major projects and consultancies

Strategic Plan for the Altitudinal Corridor of Gualaca: This plan aims to mobilize resources and organize investments in the area with the participation of diverse stakeholders.

Strengthening partners of the Small Donations Program: The aim was to promote the implementation of new projects and forge collaborative links with organizations involved in similar work.

Strengthening PROCUENCAS: CATIE organized 120 workshops on topics such as farm planning, silvopastoral systems, plantation management and others; 95% of these workshops took place with producers in five priority watersheds in Panama. In addition, a monitoring and evaluation system was developed for topics related to the Alianza por el Millón (Million Hectare Reforestation Alliance) The aim of this public-private partnership is to reforest one million hectares over the next 20 years, in order to reduce deforestation rates in natural forests and contribute to carbon capture.

Platforms in which CATIE participates

- ▶ Technical Committee of the National Climate Change Plan for the Agricultural Sector
- ▶ Global Water Partnership- Panama (GWP)
- ▶ International Center for Sustainable Development (CIDES)
- ▶ National Commission for the Area-based Rural Development (technical assistance platform)

GUATEMALA

Major projects and consultancies

Territorial co-management for the conservation and sustainable management of the Acatenango volcanic complex: strengthening the Municipal Environmental Management Unit (UGAM) for conservation and restoration actions; ecotourism management; and community tourism; knowledge management; biodiversity conservation and ecotourism; strengthening governance and conflict resolution.

Climate-smart production systems based on silvopastoral systems in 15 municipalities of southeast Guatemala: implemented in 30 model farms to generate information demonstrating the contribution of silvopastoral systems and best livestock practices to climate change adaptation and mitigation. A report was prepared on the farms' carbon balance to identify farm designs that present a positive carbon balance (carbon removal greater than emissions) and a guide to the participatory design of farm plans with silvopastoral systems and prioritization of good livestock practices.

National Information Platform for Nutrition (PiNN)

The Secretariat for Food Security and Nutrition (SESAN) and the relevant sectors have improved their capacity to operate and maintain the platform. In addition, they are being strengthened in order to monitor the progress made in achieving the national goals of reducing chronic malnutrition and monitoring multisector investments in nutrition. They are also improving capacity to use information and evidence for the design and improvement of multisector nutrition policies and programs.

Sixth National Report: Compliance with the Agreements of the Convention on Biological Diversity: CATIE provided technical support in the preparation of this report to the National Council for Protected Areas (CONAP) and the United Nations Development Program (UNDP).

Project- Adapting to Climate Change in Guatemala's Dry Corridor: The baseline for this project was prepared in eight municipalities.

Platforms in which CATIE participates

- ▶ The Guatemalan Climate Change Sciences System (SGCCC); Technical Committee of the Community Forests Development Fund; National Forest and Landscape Restoration Roundtable; Technical Group for Research and Rural Extension; Group for Promotion of Sustainable Cattle Ranching; National Food and Nutrition Security Information System (SIINSAN); Organizing Committee of the Eleventh National Forestry Congress; Agro-climatic Technical Roundtable of Chiquimula.

HONDURAS



Major projects and consultancies

In Honduras, seven proposals were presented of which five were approved for the sum of USD 9.43 million at the consortium level. CATIE completed five consultancies with the Ministry of Environment and three agreements were signed with two private institutions and one with the Ministry of Education..

Platforms in which CATIE participates

- ▶ CATIE has signed an agreement with the Honduran National Federation of Farmers and Ranchers (FENAG), an organization with nearly one million members. It is also a board member of the Global Water Partnership (GWP) and works very closely with the ministries of Agriculture and Livestock, Environment, Education and with the Institute of Forest Conservation, the Directorate of Science and Technology (DICTA) and the Honduran Coffee Institute (IHCAFE). With its innovative educational approaches, CATIE leads the country's network of 23 universities in the Interinstitutional Committee of Environment Sciences (CICA).

EL SALVADOR



Major projects and consultancies

Regional Climate Change Program (RCCP):

This initiative is coordinated from El Salvador and financed by the United States Agency for International Development (USAID). CATIE built capacity in climate information for adaptation and the environment in coordination with the Ministry of the Environment and Natural Resources (MARN).

Development project for sustainable forest models and links to private funding for secondary forests:

Financed by the International Climate Initiative (IKI), the project is being implemented in coordination with the General Directorate of Forest Management, Watersheds and Irrigation of the Ministry of Agriculture, Livestock and Food. Its objective is to strengthen the capacity of institutions and producers to manage secondary forests in the Department of Morazán.

WaterClima Project: This initiative was financed by the European Union. Its results focused on strengthening public-private sector dialogue and cooperation for the management of coastal

areas and the design of technical and financial mechanisms for managing coastal areas, local development, capacity building, dissemination and networking. CATIE worked with public and private sector institutions in the departments of La Paz, San Vicente and Usulután.

Central American Program for Integrated Coffee Rust Management (PROCAGICA):

An initiative financed by the European Union and implemented by the Inter-American Institute for Cooperation on Agriculture (IICA). CATIE established 50 research parcels with coffee agroforestry systems in the departments of La Paz, San Miguel and Usulután, in coordination with IICA and the National Center for Agricultural and Forestry Technology "Enrique Álvarez Córdova" (CENTA).

Diploma program in Climate Financing:

28 professionals from the public sector and non-governmental organizations received training to gain access to climate funding. This is an initiative of the Vice-Ministry for Development Cooperation (VMCD) and MARN, implemented with support from the United Nations Development Program (UNDP).

Platforms in which CATIE participates

- ▶ CATIE participates in the Roundtable for International Cooperation on Agriculture, a group of 21 institutions (donors and international organizations) working to coordinate and support the national agricultural development agenda.

NICARAGUA



Major projects and consultancies

Water Harvesting Project: Successfully completed this project through technical assistance to the Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA). Around 1700 families adopted water harvesting technology and increased their food availability by 50% and production by 10%.

New project: A new project for USD 6.4 million was implemented with support from the Swiss Agency for Development and Cooperation (COSUDE), the CGIAR research program on Climate Change, Agriculture and Food Security (CCAFS) and Bioversity International..

Platforms in which CATIE participates

- ▶ Collaborative Management Committee for Macizo de Peñas Blancas
- ▶ National Agricultural Research and Innovation System
- ▶ Articulating Science, Rural Development and Education in Nicaragua
- ▶ National Coffee Roundtable
- ▶ National Cacao Roundtable
- ▶ World Soil Association
- ▶ National Watersheds and Water Network
- ▶ GESCON knowledge management Network
- ▶ The Latin American Network of Rural Extension Services

MEXICO



Major projects and consultancies

BioPaSOS Project: CATIE's implementation of the project "Promoting biodiversity conservation through climate-smart agrosilvopastoral practices in landscapes dominated by livestock in three regions of Mexico", known as BioPaSOS, has impacted more than 900 livestock farming families in the project's intervention areas located in the states of Jalisco, Campeche and Chiapas.

Innovation Project for the Monitoring, Reporting and Verification System for National REDD+: A graphical user interface was developed to generate consultations and reports for the different components of Mexico's National Forest Monitoring System, e.g. field data, remote sensors, community monitoring and biodiversity; the implementation and institutionalization of the MAD-Mex software, through the calibration of this tool to improve detection and management of changes in forest coverage; and adoption of the use, development and administration of this tool within the National Forest Commission (CONAFOR).

Platforms in which CATIE participates

- ▶ CATIE cooperates actively and closely with Mexican state and federal organizations:
- ▶ Implements the BioPaSOS project jointly with the Inter-American Institute for Cooperation on Agriculture (IICA) with support from the Federal Government, through active coordination of the National Biodiversity Commission (CONABIO) and the Secretariat of Agriculture and Rural Development (SADER).
- ▶ Participates in various platforms involving a large number of research, education and development institutions with similar objectives, including: the Emissions Reduction Initiative (IRE); the learning platform in El Tablón watershed; the Thematic Network in Agroforestry Systems of Mexico (REDSAM); the Network for Research and Technological Innovation for Tropical Cattle (REDGATRO); and the Virtual Center of Excellence in Forest Monitoring.

COLOMBIA



Major projects and consultancies

New proposals: CATIE submitted nine proposals, one of which has been approved to begin in February 2019.

Agreements: Eleven agreements were signed (five with the public sector and six with the private sector).

Platforms in which CATIE participates

- ▶ CATIE forms part of the Sustainable Livestock Group and of the National Advisory Group on Restoration Roundtable. During 2018, its actions focused on highlighting the institution in the country, with national and regional actors, and it established strategic partnerships for cooperation and the development of research and education proposals for development and management in the coming years. These partnerships involve institutions such as the Ministry of Environment, Ministry of Agriculture, technical units attached to the ministries, such as the Rural Agricultural Planning Unit (UPRA), the National Geographic Institute (IGAC) and private sector partnerships such as the Natura Foundation.

DOMINICAN REPUBLIC



Major projects and consultancies

Agreements: CATIE signed nine cooperation agreements (five with the public sector and four with the private sector).

Consultancies: Three consultancies were implemented.

New proposals: CATIE negotiated eleven project and training proposals with the Ministries of Agriculture and the Environment.

Capacity building: 99 technicians received training on different topics.

Platforms in which CATIE participates

- CATIE coordinates actions and is closely associated with four ministries and nine decentralized institutions of the agrofood and forestry sector, nine private sector institutions and 10 universities. It also forms part of six discussion groups: The Water Roundtable coordinated by the Ministry of Planning
- ▶ The Board of Deans and Directors of Agrofood and Forestry Courses
 - ▶ Donors Group coordinated by the Ministry of Agriculture
 - ▶ Donors Group coordinated by FAO and IICA
 - ▶ Mixed Binational Haiti-Dominican Republic Commission coordinated by the Ministry of Foreign Relations
 - ▶ Presidential Commission for the Rehabilitation, Sanitation and Sustainable Use of the Ozama and Isabela River Basins.



CATIE and IICA partners for sustainable development

As partner institutions, the Inter-American Institute for Cooperation on Agriculture (IICA) and CATIE launched a new work cycle for the interinstitutional coordination and cooperation committee, made up of officials from both institutions. Its thematic sphere of action includes corporate-administrative matters and technical-academic cooperation.

At the technical level, in 2018 CATIE worked to define a joint action model that would respond to its strategic vision and medium-term plan of action. Accordingly, it implemented important joint projects such as PROCAGICA-Central America and PROCAGICA-Dominican Republic in the area of coffee production, with the support of the Agricultural Research Center for International Development (CIRAD), and the BioPaSOS project, an initiative aimed at promoting climate-smart livestock production in three Mexican states. The latter project also involves Mexican government institutions.

At the end of 2018, CATIE and IICA signed several agreements in Mexico as a framework for their collaborative actions and negotiated a physical space (office) for CATIE in Mexico.

Other joint technical initiatives included the drafting of proposals for projects in Haiti. On the academic front, progress was made in developing an online (virtual) Master's Program on Food Security, based on a Master's program developed previously by IICA. This online Master's program is expected to begin in July 2019.

With regard to corporate matters, the Inter-American Board of Agriculture (JIA) issued Resolution 507 instructing IICA and CATIE, with the participation of the Costa Rican Government, to establish an ad hoc work group, with the aim of preparing a strategic plan for CATIE's future. This would include scenarios and alternatives for restructuring and strengthening CATIE's organizational, scientific, academic and financial platform, as well as its legal base. This work group was established in 2018 and is already working.



Technological advances

In 2018, CATIE introduced major technological changes, particularly the efforts to increase the Internet speed, which went from 80 MB (megabits) to 120 MB. In the last two years, Internet speed throughout the campus has tripled, enabling services such as Web browsing, email, IP telephony, webinars, cloud storage, etc. to function more efficiently.

Another achievement was the renewal of CATIE's access to the Microsoft Imagine Program, which has allowed all our students and teachers to use free licenses (valued at more than USD 500,000) for their academic work. CATIE also completed the process of implementing the new IP telephony system (SIPTrunk), enabling users to make better quality calls and reducing the institution's telephone costs by 30%.

It is important to mention that in 2018 CATIE launched a solar energy pilot plan for the Department of Information and Communication Technology (ICT). CATIE currently has the resources to develop the project, which has already been adjudicated. Implementation is expected to begin in the first months of 2019. This project will generate 95% of the ICT building's energy, providing annual savings of approximately USD 6,800.

In order to optimize its operational processes and install modern and efficient systems CATIE moved forward with its plans to adopt the new software, Enterprise Resource Planning (ERP), which will replace the IFIS (Integrated Financial Information System) that has been used for several decades. In this regard, during 2018 different service providers and proposals were evaluated. Implementation of the new software is scheduled to begin in 2019.

Finally, eight software projects were developed for different CATIE programs, contributing to generate income for the department and supporting the Center's research.



Our finances

It was possible to maintain a positive balance in CATIE's finances, obtaining a net result of USD 15 030. CATIE's accounting is based on IFRS (International Financial Reporting Standards) and in 2018 the new IFRS 9 standard was applied (financial instruments), in which the accounts receivable of the member countries was analyzed.

In this context, CATIE absorbed a sum of USD 678,000 for outstanding contributions in 2018, but through an important coordination with the CATIE representatives or liaisons in the countries, USD 1.2 million in country quotas were recovered.

In addition, IICA provided USD 938 100 as a contribution to CATIE, which was key to achieving positive financial health during 2018.

On the other hand, CATIE's commercial farm brought in the first harvest of the 5.4 ha of organic sugarcane that resulted in an average hectare production of 133 tons and generated an income of USD 55 555.

Finally, CATIE, through financing granted by Fundatrópicos, managed to improve its assets with the purchase of transport vehicles (four cars) and two motorcycles for the security area; as well as assets for the commercial farm with two tractors and two pickups. In addition, investments were made to improve the services of the hospitality area.

The Tropical Agricultural Research and Higher Education Center (CATIE) is a regional center dedicated to research and graduate education in agriculture, and the management, conservation and sustainable use of natural resources. Its members include Belize, Bolivia, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Venezuela and the Inter-American Institute for Cooperation on Agriculture (IICA).





Solutions for environment and development
Soluciones para el ambiente y desarrollo

Biennial Plan

2019-2020



Abbreviations and acronyms

AC	Área de Capacitación (Training Area)	JIA	Junta Interamericana de Agricultura (Inter-American Board of Agriculture)
ACAP	Agencia Centroamericana de Acreditación de Posgrados (Central American Agency for Graduate Accreditation)	LabB	Laboratorio de Biotecnología (Biotechnology Laboratory)
AGCATIE	Asociación de Graduados del CATIE e IICA (CATIE and IICA Graduates Association)	LabS	Laboratorio de Semillas (Seed Laboratory)
AGYMR	Alianzas globales y movilización de recursos (Global partnerships and resource mobilization)	OAI	Oficina de Auditoría Interna (Internal Audit Office)
BSF	Banco de Semillas Forestales (Forest Seed Bank)	ON	Oficinas Nacionales (National Offices)
CAC	Consejo Agropecuario Centroamericano (Central American Council for Agriculture)	OPMEyGC	Oficina de Planificación, Monitoreo, Evaluación y Gestión del Conocimiento (Office of Planning, Monitoring, Evaluation and Knowledge Management)
CAD	Comité Académico de Doctorado (Doctorate Academic Committee)	PBBYCC	Programa de Bosques, Biodiversidad y Cambio Climático (Forests, Biodiversity and Climate Change Program)
CAM	Comité Académico de Maestrías (Masters Academic Committee)	PE	Plan estratégico (Strategic Plan)
CAN	Comité Asesores Nacionales (National Advisors Committee)	PE-ON	Proyección Externa y Oficinas Nacionales (Outreach and National Offices)
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza (Tropical Agricultural Research and Higher Education Center)	PIDEA	Programa de Investigación en Desarrollo, Economía y Ambiente (Program for Research on Development, Economics and the Environment)
CCDA	Comisión Centroamericana de Ambiente y Desarrollo (Central American Commission on Environment and Development)	PMAP-PD	Programa de Maestrías Académicas y Profesionales y Programa de Doctorado (Academic and Professional Masters Program and Doctorate Program)
CCAFS	The CGIAR Research Program on Climate Change, Agriculture and Food Security	PRAGA	Programa de Agricultura, Ganadería y Agroforestería (Agriculture, Livestock and Agroforestry Program)
CIFOR	Centro para la Investigación Forestal Internacional (Center for International Forestry Research)	PROCAGICA	Programa Centroamericano de Gestión Integral para la Roya del Café (Central American Program for Integrated Coffee Rust Management)
CIRAD	Centro de Cooperación Internacional en Investigación Agronómica (Center for International Cooperation in Agronomic Research)	PROCISUR	Programa Cooperativo para el Desarrollo Tecnológico Agroalimentario y Agroindustrial del Cono Sur (Cooperative Program for Technological Food and Agroindustrial Development of the Southern Cone)
CGIAR	Grupo Consultivo para la Investigación Agrícola Internacional (Consultative Group on International Agricultural Research)	PROCITROPICOS	Programa Cooperativo de Investigación, Desarrollo e Innovación Agrícola para los Trópicos Suramericanos (Cooperative Program for Research, Development and Agricultural Innovation in the South American tropics)
CL-APyCB	Cátedra Latinoamericana de Áreas Protegidas y Corredores Biológicos (Latin American Chair on Protected Areas and Biological Corridors)	RIABM	Red Iberoamericana de Bosques Modelo (Ibero-American Model Forest Network)
CL-DA	Cátedra Latinoamericana de Decisiones Ambientales (Latin American Chair on Environmental Decisions)	SG-DP	Subdirección General – Dirección de Escuela de Posgrado (General Sub-Directorate – Graduate School Directorate)
CL-EMBTyBio	Cátedra Latinoamericana de Ecología en Manejo de Bosques Tropicales y Biodiversidad (Latin American Chair on Ecology in Tropical Forest and Biodiversity Management)	SINAES	Sistema Nacional de Acreditación de la Educación Superior (National Higher Education Accreditation System)
CL-GFT	Cátedra Latinoamericana en Gestión Forestal Territorial (Latin American Chair on Territorial Forestry Management)	TIC	Tecnologías de Información y Comunicación (Information and Communication Technologies-ICT)
CL-PyEF	Cátedra Latinoamericana de Política y Economía Forestal (Latin American Chair on Forest Policy and Economics)	UAB	Unidad de Agrobiodiversidad (Agro-biodiversity Unit)
CS	Consejo Superior de Ministros (Governing Council of Ministers)	UB	Unidad de Bioestadística (Biostatistics Unit)
DAF	Dirección de Administración y Finanzas (Directorate of Administration and Finance)	UCySH	Unidad de Cuencas y Seguridad Hídrica (Watersheds and Water Safety Unit)
DDHH	Desarrollo Humano (Human Development)	UDA	Unidad de Desarrollo de Agronegocios (Agro-business Development Unit)
DEP	Decanatura de la Escuela de Posgrado (Dean of the Graduate School)	UGA	Unidad de Ganadería Ambiental (Environmental Livestock Production Unit)
DG	Dirección General (General Directorate)	UME	Unidad de Modelado Ecosistémico (Ecosystem Modeling Unit)
FTA	The CGIAR Research Program on Forests, Trees and Agroforestry	UMFyCG	Unidad de Manejo Forestal y Cambio Global (Forest Management and Global Change Unit)
GAT	Grupos de apoyo técnico (Technical support groups)	UPAF	Unidad de Perennes Agroforestales (Perennial Agroforestry Unit)
ICRAF	Centro Internacional para Investigación en Agroforestería (The World Agroforestry Centre)		
IEER	Independent External Evaluation Recommendations		
IICA	Instituto Interamericano en Cooperación para la Agricultura (Inter-American Institute for Cooperation on Agriculture)		
INIA	Instituto de Investigaciones Agropecuarias (Agricultural Research Institute)		
JD	Junta Directiva (Board of Directors)		



Strategic Plan 2013-2020

This 2019-2020 Biennial Plan is aligned with the objectives and goals of the 2013-2020 Strategic Plan of CATIE (Tropical Agricultural Research and Higher Education Center), which defines the following institutional elements:

Mission

Achieve sustainable and inclusive human well-being in Latin America and the Caribbean, promoting education, research and outreach, the sustainable management of agriculture and the conservation of natural resources.

Vision

To be an international land grant university specializing in agriculture and natural resources, which effectively integrates education, research and outreach in alliance with multiple partners and countries, through a solid regional scientific platform.

Strategy

The territories are currently experiencing a transforming stimulus with dramatic consequences: climate change and variability.

Therefore, our institutional strategy is defined in the following terms:

Promote the development of Climate Smart Territories in the tropics, as a tool to achieve sustainable and inclusive human well-being and the effective integration of education, research and outreach actions, in alliance with multiple public and private partners through a solid regional science platform.



Introduction

CATIE has a 2013-2020 Strategic Plan and a biennial planning system that incorporates four strategic objectives and 21 goals. This 2019-2020 Biennial Plan is the last one developed under the Strategic Plan framework, and during the next two years a new Strategic Plan will be prepared for the period 2021-2030.

It is important to note that during the execution of this Strategic Plan, there were new global and regional challenges such as, for example, the Sustainable Development Goals (SDGs), and in order to effectively meet the targets of the SDGs, the demands of the region and adapt to the new priorities of the donor community, the plan incorporates new indicators and actions. The political and donor situation of the Mesoamerican region where CATIE operates must also be taken into account, as this has changed drastically. For these reasons, the institution had to make adjustments in its original Strategic Plan, taking into account the opportunities, technical and financial capacities of CATIE.

In 2017, CATIE adapted the theory of change approach taking into account its strengths and weaknesses, as well as the demands of the region, in order to identify the thematic areas for research and development.

Also, the number of CATIE technical programs was reduced from five to three (PRAGA, PBBByCC, PIDEA), in order to achieve a more concentrated critical mass of researchers who attend to the institution's lines of research. In addition, the Global Partnerships Office was strengthened to increase CATIE's capacity to mobilize financial resources, which is a high priority for the institution.

The goals, indicators and actions identified in this 2019-2020 Biennial Plan are all key to advancing towards the achievement of CATIE's four strategic objectives which are described below. It is important to note that in 2017 CATIE had an independent external evaluation and the recommendations (IEER) are found in the Annex. Toward this end, with the aim of institutionalizing how this external evaluation is being addressed, the Biennial Plan indicates the actions to be taken to meet the recommendations of this evaluation.

The details on this Biennial Plan (objectives, goals, indicators and actions) are presented ahead in the matrix on page 11.

Below, you will find the main actions according to each objective of the plan. It is important to take into account that CATIE has three research programs (PRAGA, PBBByCC and PIDEA) so in objective 1, the actions of each of these programs are detailed.

Objective 1: Contribute to achieving livelihoods, agricultural and forestry systems, territories and sustainable value chains through systemic and trans-disciplinary research

1.1. Agriculture, Livestock and Agroforestry Program (PRAGA)

Main PRAGA actions for the next two years:

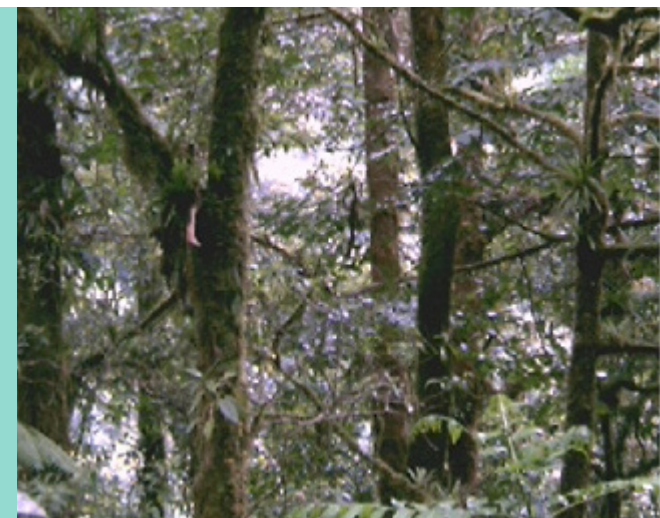
- **Cacao:** a) Release a new generation of clones from the CATIE Rx series after seven years of field evaluation (La Lola); and b) Genetic and phenotypic characterization of the International Collection, as well as improving access to information and CATIE's germplasm.
- **Coffee:** a) Generation of new F1 hybrids; b) Increase mass production capacity of hybrids and seeds of selected varieties for gourmet markets and for special climate and soil conditions of Central America; c) Regeneration and improvement of the International Coffee Collection (genetic characterization, phenotypes, organoleptic qualities) and facilitate access to information and germplasm.
- **Agro-biodiversity:** a) Characterize, document and safeguard orthodox seed collections for cucurbit crops, chili peppers and tomatoes; and b) Create the botanical information system for CATIE to improve public access to information and germplasm.
- **Agroforestry:** a) Develop methodologies for the analysis and design of timber farms based using information generated in the Nicaragua-Honduras sentinel landscape; and b) Development of new diagnostic models and agroforestry design based on the use of drones and software owned by CATIE (e.g. ShadeMotion).
- **Environmental Livestock Production:** a) Design and evaluation of silvopastoral models for livestock production (milk and dual purpose in wet areas and seasonally dry areas) that are resilient and productive, with low environmental impact and low in carbon emissions; b) Support to governments in the design of public policies to meet national goals and commitments to global conventions on sustainable development, climate and biodiversity; and c) Contribute to the generation of MRV indicators for baseline and NAMA livestock producers.



1.2. Forests, Biodiversity and Climate Change Program (PBByCC)

Main PBByCC actions for the next two years:

- Establish five areas for the validation and demonstration of sustainable wood production in secondary forests of Central America, to improve well-being, productive landscapes and climate change adaptation and mitigation.
- Generate knowledge about the role of natural and secondary forests in the restoration of productive landscapes, to address increasing demand.
- Strengthen the governance of at least eight territories, emphasizing adaptation to climate change and water security in Model Forests and watersheds.



1.3. Research Program in Development, Economics and the Environment (PIDEA)

Main PIDEA actions for the next two years:

- Develop a Payment for Environmental Services scheme to support the integrated management of the Yallahs & Hope watersheds in Jamaica.
- In cooperation with CCAFS, Bioversity International and IICA, develop tools to model the behavior of plastic users in order to support the formulation of more effective policies to reduce the consumption of this material in the countries.
- Develop approaches to reduce the vulnerability of small producers to extreme events linked to climate change in the Trifinio region and Nicaragua.



Objective 2: Strengthen scientific and professional training in systemic approaches through the development of innovative products in education at both graduate and professional levels and for on-site and distance modalities.

Actions

- 2.1.** Ensure that the educational model and the virtual and on-site academic offerings have been revised, internalized and adjusted to continue responding to the demands for human capital training in the areas of the institution's technical strength, mainly in Latin America and the Caribbean. This model meets the recommendations of the external evaluation, the research lines and programs, and complies with the re-accreditation plan for 2020.
- 2.2.** Successfully complete the transfer and launching of current master's degrees in integrated watershed management; administration and development of sustainable businesses; and climate change mitigation and adaptation through their virtual modalities, called: Master in Integral Watershed Management; Master in Agribusiness and Sustainable Markets Management (GANEMOS) and Master in Food Security.
- 2.3.** The above points are internalized within a business plan for the Graduate School, which guarantees their self-financing and support to the CATIE core budget for 2019 and 2020 through external funds.
- 2.4.** Continue strengthening the faculty and providing incentives to ensure the quality of education in the Graduate School.

Objective 3: Strengthen and establish innovative and participatory processes with partners and allies, leading to the generalized use of systemic solutions for development

Actions

- 3.1.** The Global Partnerships Office for the mobilization of funds will work on an innovative plan for the negotiation of financial resources.
- 3.2.** Continue working on a business development strategy with the private sector and with foundations related to CATIE's work.
- 3.3.** Make progress on the certification process to obtain the accreditation of the Green Climate Fund and the European Union.
- 3.4.** Continue to increase the amount of resources mobilized from the private sector for the collections and the genetic improvement work for cacao and coffee.

Objective 4: Strengthen the competencies and organizational competitiveness of CATIE as an essential means for the effective and efficient execution of the Strategic Plan

Actions

- 4.1.** Continue strengthening capacity in the Administration and Finance Directorate and the Human Development area, to ensure the efficient and effective management of financial resources, and implement safeguards to minimize financial risks.
- 4.2.** Have a new financial system (ERP) to improve efficiency in the management of financial resources at Headquarters and in the National Offices, to better plan the use of external funds and the core budget.
- 4.3.** Continue to strengthen the area of Human Development to improve the management of personnel, implement a system for evaluating staff performance and simplify hiring processes for staff and consultants.
- 4.4.** New strategic plan developed (2021-2030)



Risks Management to Achieve Objectives

For this Biennial Plan, the most important risks that may affect the achievement of institutional goals and results have been analyzed. In addition, measures were identified to minimize these risks.

The measures for each objective are described below:

Objective 1 . Research

The migration of important donors that have financed research and development work to other regions represents a challenge for the institution as it harms its work of being a leader in the generation of new knowledge, technologies and tools to respond to the demands of the region. In order to minimize this risk, we are working on an innovative plan to mobilize resources from the private sector, in order to strengthen research in cacao, coffee, livestock and forestry. In addition, alliances are being formed with new partners and we are identifying new sources of money (for example, the Green Climate Fund, IKI-Climate Germany) to fund research.

On the other hand, the General Directorate is working with the Graduate School to better define the research topics for student theses, with the purpose of improving the quality of the research, and to increase the number of scientific publications.

With respect to scientific capacity, the General Directorate will work with the Human Development area and research programs of the institution to recruit experienced scientific researchers, postdocs, as well as young researchers with a focus on gender as a strategy to strengthen the scientific team.

Objective 2 . Education

The Graduate School has goals to significantly increase the number of students enrolled and one of the risks is related to the ability of the faculty to respond to the demand for courses and student supervision while maintaining the quality of education. In this regard, the General Directorate is working with the Sub-Director General, the Dean of the Graduate School and the program leaders on an analysis of the demands and identification of gaps. The idea is to develop a plan to strengthen the faculty with qualified young and experienced professors. There is also a plan to strengthen partnerships with CATIE's different partner universities, thus seeking to promote the exchange of professors and their participation in the supervision of students.

The main risk lies in not reaching the financial goals linked to the minimum established income quotas (in a mixed model of scientific masters and on-site professional masters) for 2019 and 2020 with 80 and 100 students, respectively. Despite having established a modern, efficient and successful fundraising system, political and financial instability of the region is permanent.

As an immediate measure, the Graduate School has decided to explore three virtual masters, in order to diversify its sources of income and achieve greater hemispheric impact. This represents a new line of business (not addressed this way previously in the 70 years of the institution) that implies risks in its execution due to the learning curve that will exist in the next two years. Likewise, the decision of the General Directorate to support the strengthening process of Fundatrópicos and The Tropics Foundation will boost institutional fundraising efforts for the Graduate School.

Objective 3 . External management

Faced with the challenge of having scarce resources to finance the actions of the institution and maintain the functionality of the National Offices, the General Directorate and its team will work on a plan to allocate more resources from to the Global Partnerships Office, with the objective of increasing its capacity to mobilize financial resources. In addition, the policy of encouraging the National Offices to be self-financed to avoid fund overdraft problems will be continued and a plan will be worked out to establish a repository that includes all the donors and key partners of the different countries of the region. This repository will work on accreditation for the Green Climate Fund and the European Union.

Objective 4 . Internal management

CATIE has a financial information system (Integrated Financial Information System, SIIF) that is more than 30 years old; its management is expensive and represents a risk for the institution in financial data storage terms. For this reason, the General Directorate is working with the Information and Communication Technology (ICT) team and the Administration and Finance Directorate to acquire a new financial system (Systems, Applications, Products in Data Processing, SAP), which is being used by IICA to manage its finances and human resources information: IICA informed CATIE that its experience has been positive.

On the other hand, the external evaluation identified the need to strengthen the human capacity of the Administration and Finance Directorate, so work will be done on the recruitment of experienced financial experts.

Regarding financial management, the institution does not have reserves in its budget and for this reason the General Directorate will work with the Director of Administration and Finance to increase the core budget allocation for reserves, in order to minimize financial management risks and improve liquidity.



Summary Matrix of annual actions to progress toward the goals and indicators of the CATIE 2013-2010 Strategic Plan, for the period 2019-2020

Organized by strategic objective

SO1. Contribute to achieving livelihoods, agricultural and forestry systems, sustainable territories and value chains through systemic and trans-disciplinary research

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
1. CATIE consolidated as a regional research platform for the development of systemic and trans-disciplinary approaches in agriculture and natural resources in Latin America and the Caribbean	Indicator 1.1. Number of new publications in indexed journals/books prepared in collaboration with partners such as CIRAD, CCAFS, KFRI, Bioversity International, ICRAF, CIFOR, CIAT, FTA, WRI and universities, among others, in comparison with the number published the previous year.	<ul style="list-style-type: none"> CATIE investigates using its Theory of change and lines of research as a basis, publishing at least two scientific articles per line of research. CATIE organizes at least one scientific event on its campus and participates in at least 10 strategic international events, presenting its work. 	<ul style="list-style-type: none"> CATIE investigates using its Theory of change and lines of research as a basis, publishing at least two scientific articles per line of research. CATIE organizes at least one scientific event on its campus and participates in at least 10 strategic international events, presenting its work. 	PRAGA PIDEA PBByCC PMAP-PD UGA UPAF UAB
	Indicator 1.2. Captured USD 14 million in proposals formulated in collaboration with various partners.	<ul style="list-style-type: none"> USD 6 million captured in proposals and consultancies (PBByCC- USD 2 million, PRAGA USD 2.5 million and PIDEA USD 1.5 million). 	<ul style="list-style-type: none"> USD 8 million captured in proposals and consultancies (PBByCC USD 3 million, PRAGA USD 3 million and PIDEA USD 2 million). 	PRAGA PIDEA PBByCC PMAP-PD UGA UPAF UAB PE-ON
	Indicator 1.3. Research agenda for development agreed and in implementation.	<ul style="list-style-type: none"> Evaluate the real contribution of the programs to the lines of research and evaluate the convenience of adjusting the topics and number of lines of research. IEER 2 and 4 Revise the lines of research to incorporate the systemic research topics into core commercial products (commodities), including coffee, cacao, livestock and wood. IEER 2 and 4 Initiate the progress monitoring process for research, development and policy incidence, through the implementation of the Office of Planning, Monitoring, Evaluation and Knowledge Management. Formulate research and development projects in consortiums where the role of CATIE is focused on scientific support, education and management in aspects of technological innovation and support to policy development. CATIE has at least five new doctoral level positions and at least two at the postdoc level, covering several disciplines and encouraging trans-disciplinary work, generated through agreements with CIRAD, Bioversity International and open competition, as well as through positions shared among institutional programs. IEER 5 Measure the quality of institutional work through the Knowledge Management Unit. IEER 5 	<ul style="list-style-type: none"> Develop an annual plan for all CATIE's lines of work. Monitor and evaluate compliance with the work plan for each line of research. Continue the formulation of research and development projects in consortiums where the role of CATIE is focused on providing support at the scientific level, for education and management on aspects of technological innovation and policy development. Increase the number of postdocs working in trans-disciplinary research using a systemic approach. IEER 5 In PRAGA, PIDEA and PBByCC, consolidate a trans-disciplinary team with a methodological approach for orienting systemic research with the commodities on different scales: agro-ecosystems, livelihoods and value chains. IEER 2 Continue measuring the quality of institutional work. IEER 5 Office of Planning, Monitoring, Evaluation and Knowledge Management working and generating an outcome report for each one of the lines of research. 	PRAGA PIDEA PBByCC PMAP-PD UGA UPAF UAB PE-ON

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
	Indicator 1.4 The research component for development has been prepared that defines the niche for the institution in this area, the resources and objectives in the new CATIE Strategic Plan (2021-2030) and systemic research in matters of commodities, as well as topics related to climate change, productive landscapes, economic appraisal, ecosystem services and inclusion (gender, marginal groups and youth). IEER 1	<ul style="list-style-type: none"> Carry out a prospective analysis of the socioeconomic and scientific environment in the geographic realm, as well as trends among donors and opportunities with the private sector. IEER 3 Use a prospective analysis to consolidate the theory of change and the lines of research with a systemic research approach and for coffee, cacao, livestock and forestry products (commodity approach). IEER 2, 3 and 4 Identify partners and sources of financing. 	<ul style="list-style-type: none"> Prepare the research component for development in the new Strategic Plan (2021- 2030). IEER 1 Prepare the monitoring and evaluation plan for the development lines of research. 	PRAGA PIDEA PBByCC PMAP-PD UGA UPAF UAB PE-ON
2. Climate Smart Territories (CST) established in tropical countries.	Indicator 2.1. Number of principles, methodologies and apprenticeships for the CST approach incorporated into planning frameworks, policies and projects.	<ul style="list-style-type: none"> Incorporate the CST approach into at least two territorial management for development or restoration initiatives in platforms such as Model Forests, biological corridors, watershed management and productive landscapes. 	<ul style="list-style-type: none"> Incorporate the CST approach into at least two territorial management for development or restoration initiatives in platforms such as Model Forests, biological corridors, watershed management and productive landscapes. 	PRAGA PIDEA PBByCC PMAP-PD UGA UPAF UAB PE-ON
3. CATIE is recognized and used to obtain models, methodologies, technologies, reliable data and policy inputs to achieve sustainable land management using a systemic approach	Indicator 3.1. Number of methodologies, databases, models, and technologies developed.	<ul style="list-style-type: none"> At least three methodologies, databases or technologies developed in the different programs (for example, database and emissions quantification models in livestock systems, models for climate change, PES systems and water management technologies). 	<ul style="list-style-type: none"> At least three methodologies, databases or technologies developed in the different programs (for example, database and emissions quantification models in livestock systems, models for climate change, PES systems and water management technologies). 	PRAGA PIDEA PBByCC PMAP-PD UGA UPAF UAB PE-ON
	Indicator 3.2. Number of technical documents that cite or use CATIE publications, in comparison with the previous year.	<ul style="list-style-type: none"> Coordinate and/or participate in seminars, congresses, conferences, workshops or relevant policy meetings (for example, RIABM, IUFRO Congress, GRA, SIACRE Congress, Agroforestry Congress, COP-UNFCCC and the Wallace Symposium). Collaborate on the development of at least two public and/ or private policies related to the sustainable intensification of agriculture and forestry resources, as well as ecosystem services. Give at least four strategic courses on topics including: sustainable landscapes, watershed management, sustainable livestock production, NAMA, climate change and economics and environmental services. 	<ul style="list-style-type: none"> Coordinate and/or participate in seminars, congresses, conferences, workshops or relevant policy meetings (for example, Water Congress, GRA, IUFRO, COP-UNFCCC and the Convention on Biodiversity). Coordinate and/or participate in seminars, congresses, conferences, workshops or relevant policy meetings (for example, RIABM, IUFRO Congress, GRA, SIACRE Congress, Agroforestry Congress, COP-UNFCCC and the Wallace Symposium). Collaborate on the development of at least two public and/or private policies related to the sustainable intensification of agriculture and forestry resources, as well as ecosystem services. Give at least four strategic courses on topics including: sustainable landscapes, watershed management, sustainable livestock production, NAMA, climate change and economics and environmental services and silvopastoral systems. 	PRAGA PIDEA PBByCC PMAP-PD UGA UPAF UAB PE-ON TIC

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
4. CATIE's germplasm from the collections and genetic improvement programs distributed in the region.	Indicator 4.1. Volume of coffee, cacao, forest species and vegetable genetic material collected, conserved, evaluated and distributed by CATIE, in comparison with the previous year.	<ul style="list-style-type: none"> • Invest in the expansion of commercial nurseries and greenhouses at CATIE headquarters to increase distribution capacity for coffee hybrids (GAIA Export Company) and monilia-resistant cacao clones (ECOM Trading). IEER 7 • Improve the germplasm collections in partnership with the private sector to generate high organoleptic quality coffee varieties and international cacao clones for high quality chocolate. IEER 7 and 17 • Establish a garden of high quality seeds and high cup quality coffee varieties (for example, Geisha, Wush Wush and others). • Increase negotiations for resources from private coffee initiatives (for example, World Coffee Research, DAITO) and cacao initiatives (Lyndt, MARS, Nestlé, etc.). IEER 7 and 17 • Increase the commercial supply of improved forestry seeds for teak and melina, to reach more than 25 countries of the world. 	<ul style="list-style-type: none"> • Continue the expansion of commercial nurseries and greenhouses to increase distribution capacity for coffee hybrids and cacao clones. • Increase the distribution of cacao and coffee genetic materials in Latin America in partnership with the private sector (for example, DAITO Company of Japan) and through regional projects in partnership with international NGOs. • Monitor the behavior of the garden with high quality seeds. • Continue negotiating resources with the private sector for coffee and cacao. IEER 7 and 17 • Continue offering improved forestry seeds for teak and melina. 	BSF CG LabB LabS

IEER: Independent External Evaluation Recommendations

SO2. Strengthen scientific and professional training in systemic approaches through the development of innovative products in education, at both graduate and professional levels and in on-site, virtual, and distance modalities

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
<p>1. CATIE is one of the best options for Latin America and the Caribbean as an international university in agriculture and natural resources with interdisciplinary and systemic approaches that differentiate us from other universities and an extensive academic offering that addresses the expectations, needs and demands of the countries through cooperative programs with other universities.</p>	<p>Indicator 1.1. The graduate education model and the academic offering have been revised, internalized and adjusted to continue addressing the expectations, needs and demands, mainly of Latin America and the Caribbean.</p>	<ul style="list-style-type: none"> Streamline the on-site academic offering for scientific and professional masters in accordance with the recommendations of the external evaluation, CATIE's research lines and programs and the business plan for the Graduate School. IEER 9 Optimize the thematic content and the course offerings for the scientific masters in economics, development and climate change; management and conservation of tropical forests and biodiversity; and agroforestry and sustainable agriculture, as well as masters in development practices and biodiversity conservation practices. IEER 9 Develop and implement the business plan for the Graduate School, ensuring its self-financing through external funds. IEER 12 Develop a policy in the graduate School to offer a full or partial scholarship for academic costs (tuition waiver) to those doctoral students who are financed through research project funds. IEER 11 Evaluate the scientific masters programs at 18 months in the areas of academic and research excellence. The review would be done with 2017-2018 and 2018-2019 cohorts. Establish a faculty strengthening program with the General Directorate to guide and support the General Directorate in the relevant areas of thematic weakness. 	<ul style="list-style-type: none"> Successfully launch the on-site academic offering for three scientific masters (economics, development and climate change; management and conservation of tropical forests and biodiversity; and agroforestry and sustainable agriculture), each one aligned with the research programs (PRAGA, PIDEA and PBBYCC), as well as a professional masters in conservation practices for biodiversity, with at least 100 students present on the CATIE campus. Optimize and integrate the curriculum plan approved by the Masters Academic Committee (CAM), the thematic content and the course offering for the masters in economics, development and climate change; management and conservation of tropical forests and biodiversity; agroforestry and sustainable agriculture and biodiversity conservation practices. Update the business plan for the Graduate School in accordance with the results obtained to ensure its self-financing through external funds. Continue with the evaluation of the scientific masters programs at 18 months in the areas of academic and research excellence. Continue the faculty strengthening program for professors of the Graduate School to guide and support the General Directorate in the relevant areas of thematic weakness. 	<p>DEP CAM CAD PRAGA PIDEA PBBYCC Students SG-DPPE DG UGA UPAF UAB</p>
	<p>Indicator 1.2. Compliance with the number of criteria for quality established by the National Higher Education Accreditation System (SINAES) for graduate programs.</p>	<ul style="list-style-type: none"> Complete the reaccreditation plan for the masters in economics, development and climate change; management and conservation of tropical forests and biodiversity; agroforestry and sustainable agriculture; as well as accrediting the Professional Masters in Biodiversity Conservation Practices. Evaluate courses, theses, final works for graduation, professors, counselors and advisory committees. 	<ul style="list-style-type: none"> Complete the improvement plan for the reaccreditation of the masters in economics, development and climate change; management and conservation of tropical forests and biodiversity; agroforestry and sustainable agriculture; and biodiversity conservation practices. Evaluate courses, theses, final works for graduation, professors, counselors and advisory committees. 	<p>DEP CAM CAD Professors</p>
	<p>Indicator 1.3. Number of graduates with whom the Education Directorate interacted and communicated, in comparison with the same period of the previous year.</p>	<ul style="list-style-type: none"> Put the graduate information updating system into operation. Post information about graduates on the website to strengthen the communication process with permanent information for and with the graduates. 	<ul style="list-style-type: none"> Complete and update information about the graduates. Post information about graduates on the website to strengthen the communication process with permanent information for and with the graduates. 	<p>DEP SG-DPPE TIC</p>

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
	<p>Indicator 1.4. A component for the strengthening of higher education and training has been incorporated into the new CATIE Strategic Plan (2021-2030).</p>	<ul style="list-style-type: none"> • Compile inputs on trends and demands in higher education and training in the thematic work areas of CATIE. 	<ul style="list-style-type: none"> • Develop the strategic plan for the education and training component. 	DG SG-DPPE DEP UGA UPAF UAB PRAGA PIDEA PBBByCC PE-ON
<p>2. CATIE is consolidated as a leading university in virtual distance education excellence in the thematic areas of sustainable agriculture and natural resources.</p>	<p>Indicator 2.1. Number of graduate programs, training diploma programs and individual courses with virtual distance education components implemented, in comparison with the same period for the previous year.</p>	<ul style="list-style-type: none"> • Successfully complete the transfer and launching of the current masters in integrated watershed management; administration and development of sustainable businesses; and climate change mitigation and adaptation to their virtual modalities, called Master in Integrated Watershed Management (MGICH); Master in Agro-business and Sustainable Markets Management (GANEMOS) and Master in Food Security (MSA). IEER 9 • Incorporate the topic of South-South Cooperation in the search for scholarships for African citizens, through foundations and multilateral institutions. 	<ul style="list-style-type: none"> • MGICH, GANEMOS and MSA combined have at least 150 students enrolled. • Continue developing the topic of South-South Cooperation in the search for scholarships for African citizens through foundations and multilateral institutions. 	DG SG-DPPE DEP CAD PRAGA PIDEA PBBByCC
<p>3. The academic offering of the Training Area is recognized and used internationally for preparation and technical and professional training in agriculture, natural resources and environmental economics.</p>	<p>Indicator 3.1. Total number of participants in strategic and special courses equal to the number obtained in 2016.</p>	<ul style="list-style-type: none"> • PRAGA, PIDEA, PBBByCC and the Graduate School design and develop a course curriculum consistent with their training program. • PRAGA, PIDEA, PBBByCC and the Graduate School formulate proposals and negotiate sources of funding for the acquisition of scholarships. • PRAGA, PIDEA, PBBByCC and the Graduate School promote and disseminate courses in coordination with TIC. • PRAGA, PIDEA, PBBByCC and the Graduate School successfully implement the courses that comprise their training program. 	<ul style="list-style-type: none"> • PRAGA, PIDEA, PBBByCC and the Graduate School design and develop a course curriculum consistent with their training program . • PRAGA, PIDEA, PBBByCC and the Graduate School formulate proposals and negotiate sources of funding for the acquisition of scholarships. • PRAGA, PIDEA, PBBByCC and the Graduate School promote and disseminate courses in coordination with TIC. • PRAGA, PIDEA, PBBByCC and the Graduate School successfully implement the courses that comprise their training program. 	PRAGA PIDEA PBBByCC TIC PE-ON
	<p>Indicator 3.2. Number of participants in the courses of the International Cooperative Studies Program equal to the number obtained in 2016.</p>	<ul style="list-style-type: none"> • Continue preparing proposals and receiving groups annually. • Follow up on relations with the universities that send groups of students to take these educational tours. 	<ul style="list-style-type: none"> • Negotiate, revise and adjust the already established programs. • Follow up on relations with the universities that send groups of students to take these educational tours. 	DEP PRAGA PIDEA PBBByCC PE-ON UGA UPAF UAB
<p>4. The Orton Memorial Library (CATIE-IICA) strengthens its role as the manager of technical and scientific information in agriculture and natural resources by means of networks for bibliographic cooperation, supported by Information and Communication Technologies (TIC).</p>	<p>Indicator 4.1. Number of information competencies and new technologies that the Orton Memorial Library is incorporating to address the main needs and demands of the users (students, professors, investigators, graduates and external).</p>	<ul style="list-style-type: none"> • Review and update the content of the Informational and Digital Competency Development Course. • Maintain the institutional repository as part of the National Kímuk Repository. • Maintain agreements with the CGIAR consortium and the University of Idaho and assess other options. • Incorporate in the work plan the recommendations of the group responsible for carrying out expurgation. • Form the Administrative Committee for the Library (IICA-CATIE). 	<ul style="list-style-type: none"> • Review and update the content of the Informational and Digital Competency Development Course. • Maintain the institutional repository as part of the National Kímuk Repository. • Maintain agreements with the CGIAR consortium and the University of Idaho and assess other options. • Incorporate in the work plan the recommendations of the group responsible for carrying out expurgation. • Follow up on the Administrative Committee for the Library (IICA-CATIE). 	IICA DEP SG-DPPE TIC

SO3. Strengthen and establish innovative and participatory processes with partners and allies, that tend to generalize the use of systemic solutions for development

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
<p>1. CATIE transforms the offices in the countries into National Academic Management Centers, achieving greater participation in operations for research, education and innovation in the field, operating efficiently in at least 10 countries of Tropical America and contributing goods and services to members, partners and allies.</p>	<p>Indicator 1.1. The National Offices (ON) improve their capacity for managing the institutional scientific and academic offering. IEER 15 and 16</p>	<ul style="list-style-type: none"> The Global Partnerships Office will coordinate actions with the liaisons and representatives (and their offices) to expand fundraising operations for research, outreach, and graduate scholarships. All the ON cover their operation expenses and recover indirect costs in accordance with the institutional policy in their projects. IEER 15 and 16 	<ul style="list-style-type: none"> The Global Partnerships Office will coordinate actions with the liaisons and representatives (and their offices) to expand fundraising operations for research, outreach, and graduate scholarships. All the ON cover their operation expenses and recover indirect costs in accordance with the institutional policy in their projects. IEER 15 and 16 	<p>AGyMR DG SG-DPPE DEP</p>
	<p>Indicator 1.2. Increase by two the number of National Offices or Liaison Offices with administrative capacities and legal management capacities in the respective countries in comparison with 2016.</p>	<ul style="list-style-type: none"> Have Liaison Offices and active projects in Mexico, the Dominican Republic/Haiti, Ecuador, Peru, Paraguay and the Amazon Basin. Have financially viable National Offices with representation in Guatemala/El Salvador, Honduras, Nicaragua, Panama and Colombia. 	<ul style="list-style-type: none"> Have Liaison Offices and active projects in Mexico, the Dominican Republic/Haiti, Ecuador, Peru, Paraguay and the Amazon Basin. Have financially viable National Offices with representation in Guatemala/El Salvador, Honduras, Nicaragua, Panama and Colombia. 	<p>AGyMR DG SG-DPPE DEP</p>
<p>2. CATIE has a specialized knowledge management for innovation entity, which positions the Center as a prestigious scientific-academic reference point with specialized information for the target public. This entity coordinates its pursuits for education, training, incidence and marketing with the research programs and the Education Directorate.</p>	<p>Indicator 2.1. The goods and services worked on and offered by CATIE are publicized in diverse communication platforms and tools.</p>	<ul style="list-style-type: none"> Strengthen social networks through the development of a digital strategy: <ul style="list-style-type: none"> Elevate the level of interaction on social networks Increase the number of followers Identify market trends Position the institution on regional communication platforms. 100% update of CATIE's website information. Have a specialized knowledge management entity for innovation that: <ul style="list-style-type: none"> Coordinates a series of short publications that summarize the work of CATIE and its partners on key topics. Build a web system for monitoring the work of the investigators, using a matrix of performance indicators (Matrix of Indicators for Monitoring Investigators -MIMI), which periodically compiles the activity of the investigators with a view towards analyzing the completion of individual work plans, and with this the impact of their individual and group work. Lead a centralized data management effort for the institution. 	<ul style="list-style-type: none"> Strengthen institutional social networks. Position the institution on regional communication platforms. Webpage updated and dynamic. CATIE continues strengthening an entity specializing in knowledge management for innovation, which: <ul style="list-style-type: none"> Implements the MIMI annually, generating reports, monitoring and evaluating progress on the work plan for each one of the lines of research. Design a digital repository that centralizes the archiving of key documents, such as institutional plans, strategies and audits. It also centralizes key documents for each project or consultancy developed by CATIE (for example: final proposals, contracts, final products, external evaluations and audits). Lead a centralized data management effort for the institution. 	<p>TIC DG SG-DPPE AGyMR PE-ON</p>

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
	Indicator 2.2. A positioning strategy for CATIE that promotes the institutional offering.	<ul style="list-style-type: none"> Implement a communication strategy for: <ul style="list-style-type: none"> A positioning strategy for CATIE's strengths (education, research and cooperation) in member countries and key target publics. Increasing publications in communications media through publicity, highlighting key topics for the organization. Strengthening the capacity of technical personnel in communication (spokespersons, editing, photography, among others). Preparation of a basic kit for communication for CATIE (brochures, folders, banners, videos, etc.). Participation in main events and fairs at local, national and regional levels. 	<ul style="list-style-type: none"> Implement the external communication strategy. 	TIC DG SG-DPPE AGYMR
3. CATIE has an entity for the institutional offering of research, education, outreach, and progress on the implementation of joint initiatives with other organizations of the region	Indicator 3.1. Four National and Liaison Offices promote and manage the institutional offering; among them achieving the execution of actions for USD 2.5-3 million in the period.	<ul style="list-style-type: none"> The Global Partnerships Office, together with Outreach-National Offices (PE-ON) and the Liaison Offices implement a strategy that enables the attraction of traditional and non-traditional donor funds and funds from the private sector. IEER 6 The Global Partnerships Office promotes the formalization of at least 20 contracts and agreements with partners, allies and the private sector; it also strengthens existing alliances. Increase notification power and the demand for educational goods and services, research and institutional outreach. 	<ul style="list-style-type: none"> The Global Partnerships Office, together with Outreach-National Offices (PE-ON) and the Liaison Offices implement a strategy that enables the attraction of traditional and non-traditional donor funds and funds from the private sector. IEER 6 The Global Partnerships Office promotes the search for fund to implement the actions of at least five of the 20 agreements formalized in 2019. IEER 6 Increase notification power and the demand for educational goods and services, research and institutional outreach. 	DG SG-DPPE PRAGA PIDEA PBByCC AGYMR
	Indicator 3.2. Develop a new model and office for resource management and mobilization. IEER 6, 7, 14 and 17	<ul style="list-style-type: none"> Implement a strategy that enables negotiating funds from traditional and non-traditional donors and the private sector. IEER 17 Increase by 10% the institutional response to calls for the supply of goods and services. Generate USD 500,000 for indirect cost recovery. Improve the indices of efficiency and success in proposals submitted by 10%. Have a permanent accreditation and certification process before international donors for access to relevant funds. Strengthen the response capacity of the Global Partnerships Office with at least five persons performing functions such as: scholarship management, project management, accreditations, technical support and team leader. 	<ul style="list-style-type: none"> Follow up on the fund negotiation strategy from traditional and non-traditional donors and the private sector. Increase by 10% the institutional response to calls for the supply of goods and services. Generate USD 700,000 for indirect cost recovery. Improve the indices of efficiency and success in proposals submitted by 7%. Accreditation with the European Union. The Global Partnerships Office team organizes training for at least 20 professionals of the research programs for the National Offices and the Liaison Offices on proposal formulation for specific donors. 	DG SG-DPPE PRAGA PIDEA PBByCC AGYMR
4. CATIE and IICA maintain a close collaboration in programs that benefit the member countries, promoting the sustainable management of agriculture and natural resources.	Indicator 4.1. CATIE and IICA work on a joint agenda aimed at strengthening initiatives that favor the agricultural sector in the mandate area. IEER 14	<ul style="list-style-type: none"> Strengthen actions in the corporate component of the joint work plan. Carry out at least five joint initiatives between CATIE and IICA, aligned with agricultural needs in the mandate region. IEER 14 	<ul style="list-style-type: none"> Strengthen actions in the corporate component of the joint work plan. Carry out at least five joint initiatives between CATIE and IICA, aligned with agricultural needs in the mandate region. 	DG CATIE-IICA Commission PRAGA PIDEA PBByCC

SO4. Strengthen the organizational competencies and competitiveness of CATIE as an essential means for the effective and efficient execution of the Strategic Plan

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
1. CATIE strengthens the joint work among its divisions to achieve greater effectiveness and efficiency in its operations.	<p>Indicator 1.1. A participatory financial plan (different divisions) helps sustain an aggregated budget of annual income.</p> <p>Indicator 1.2. Maintain sustained, rising income, equitable costs and simplify processes toward achieving financial stability around at least USD 21 million per year in 2019 and 23 million per year in 2020.</p>	<ul style="list-style-type: none"> In agreement with the Board of Directors, implement a plan for the injection of financial resources for CATIE's repositioning. IEER 18 Strengthen the Global Partnerships Office to increase its effectiveness in mobilizing resources. IEER 6 Implement an innovative plan to recover fees from the countries. Strengthen the Finance and Administrators Committee to monitor and follow up on CATIE's finances. IEER 19 <p>Generate an income budget for USD 21 million per year, distributed among the different funds:</p> <ul style="list-style-type: none"> Core Fund: USD 5.2 million Commercial Fund: USD 2.8 million Agreements Fund: USD 9.8 million Custody Fund: USD 3.2 million 	<ul style="list-style-type: none"> Execute the agreed plan with the Board of Directors. Evaluate the performance of the Global Partnerships Office and make adjustments to improve its effectiveness. Follow up on the innovative plan for the recovery of fees from the countries. Establish an annual operations plan for the Finance and Administrators Committee. <p>Generate an income budget for USD 23 million per year, distributed among the different funds:</p> <ul style="list-style-type: none"> Core Fund: USD 5.8 million Commercial Fund: USD 3 million Agreements Fund: USD 10.7 million Custody Fund: USD 3.5 million 	<p>DAF DG PIDEA PRAGA PBBYCC PE-ON</p> <p>DAF DG FC-SG PE-ON PRAGA PIDEA PBBYCC</p>
2. CATIE expresses its plans, organization, and strategic and operational control in financial and accounting terms, to enable it to have realistic balanced budgets that express the health and financial sustainability of the Center while ensuring transparency and viability.	<p>Indicator 2.1. Updated standards and procedures enable the establishment of controls and financial reports that are consistent with the stipulations of the Center's governance. IEER 23</p>	<ul style="list-style-type: none"> Implement a more efficient financial and administrative information system. IEER 23 Strengthen personnel capacity in the International Standards for Financial Information (NIIF). Implement a follow up control system for the recommendations regarding internal and external audits. Update the institutional standards (regulations and policies). 	<ul style="list-style-type: none"> Evaluate and make adjustments in the new financial and administrative information system. Update personnel on changes made to the NIIF. Continue the follow up control system for the recommendations regarding internal and external audits. Follow up on the institutional standards. 	<p>DAF DDHH DG</p>
3. CATIE configures its regulatory framework and operational management of human talent to achieve the development and strengthening of attitudes and aptitudes that ensure a motivated team and strong performance.	<p>Indicator 3.1. Policies for hiring and recruitment updated and adapted to the Center's business model. IEER 20 and 24</p>	<ul style="list-style-type: none"> Strengthen the management capacity of the Human Development area. IEER 20 Implement individual work plans and personnel performance evaluations. Update the standards regarding the contracting of personnel (plant and consultants), in accordance with the labor legislation of each country. IEER 24 Update the salary scale to ensure equity in accordance with the gender policy. Develop a plan to strengthen personnel capacities in the different institutional areas and strategic topics. Create a plan for personnel advancement and recruitment according to institutional needs. 	<ul style="list-style-type: none"> Follow up on management capacity (office strategy) for the Human Development area. Execute individual work plans and performance evaluations. Update the standards regarding the contracting of personnel (plant and consultants), in accordance with the labor legislation of each country. Revise and update the salary scale to ensure equity, in accordance with the gender policy. Follow up on the plan to strengthen personnel capacities. Follow up on the plan for personnel advancement and recruitment. 	<p>DDHH DAF DG</p>
4. CATIE operates modern, updated information systems that effectively support Center operations.	<p>Indicator 4.1. The information and communication systems and technologies (ICT) have been updated and/or renovated.</p>	<ul style="list-style-type: none"> Acquire a new Enterprise Resource Planning system (ERP), which improves financial accounting system management. Strengthen capacities of ICT personnel on the use of the ERP. Create a platform for the mobilization of resources. 	<ul style="list-style-type: none"> Perfect, adjust and optimize the ERP (new administrative financial system). Update personnel on the use of the ERP. Update and monitor the resource mobilization platform 	<p>TIC DG SG-DPPE Finance</p>

CATIE Goals	2020 Indicators (medium term)	2019 Actions EEI Recommendations (12 months)	2020 Actions EEI Recommendations (24 months)	Unit(s) responsible
5. Institutional agro-businesses are consolidated as generators of resources for the core budget and as a platform for support to scientific and educational programs.	Indicator 5.1. Contributions to the core budget of USD 180,000 per period. IEER 21	<ul style="list-style-type: none"> Objectively and rigorously analyze the agricultural activities to determine their economic viability, potential profitability and strategic alignment with CATIE. IEER 21 Update and execute the farm plan, in accordance with the business plan that would include (subject to variations per the business plan): <ul style="list-style-type: none"> Continued strengthening of the biological assets of the Commercial Farm through forestry plantations. Generate contributions to the core budget of USD 180,000 and biological assets of USD 40,000 (positive for the financial statements) through the commercial agriculture, forestry and livestock production activities. Subject to a variations in the business plan. Ensure that the Commercial Farm (particularly the dairy and the forestry area) together with the Environmental Livestock Production Unit (UGA) of PRAGA and the Secondary Forests Project (IKI) of PBBYCC conduct research and training actions in a coordinated way. 	<ul style="list-style-type: none"> Update and execute the farm plan, in accordance with the business plan that would include (subject to variations per the business plan): <ul style="list-style-type: none"> Continue strengthening the biological assets of the Commercial Farm through forestry plantations. Generate contributions to the core budget of USD 180,000 and biological assets of USD 40,000 (positive for the financial statements) through the commercial agriculture, forestry and livestock production activities. Subject to a variations in the business plan. Ensure that the Commercial Farm (particularly the dairy and the forestry area) together with the Environmental Livestock Production Unit (UGA) of PRAGA and the Secondary Forests Project (IKI) of PBBYCC conduct research and training actions in a coordinated way. 	DG SG-DPPE FC-SG PRAGA PIDEA PBBYCC UGA UPAF UAB Finance
6. Hospitality strengthened to support the campus student and scientific community, focusing its management on maintenance, eco-efficiency, reinvestment and financial support to core functions.	Indicator 6.1. Contributions to the core budget of USD 300,000 in 2019 and USD 350,000 in 2020.	<ul style="list-style-type: none"> Create an infrastructure maintenance and improvement plan (buildings, green areas and roadways). Conduct an energy audit throughout the institution and a plan to move toward a more efficient and economic system. Contribute USD 300,000 to the core budget through the efficient management of installed capacity. 	<ul style="list-style-type: none"> Follow up on the infrastructure maintenance and improvement plan. Implement the recommendations of the energy audit. Contribute USD 350,000 per year to the core budget through the efficient management of installed capacity. 	SG Finance
7. Institutional services function as a support platform for Center operations under a framework for eco-efficiency and support to operations budgets.	Indicator 7.1. Information system implemented to systematize and minimize the risks associated with maintenance.	<ul style="list-style-type: none"> Establish a preventive maintenance plan for infrastructure and vehicles. Define periods for the renovation of the vehicular fleet to generate the necessary resources. Generate a matrix of risks in order to manage their control. Revise the safety protocols and map the occupation of buildings to make agreements with institutions. 	<ul style="list-style-type: none"> Execute the preventive maintenance plans for infrastructure and vehicles. Follow up on processes to renew the vehicular fleet. Monitor the risk matrix to detect new threats and include their management. Follow up on the revision of safety protocols and make agreements with institutions. 	SG-DPPE
8. The current CATIE contract (Law 8028) is extended for an additional 20 years as of 2020.	Indicator 8.1. Official declaration of the entry into force of the CATIE contract extension (Law 8028), for an additional 20-year period as of 2020, duly signed and sealed by the Government of Costa Rica and IICA. IEER 22	<ul style="list-style-type: none"> Form a commission to provide follow up on the resolution of the Inter-American Board of Agriculture (JIA). Conduct a prospective study of the status of agriculture and natural resources, which identifies areas for cooperation between IICA and CATIE. IEER 22 	<ul style="list-style-type: none"> Revise the proposed resolution at the JIA meeting. CATIE and IICA implement a plan for cooperation. 	DG Legal Advising
9. The financial and administrative management component has been incorporated into the new 2021-2030 Strategic Plan.	Indicator 9.1. Proposal for the modernization of the financial and administrative system for the next decade.	<ul style="list-style-type: none"> Compile baseline information, analyze income and expense details, and revise the organizational development plan. 	<ul style="list-style-type: none"> Follow up on the income attainment and expense plan and monitor the organizational development plan. 	DG Finance

IEER: Independent External Evaluation Recommendations

Annex

Recommendations from the external evaluation



Recommendations

1. CATIE should review how it defines itself as an organization to better reflect its niche, resources, and goals.
2. CATIE should gradually build up its commodity research (including coffee, cacao, timber and livestock), keeping a systems perspective in its research and education activities.
3. CATIE should build on its current Theory of Change to explore new niches by analyzing more in depth (a) how the socioeconomic and scientific environments in which it operates are changing, and (b) the partnerships and methods through which it expects to achieve its goals. This process should involve external experts and potential new donors, who can bring new perspectives regarding the main trends shaping the dynamics of agriculture, poverty and science.
4. CATIE should strengthen its research programs by reducing the number of research lines it tackles to focus on more narrowly defined niches, following revision of the Theory of Change.
5. CATIE should build up its research capabilities by (a) working with specialists in the organization of science to consolidate its transdisciplinary framework, (b) hiring graduates with strong research credentials from universities other than CATIE, (c) strengthening quality standards, and (d) expanding its partnerships with other research organizations, such as by replicating its model of collaboration with CIRAD.
6. CATIE's strategy for raising funds for research should include (a) building internal capacity to negotiate larger projects with a diversity of funders, (b) developing private sector and other new sources of funding, and (c) significantly reducing reliance on small projects and consultancies.
7. CATIE should provide stronger support to its coffee and cacao genetic resource work to raise funds, participate in international initiatives, elevate the profile of CATIE's efforts in this area through communications, and ultimately expand these lines of research.
8. CATIE should work with the Crop Trust and other international partners to begin the orderly transfer of the seed collection to larger international gene banks, housed at institutes that are prepared to handle the long-term preservation and international access of these valuable genetic resources.
9. CATIE should streamline its Masters' degree options and the number of course offerings, concentrating on MSc training.
10. CATIE should use only PhD-holding faculty to teach Masters' courses.
11. CATIE should waive PhD tuition for all students who are funded through a faculty research grant.

12. CATIE should fully cost its Education program and develop and implement a business plan to make the program self-financed through external funds.
13. CATIE should use evaluation methodologies based on complexity theories to (a) assess the impact of its research and outreach activities, and (b) learn how to improve the design and implementation of projects.
14. CATIE should avoid development projects and should focus instead on research and education activities in partnership with development actors (e.g., IICA, NGOs and public offices).
15. CATIE should more narrowly define the scope of its outreach and development activities, and rethink how to use outreach to extend its research and education. To this end, CATIE should expand to the whole organization the use of action-research approaches to help integrate research and outreach in the field; it should also set up formal mechanisms to learn from the related implemented projects. 1
16. CATIE should reevaluate the role of the National Offices. In the short run, it should close those that cannot pay for their expenses or do not have strategic value; in the mid-term, it should integrate those that remain into its research and educational activities.
17. CATIE should develop new models of interaction with the private sector to advance research, education, outreach, and fund development.
18. The Director General, working closely with the Board of Directors and the Council of Ministers, should secure an infusion of funding in order to initiate a process to reset CATIE's course and reposition the organization for the future.
19. The Director General urgently should strengthen his team's financial-leadership capacity, in order to lead CATIE out of its complex financial distress, through a major reorientation in approach that can result in a sustainable future.
20. CATIE should strengthen its leadership of human resources and establish coherent policies and systematic practices that are seen as transparent and fair, foster high performance, and build capacity for the future.
21. CATIE should undertake, with independent external input, its first rigorous and objective analysis of its commercial activities to assess their ongoing financial viability, potential profitability, and fit with CATIE's strategic direction; this should include consideration of options for the future of the commercial farm.
22. The Chair of the Governing Council, in consultation with the Board Chair, should convene a Task Force to develop a plan to update CATIE's governance structure into a more streamlined model that better meets CATIE's and regional needs. This should follow after CATIE's 20-year contract with the Republic of Costa Rica and IICA is in place.
23. The Board should have two members with expertise in relevant aspects of finance and accounting, and should elevate Board focus on financial matters; in light of the Board's current weakness in this area and current constraints for recruiting additional Board members, the Board should take urgent interim measures such as hiring a consultant and/or appointing non-Board members to join its Audit Committee and participate (as non-voting members) in Board discussions.
24. CATIE's Board should establish a systematic process for setting annual performance expectations for the Director General, tracking progress, and appraising his performance in accomplishing these.

INDEPENDENT AUDITORS' REPORT

To the Board of Directors of the Tropical Agriculture Research and Training Center (CATIE)

Opinion

We have audited the accompanying financial statements of the Tropical Agriculture Research and Training Center ("CATIE" or the "Entity"), which comprise the statements of financial position as of December 31, 2017 and 2016, and the statements of activities, changes in net assets, and cash flows for the years then ended, and a summary of significant accounting policies and other explanatory notes.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Tropical Agriculture Research and Training Center ("CATIE" or the "Entity") as of December 31, 2017 and 2016, its financial performance and its cash flows for the year then ended, in accordance with the International Financial Reporting Standards.

Basis for Opinion

We conducted our audit in accordance with the International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Entity in accordance with the Code of Professional Ethics of the Association of Certified Public Accountant of Costa Rica and the Code of Ethics for Professional Accountants of the International Ethics Standards Board for Accountants (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with such requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis in a Matter

As detailed in note 19 to the accompanying financial statements, after issuing the report on CATIE's financial statements as of December 31, 2017 and for the year then ended, Management determined a material difference in the source documentation used in the actuarial study performed by the independent expert; therefore, it is necessary to correct the information shown in our previous report dated March 20, 2018.

Additional Financial Information

Our audit was conducted in order to have an opinion on the basic financial statements taken as a whole. The supplemental financial information included in exhibits 1 to 6 is presented in order to report on the status of the fees receivable from member countries and the execution of operations by CATIE. This information is not required by the basic financial statements. This information has been the subject of the audit procedures applied in the audit of the financial statements mentioned above, and in our opinion, is presented fairly, in all material respects, with the financial statements taken as a whole.

Responsibilities of Management and Those Charged with the Entity's Governance with the Financial Statements

Management is responsible for the preparation and fair presentation of the Entity's accompanying financial statements according to the International Financial Reporting Standards and for the internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In the preparation of financial statements, Management is responsible for assessing the Entity's ability to continue as a going concern, disclosing as it may be necessary, the matters related to the going concern principle and using such accounting basis, unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Those charged with governance of the Entity are responsible for overseeing the financial reporting process of.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the International Standards on Auditing (ISAs) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

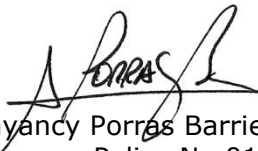
As part of an audit in accordance with the International Standards on Auditing (ISA), we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting in the preparation of the financial statements in the context of the applicable financial reporting framework. We also conclude, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw

attention in the auditor's report to the disclosures in the financial statements about the material uncertainty or, if such disclosures are inadequate, to modify the opinion on the financial statements. Our conclusions are based on information available at the date of the auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We are required to communicate with those charged with governance at the Entity regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



Anayancy Porras Barrientos - C.P.A. No.2863

Insurance Policy No.0116 FIG 7

Expires: September 30, 2018

Revenue stamp of Law No.6663, ₡1.000, affixed and paid

La Ribera de Belén, Heredia, Costa Rica

June 21, 2018



TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER (CATIE)

STATEMENTS OF FINANCIAL POSITION AS OF DECEMBER 31, 2017 AND 2016

(Expressed in thousands of US dollars)

	Notes	2017	2016
ASSETS			
CURRENT ASSETS:			
Cash and cash equivalents	1c, 2	US\$ 3,855	US\$ 4,253
Held-to-maturity investments	1d, 3	260	75
Accounts receivable	1i, 4	3,130	3,057
Inventories	1e, 5	<u>370</u>	<u>514</u>
Total current assets		7,615	7,899
PROPERTY, FURNITURE, BEARER PLANTS AND EQUIPMENT - Net	1g, 1h, 8	5,510	5,413
INTANGIBLE ASSETS	1s	16	34
BIOLOGICAL ASSETS	1k, 6	417	896
TRUST ASSETS	7	1,640	1,568
OTHER ASSETS	1j, 9	<u>619</u>	<u>575</u>
TOTAL		<u>US\$15,817</u>	<u>US\$16,385</u>
LIABILITIES AND NET ASSETS			
CURRENT LIABILITIES:			
Current portion of long-term debt	11	US\$ 97	US\$ 128
Trade accounts payable		54	72
Employee benefits	12	764	1,149
Accumulated expenses and other accounts Payable	1m, 10	<u>1,051</u>	<u>891</u>
Total current liabilities		1,966	2,240
LONG-TERM DEBT	11	<u>382</u>	<u>148</u>
Total liabilities		<u>2,348</u>	<u>2,388</u>
NET ASSETS:			
Unrestricted funds:			
Regular funds	1a	1,691	1,332
Plant fund	1a	6,061	6,343
Temporarily restricted funds:			
Agreement fund	1a	4,237	4,582
Funds in custody	1a	<u>1,480</u>	<u>1,740</u>
Total net assets		<u>13,469</u>	<u>13,997</u>
TOTAL		<u>US\$15,817</u>	<u>US\$16,385</u>

The accompanying notes are an integral part of the financial statements.

TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER (CATIE)

**STATEMENTS OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016**
(Expressed in Thousands of US Dollars)

Notes	2017						2016						
	Unrestricted Regular Funds			Temporarily Restricted Funds			Unrestricted Regular Funds			Temporarily Restricted Funds			
	Basic Activities Fund	Productive Activities Fund	Sub-total	Agreements	Custody	Total	Basic Activities Fund	Productive Activities Fund	Sub-total	Agreements	Custody	Total	
Income:													
IICA Contribution	US\$ 968		US\$ 968			US\$ 968	US\$ 804		US\$ 804			US\$ 804	
Member country fees	650		650			650	650		650			650	
Tuition of students	508		508			508	680		680			680	
Administrative support and overhead	1,469		1,469			1,469	1,781		1,781			1,781	
Miscellaneous	265		265			265	219		219			219	
Funds released from restrictions				US\$13,597	US\$5,332	18,929				US\$14,516	US\$6,989	21,505	
Management of goods and services		US\$1,217	1,217			1,217		US\$1,421	1,421			1,421	
Agricultural activities		1,598	1,598			1,598		1,545	1,545			1,545	
Trust contributions	7	619	619			619	614		614			614	
Total income	1n	4,479	2,815	7,294	13,597	5,332	26,223	4,748	2,966	7,714	14,516	6,989	29,219
Expenses:													
Staff	3,440	960	4,400	7,704	2,8299	14,933	3,935	1,152	5,087	8,173	3,918	17,178	
Travel and per-diem	175	29	204	1,401	250	1,855	143	23	166	1,242	269	1,677	
Communications and printouts	124	42	166	280	141	587	140	42	182	367	177	726	
Building maintenance	52	221	273	108	64	445	48	182	230	113	79	422	
General expenses	275	186	461	889	260	1,610	352	227	579	1,553	355	2,487	
Training and scholarships	118		118	1,308	1,397	2,823	158	2	160	1,517	1,782	3,459	
Investments (in assets)				420	50	470				242	38	280	
Supplies and costs	15	774	789	208	97	1,094	51	785	836	148	65	1,049	
Overhead costs		4	4	1,279	244	1,527				1,161	306	1,467	
Total expenses		4,199	2,216	6,415	13,597	5,332	25,344	4,827	2,413	7,240	14,516	6,989	28,745
Primary (deficit) surplus		280	599	879			879	(79)	553	474			474
Transfer from the productive activities fund	1a	599	(599)					553	(553)				
Increase in unrestricted net assets		879		879			879	474		474			474
Other non-current revenues:													
Donation and sale of assets		90		90			90	249		249			249
Gain in valuation of biological assets		37		37			37						
Total non-current income		127		127			127	249		249			249
Other non-current expenses:													
Depreciation expense	8	545		545		5	545	465		465			465
Amortization of intangibles		17		17			17	17		17			17
Loss in valuation of biological assets	6							69		69			69
Impairment of accounts receivable - net of recoveries	4	423		423			423	133		133			133
Total non-current expenses		985		985			985	684		684			684
Increase (decrease) in unrestricted net assets after non-current items		US\$ 21	US\$	US\$ 21	US\$	US\$	US\$ 21	US\$ 39	US\$	US\$ 39	US\$	US\$	US\$ 39

The accompanying notes are an integral part of the financial statements.

TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER (CATIE)

STATEMENTS OF CHANGES IN NET ASSETS FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(Expressed in Thousands of US Dollars)

	Note	Net Assets				Total
		Unrestricted Funds		Temporarily Restricted Funds		
		Regular	Plant	Agreements	Custody	
BALANCE, AS OF DECEMBER 31, 2015		US\$1,093	US\$6,544	US\$ 5,525	US\$ 2,386	US\$ 15,548
Restricted contributions received from donors				13,734	6,455	20,189
Disbursements from restricted funds				(14,589)	(6,989)	(21,578)
Other movements in restricted funds		(103)	102	(45)	74	28
Recognition of balances receivable from donors	1/			557	975	1,532
Release of restricted funds	1/			(600)	(1,161)	(1,761)
Decrease in funds		<u>342</u>	<u>(303)</u>			<u>39</u>
BALANCE, AS OF DECEMBER 31, 2016		1,332	6,343	4,582	1,740	13,997
Restricted contributions received from donors				13,697	5,204	18,901
Disbursements from restricted funds				(13,673)	(5,332)	(19,005)
Other movements in restricted funds		56		(280)	(2)	(226)
Recognition of balances receivable from donors				468	845	1,313
Release of restricted funds				(557)	(975)	(1,532)
Decrease in funds		<u>303</u>	<u>(282)</u>			<u>21</u>
BALANCE, AS OF DECEMBER 31, 2017		<u>US\$1,691</u>	<u>US\$6,061</u>	<u>US\$ 4,237</u>	<u>US\$ 1,480</u>	<u>US\$ 13,469</u>

The accompanying notes are an integral part of the financial statements.

TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER (CATIE)

STATEMENTS OF CASH FLOWS FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(Expressed in Thousands of US Dollars)

	Notes	2017	2016
OPERATING ACTIVITIES:			
Increase in net assets		US\$ 21	US\$ 39
Adjustments to reconcile the change in net assets with net cash provided by (used in) operating activities:			
Depreciation	8	545	465
Amortization of intangible assets		17	17
Impairment of accounts receivable - member countries	4	400	400
Recovery of accounts	4	60	
Loss in disposal of biological assets	6	15	
Changes from valuation of biological assets	6	(37)	69
Financial expenses on loans		19	28
Other movements of restricted funds		(444)	(201)
Changes in operating assets and liabilities:			
Accounts receivable		(533)	109
Inventories		144	(45)
Trade accounts payable		(18)	(23)
Employees' legal benefits		(553)	(328)
Accumulated expenses and other accounts payable		<u>312</u>	<u>16</u>
Cash (used in) provided by the operating activities		(52)	546
Interest paid		<u>(2)</u>	<u>(4)</u>
Net cash (used in) provided by the operating activities		<u>(54)</u>	<u>542</u>
INVESTMENT ACTIVITIES:			
Short-term investments		(185)	15
Additions to property, furniture and equipment	8	(94)	(122)
Proceeds from the sale of fixed assets	8	79	16
(decrease) of biological assets	6	(30)	(24)
Additions to the trust fund		(72)	(26)
Other financial assets		<u>(44)</u>	<u>(2)</u>
Net cash used in the investment activities		<u>(346)</u>	<u>(143)</u>
FINANCING ACTIVITIES:			
New loans		333	
Amortization of debt		(131)	(171)
Temporarily-restricted contributions		18,901	20,189
Disbursements for the execution of temporarily-restricted funds		<u>(19,101)</u>	<u>(21,798)</u>
Net cash used in the financing activities		<u>2</u>	<u>(1,780)</u>

(Continues)

TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER (CATIE)

STATEMENTS OF CASH FLOWS FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(Expressed in Thousands of US Dollars)

	2017	2016
NET DECREASE IN CASH AND CASH EQUIVALENTS	US\$ (398)	US\$ (1,381)
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE YEAR	<u>4,253</u>	<u>5,634</u>
CASH AND CASH EQUIVALENTS AT THE END OF THE YEAR	<u>US\$ 3,855</u>	<u>US\$ 4,253</u>

TRANSACTIONS THAT DID NOT GENERATE ANY CASH MOVEMENT:

1. During 2016 and 2015, donations of machinery, vehicles, furniture, and equipment for the sum of US\$220,000 and US\$529,000, respectively. Such donations come from the Agreements Fund for US\$176 and US\$320 for 2016 and 2015, respectively, and from the Custody Fund, for US\$44 and US\$209 for 2016 and 2015, respectively. The transactions mentioned above did not use or generate cash.
2. For 2017, due to the change in the IFRS regarding biological assets (specifically bearing plants), biological assets were reclassified for the sum of US\$531 to the fixed assets account. This transaction did not use or generate any cash.

(Ends)

The accompanying notes are an integral part of the financial statements.

TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER (CATIE)

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(Expressed in Thousands of US Dollars)

1. NATURE OF BUSINESS, BASIS OF PRESENTATION AND SIGNIFICANT ACCOUNTING POLICIES

Nature of Business - The Tropical Agriculture Research and Training Center ("CATIE") is an international university at a postgraduate level that teaches and trains leaders in agriculture, natural resources, and related fields, so that they are able to face challenges and take advantage of the opportunities of a changing world. Therefore, CATIE has postgraduate programs recognized for their quality and track record; it shows what it does with hundreds of members in several countries, and shares the progress and levels of science and technology in different areas of interest, and the demands and needs of today's world. Its headquarters are located in Turrialba, Costa Rica, and it is formed by thirteen member countries and the Inter-American Institute for Cooperation on Agriculture (IICA). Its mission is to achieve a sustainable and comprehensive human wellbeing in Latin America and the Caribbean by fostering education, research, and an external outreach of sustainable agricultural management and the conservation of natural resources.

CATIE was established in 1973 through a ten-year agreement signed with the Costa Rican Government and IICA. In 1983, this agreement was amended and extended up to year 2000. As indicated in Note 17, in 2000 the parties signed a new agreement for a twenty-year period.

In addition, in 1993, CATIE created the Foundation for Education and Research in the Development and Conservation of Natural Resources of the American Tropics (FUNDATROPICOS), a Costa Rican foundation which main purpose is to achieve the financial sustainability of CATIE through management of donations and other funds received, in order to ensure a fixed income source for the continuance of its operations.

Basis of Presentation - CATIE's financial statements are prepared according to the International Financial Reporting Standards (IFRS), and in addition, certain guidelines of the Financial Accounting Standard No.117, issued by the American Institute of Certified Public Accountants of the United States of America, have been adopted (applicable to not-for-profit entities commencing December 1994) (Note 1r), since the IFRS do not include specific matters applicable to not-for-profit entities.

The financial statements have been prepared on the basis of the historical cost, as explained in the following accounting policies.

Generally, historical cost is based on the fair value of the consideration granted in exchange of goods and services.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Entity takes into account the characteristics of the asset or liability if market participants

would take those characteristics into account when pricing the asset or liability on the measurement date. Fair value for measurement and/or disclosure purpose in these financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of IFRS 2, leasing transactions that are within the scope of IAS 17, and, measurements that have some similarities to fair value but are not fair value, such as net realizable value in IAS 2 or value in use in IAS 36.

In addition, for financial reporting purposes, fair value measurements are categorized into Level 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- **Level 1** - Inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date;
- **Level 2** - Inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly; and
- **Level 3** - Unobservable inputs for asset or liability.

Significant Accounting Policies - The significant accounting policies used by CATIE in the preparation of the financial statements are summarized as follows:

a. **Funds Managed by CATIE** - Funds managed by CATIE are classified in the financial statements, according to their restrictions, as Unrestricted Funds, Plant Fund and Temporarily Restricted Funds. These funds are segregated into the following categories based on their source and purpose:

- **Unrestricted Regular Funds** -

- *Basic Activities Fund* - It includes the basic activities of CATIE in promoting and developing the research and education in agriculture, forestry, livestock, and related fields, as established in its original articles of incorporation.

Such activities are mainly financed through member countries fees, IICA's annual contributions, revenues from training activities, specific donations and contributions received for financing these activities, through interests generated on trusts of which CATIE is a beneficiary, and through the administrative and logistical support (overhead) charged to project agreements.

- *Productive Activity Fund* - It comprises those activities developed by CATIE in the agriculture, livestock and management of goods and services fields, which generate an economic benefit. The main productive activities are: cultivation of sugarcane, coffee, and other minor agricultural products, as well as cattle farming, lodging services, and data processing services, among others.
- *Plant Fund* - This Fund controls the real property, furniture and equipment acquired with resources from the Basic Activities Fund and funds donated by national or international organizations. The assets included in this Fund are part of CATIE's available resources to

achieve its institutional goals. The balance of the Plant Fund is represented by the monetary value, net of depreciation, of real and personal property owned by CATIE. This Fund does not include fixed assets acquired with resources from the Agreements Fund, since capital expenditures are recognized as expenses of the respective project. Nevertheless, if such assets are donated, exchanged, or sold to CATIE upon termination of the contract, they will be included in this Fund. Physical control over fixed assets acquired with resources from the Agreements Fund is kept by CATIE, through a fixed assets database.

- **Temporarily Restricted Funds -**

- *Funds in Custody* - Includes funds received from national and international organizations to finance training and education provided by CATIE to some scholarship students and technicians from those institutions, as well as for the execution of certain research projects, which negotiated amount is under US\$75,000. For control purposes, income and expenses related to those funds are recorded separately until their specific purposes are fulfilled.
- *Agreement Fund* - Correspond to funds received by CATIE for the execution of certain agreements and contracts subscribed with national and international organizations, and their use is specifically restricted to the agreed-upon activities of such agreements and contracts. For control purposes, separate accounting records are used for the income and expenses related to those funds. Some of these funds are administered in independent checking accounts, according to the contractual requirements established by the donor. In addition, CATIE has entered into agreements with national and international organizations on which CATIE has no participation or technical responsibility whatsoever. Thus, income and expenses of such funds are not shown as such in the Statement of Activities. The balance administered for this concept as of December 31, 2017 and 2016, amounts to US\$121,000 and US\$122,000, respectively.

- b. **Currency and Foreign Currency Transactions** - The accounting records of CATIE are kept in United States of America dollars (US\$), its functional currency, and the financial statements and its notes, are also expressed in such currency. Monetary assets and liabilities originated in currencies other than their functional currency are translated to US dollars at the exchange rates in effect in each country as of the date of the financial statements.

Transactions made in foreign currency are registered at the exchange rate in force as of the date of the transaction. Assets and liabilities in foreign currency at the end of each accounting period are adjusted at the exchange rate in force as of such date. Exchange rate differences originated from the liquidation of assets and obligations denominated in foreign currency and from the adjustment of balances as of closing date are recognized in the results of the period in which they occurred.

As of December 31, 2017 and 2016, exchange rates for US\$1 at each of the countries where CATIE develops its activities were the following:

Country	Currency	Exchange Rate as of December 31, 2017	Exchange Rate as of December 31, 2016
Belize	Belize Dollar	2.00	1.961
Bolivia	Bolivianos	6.91	6.86
Costa Rica	Colones	566.42	548.18
Guatemala	Quetzales	7.34	7.52
Honduras	Lempiras	23.5879	23.50
CEE	Euro	0.8329	0.9508
Nicaragua	Córdobas	30.78	29.32
Peru	Nuevo Sol	3.236	3.357
Dominican Republic	Dominican Pesos	48.25	46.59

- c. **Cash and Cash Equivalents** - The cash accounts include restricted balances, held in separate bank accounts, to be used solely to cover disbursements of the agreements signed by CATIE with different donors, or to receive disbursements contributed by them. These restricted balances amount to a US\$3,855 and US\$4,253 as of December 31, 2017 and 2016, respectively. All investments with an original maturity of less than three months are considered cash equivalents.
- d. **Held-to-Maturity Investments** - They are investments with fixed maturity dates. CATIE has the intention and ability to hold them until maturity. Held-to-maturity investments are measured at amortized cost using the effective interest method less any impairment, recognizing revenue on an effective yield basis.
- e. **Inventories** - Material and supplies inventories are valued at average cost, which does not exceed its net realizable value. The coffee mill inventory and forest seed bank are valued at amounts that are approximate to its net fair value. The Entity follows the policy of directly including the value of the damaged or obsolete inventories in the operating results, according to the analyses performed on an annual basis.
- f. **Financial Instruments** - All financial assets and liabilities are initially recognized at fair value. After their initial registration, financial assets are adjusted at fair value. Financial assets remain registered at fair value because they consist mainly of cash and cash equivalents, held-to-maturity investments, and accounts receivable. Financial liabilities consist mainly of accounts payable and debt, which are valued at amortized cost. As of December 31, 2017 and 2016, CATIE has not entered into any agreement that involves derivative financial instruments, such as futures, options, and financial swaps.
- g. **Property, Furniture, Bearer Plants and Equipment** - CATIE follows the policy of recording funds disbursed for the acquisition of property, furniture, bearer plants and equipment as expenses, and it subsequently capitalizes those amounts in the Plant Fund whenever those assets are acquired with resources from the Basic Activities Fund. Therefore, such capitalization is performed based on the acquisition cost of the assets.

CATIE also registers as part of the Plant Fund property, plant and equipment acquired through Funds in Custody as part of the Plant Fund, except in those cases the entity where the person responsible for the fund communicates of the non institutional use of the asset upon termination of the contract or agreement.

- h. **Depreciation** - Depreciation of property, furniture, bearer plants and equipment is made using the straight-line method over the estimated useful lives of the respective assets, as shown below:

Detail	Depreciation Rates
Buildings	2 to 10%
Machinery	6.67 to 20%
Vehicles	10 to 16.67%
Office and home furniture and equipment	10 to 100%
Laboratory equipment	10 to 33.33%
Computer equipment and licenses	10 to 33.33%
Software licenses	20 to 33.33%
Coffee plantations	6.67 a 10%
Sugar cane plantations	7.69 a 10%

Depreciation expense is recorded in the Plant Fund.

- i. **Allowance for Impairment of Accounts Receivable from Member Countries** - As of 2011, CATIE calculates this impairment based on Article 8 of the "General Regulations of CATIE" which state that the Member State in arrears in the payment of their fees for more than 2 full years will have the right to vote in the Superior Council of Ministers. Based on this article, CATIE has recorded impairments for those member country fees that have been in arrears for two years or more.
- j. **Valuation of Other Assets** - CATIE registers the amounts disbursed for the purchase of certificates of investment of Cooperativa de Productores de Leche Dos Pinos, R.L., at historical value. Every year an impairment valuation takes place, taking into consideration the reasonability of the balance.
- k. **Biological Assets** - CATIE follows the practice of capitalizing the disbursements incurred for developing and breeding cattle for the dairy activity. At the end of each accounting period, dairy cattle is valued at its fair value, recognizing a profit or loss from the increase or decrease of the herd.

The sugarcane and coffee plantations are initially registered at cost, which is considered as fair value because it has not had a significant biological transformation. Afterwards, it is measured at fair value, less the costs at point of sale.

Forest plantations are valued at fair value through a methodology that considers the different conditions of the plantations, according to their diameters, plantation management, density, topography, quality of sites, and on the basis of lots measured every year.

In order to determine fair value, biological assets are separated by age and type, calculating the expected present value of the net cash flows by biological asset, in their current condition and location.

- l. **Temporarily Restricted Net Assets** - Funds contributed by national or international organizations to establish the Agreement Funds, Funds in Custody, and Administered Funds, for the execution of agreements, contracts, or specific activities are recorded as temporarily restricted net assets. As they are used in the activities defined in the agreements and contracts, CATIE simultaneously recognizes such amounts as income released from restrictions and as expenses of the Agreement Fund and Funds in Custody in the statement of activities.

When the expenses incurred by CATIE in the execution of an agreement, contract, or specific activity exceed the respective contributions, the excess is recorded as an account receivable from the respective donor.

- m. **Employees' Legal Benefits** - According to the Costa Rican labor law, employees that are dismissed without just cause are entitled to severance pay, equivalent to 20 days of salary for each year of continuous service, with a limit of eight years. However, on December 23, 1998, CATIE, along with a Permanent Employee Committee, agreed that severance pay should be recognized as an actual right and not as an expectation by law. The main clauses of such agreement were the following:

- Since January 1999, CATIE monthly deposits 8.33% of salaries and benefits paid in the Fideicomiso de Cesantía del Personal Nacional del CATIE (Trust for Severance Pay of CATIE's Local Employees), which is administered by the investment fund administration company of Banco Popular y Desarrollo Comunal. As of March 2001, 3% of this provision is transferred to different pension funds selected by employees. Starting in February 2012, 5.33% of severance is deposited in Asociación Solidarista de Empleados (ASOCATIE) (CATIE's Employee Fund), in behalf of the associated employees.
- From September to December 2016, a massive employment termination process was applied for staff from Costa Rica. The objective was to reduce staff costs, and along with the Permanent Workers Committee, it was agreed to eliminate additional employee benefits to the 3% law of the Labor Compensation Fund (FOCOPEN), five-year bonuses, as well as annual payments for seniority.
- Funds corresponding to severance, plus the accumulated yield, will be returned to each employee only at the moment of leaving CATIE, regardless of the reason of their exit.

For employees working in countries where CATIE has offices, the policy of directly charging expenses and provisioning employees' legal benefits is followed.

- n. **Income Recognition** - CATIE follows the policy of recording all annual fees from member countries and IICA's annual contribution as income of the year. Revenue from managing goods and services is recognized as the services are rendered. Income from commercial activities is recognized when CATIE has transferred to the buyer all risks and benefits of the goods or products.
- o. **Contributions to the International Professional Staff Retirement Fund** - Pursuant to the provisions of the employment agreements of the international professional staff, CATIE and the professionals must jointly contribute to a retirement fund. According to Resolution No.9-94/VII ROJD of the VII Regular

Meeting of CATIE's Board of Directors, the monthly contributions to cover expected disbursements of this Retirement Fund are transferred by CATIE to *Morgan Stanley Investment Funds* and to the OAS Retirement Fund. The management of such funds is the sole responsibility of the international professional staff.

- p. **Use of Estimates** - In preparing the financial statements, Management has to make estimates that affect the reported amounts of certain assets and liabilities, as well as of other income and expenses shown in the financial statements. Actual results could vary from such estimates. Estimates made by management include estimates for impairment of other countries' fees, useful life of property, furniture, bearer plants and equipment, and labor liabilities.
- q. **Vacation** - The Costa Rican laws establish that for each year of work, employees are entitled to certain number of vacation days. The Entity registers on a monthly basis a provision to cover future disbursements for this concept.
- r. **Applicable Regulations of the Financial Accounting Standards No.117, Issued by the American Institute of Certified Public Accountants of the United States of America** - CATIE has adopted certain guidelines of the Financial Accounting Standard No.117. This principle establishes general standards for the presentation of the financial statements and the basic financial information of the not-for-profit organizations.
- s. **Intangible Assets** - Intangible assets with defined useful life and separately acquired are registered at cost less the accumulated amortization and any accumulated impairment loss. Amortization is recognized using the straight-line method on their estimated useful life. The estimated useful life and depreciation method are reviewed at the end of each reporting period, and the effect of any change in the estimate is registered on a prospective basis. Intangible assets with an indefinite useful life that are acquired separately are registered at cost less any accumulated impairment loss.

2. CASH AND CASH EQUIVALENTS

Cash and cash equivalents as of December 31 are detailed below:

	2017	2016
Petty cash	US\$ 11	US\$ 11
Cash due from banks	<u>3,243</u>	<u>4,234</u>
Sub-total	3,254	4,245
Cash and cash equivalents:		
In colones:		
Investment fund at sight, with Banco BCT, S.A., with an average annual return of 3.14%		8
In US dollars:		
Banco BCT, certificates of time deposit, in quetzales, interest rate of 1.5% per annum, with maturity in March 2018	<u>601</u>	<u> </u>
Total	<u>US\$3,855</u>	<u>US\$4,253</u>

3. FINANCIAL INVESTMENTS AT MATURITY

Financial investments at maturity as of December 31 are detailed below:

	2017	2016
Banco G&T Continental, certificates of time deposit, in quetzales, interest rate of 6.00% per annum (6.25% in 2016) per annum, with maturity in March 2018	US\$ 68	US\$66
Banco de América Central, certificates of time deposit, in dollars, interest rate of 2.25% per annum, with maturity in May 2018	9	9
Banco BCT, certificates of time deposit, in quetzales, interest rate of 2.3% per annum, with maturity in March 2018	<u>183</u>	<u> </u>
Total	<u>US\$260</u>	<u>US\$75</u>

4. ACCOUNTS RECEIVABLE

Accounts receivable as of December 31 are detailed below:

	Note	2017	2016
Trade		US\$ 577	US\$ 275
Staff		27	70
Fundatrópicos interest		122	133
Advance payments for the development of projects		145	176
Member country fees		3,905	3,501
Third-party payments for the benefit of Agreements	1/	468	557
Third-party payments for the benefit of funds in custody	1/	845	975
Others		<u>18</u>	<u>7</u>
Sub-total		6,107	5,694
Less: Allowance for impairment		<u>(2,977)</u>	<u>(2,637)</u>
Total		<u>US\$ 3,130</u>	<u>US\$ 3,057</u>

Accounts receivable from countries correspond to fees not paid to the Entity by member countries, which were established for the implementation of basic activities and are classified as unrestricted funds. Accounts receivable are recovered in the functional currency of the financial statements, are not subject to any discount, and do not bear interest.

A detail of the movement of the allowance for impairment is shown below:

	2017	2016
Balance at the beginning of the year	US\$2,637	US\$2,504
Recovery of estimated accounts	(60)	(267)
Increase in the allowance	<u>400</u>	<u>400</u>
Balance at the end of the year	<u>US\$2,977</u>	<u>US\$2,637</u>

As of December 31, 2017, doubtful accounts for the sum of US\$83, corresponding to the custody fund, were directly recognized to the expense.

The ageing of accounts receivable from countries is as follows:

	2017	2016
Fees in arrears for less than a year	US\$ 464	US\$ 464
Fees in arrears between one and two years	464	400
Fees in arrears for more than two years	<u>2977</u>	<u>2,637</u>
Sub-total	3,905	3,501
Allowance for impairment	<u>(2,977)</u>	<u>(2,637)</u>
Balance at the end of the year	<u>US\$ 928</u>	<u>US\$ 864</u>

5. INVENTORIES

Inventories as of December 31 are as follows:

	2017	2016
Coffee at coffee mill	US\$ 53	US\$ 70
Forest seed bank	238	287
Materials and supplies	63	104
Others	<u>16</u>	<u>53</u>
Total	<u>US\$370</u>	<u>US\$514</u>

Due to the infrastructure and physical conditions where the inventories are stored and their non-perishable nature, Management considers that there will be a low risk and likelihood of incurring in losses due to the obsolescence or low turnover of the inventories; therefore, it is not appropriate to keep an allowance for obsolescence or slow turnover.

6. BIOLOGICAL ASSETS

Biological assets consist of dairy cattle, coffee plantations, sugarcane, and wood.

Biological assets are as follows:

	2017	2016
Coffee		US\$ 97
Sugarcane		449
Wood	US\$145	114
Cattle	<u>272</u>	<u>236</u>
Total	<u>US\$417</u>	<u>US\$896</u>

A summary of the movement of the account of biological assets is shown below:

	2017	2016
Balance at the beginning of the year	US\$ 896	US\$941
Capitalizations	30	24
Adjustments from a change in the fair value	37	(69)
Adjustments from change in the application of the standard	<u>(546)</u>	<u> </u>
Balance at the end of the year	<u>US\$ 417</u>	<u>US\$896</u>

A detail of purchases and births, sales and deaths and valuation adjustments of cattle is as follows:

	Heads of Cattle	Cost
Balances as of December 31, 2015	361	US\$ 343
Purchases and births	171	
Sales and deaths	(276)	
Adjustment for valuation	—	(107)
Balances as of December 31, 2016	256	236
Purchases and births	180	
Sales and deaths	(146)	
Adjustment for valuation	—	36
Balances as of December 31, 2017	<u>290</u>	<u>US\$ 272</u>

As of December 31, 2017, CATIE had a dairy cow herd of 186 milk-producing cows (mature biological assets) and 96 calves and heifers in growth that will produce milk in the future (immature biological assets). For the year ended December 31, 2017, CATIE produced 784.688 liters of milk, with a fair value less the estimated costs in the point of sale of US\$0.60 each kilo (value determined at the time of milking).

As of December 31, CATIE has the following plantations:

	Number of Planted Hectares	
	2017	2016
Wood	<u>147</u>	<u>102</u>
Total	<u>147</u>	<u>102</u>

7. TRUST FUNDS

Trust funds as of December 31 are as follows:

	2017	2016
Contributions to the trust:		
COSUDE II/Fundatrópicos Funds	<u>US\$1,640</u>	<u>US\$1,568</u>

FUNDATROPICOS-CATIE-BCT/2014 Investment Fund Management Trust (“the Trust”) was created on May 23, 2014 by the Foundation for Education and Research in the Development and Conservation of Natural Resources in the American Tropics (FUNDATROPICOS) and the Tropical Agriculture Research and Training Center (CATIE) (Trustors), Banco BCT, S.A., (the Trustee) and the Tropical Agriculture Research and Training Center (CATIE) (the Beneficiary). The trust is organized in accordance with the laws of Costa Rica for the management of money, securities, and loans.

The trust is the result of a merger of four trusts: COSUDE I Fundatrópicos Trust, COSUDE II Fundatrópicos Trust and Fundatrópicos Trust, all managed by Banco BCT, S.A, FUNDATROPICOS-CATIE-BCT/2014 Fund and Investment Management Trust, and the last one prevails, which objective is to fund the financial self-sustainability of CATIE, with the development and implementation of research activities, as well as education and other educational activities in the area of agricultural sciences, renewable resources, and other related activities.

Fundatrópicos' interest in the total net asset balance of the Trust as of December 31, 2017 is for the sum of US\$11,231,000, (US\$10,924,000 in 2016), equivalent to 87.26% (87.45% in 2016), and CATIE's interest is for the sum of US\$1,640,000 (US\$1,568,000 in 2016), equivalent to 12.74% (12.55% in 2016).

Fundatrópicos through an agreement with the Administrative Board and CATIE might give joint instructions so that, from the net assets of the Trust but not from its returns, payments are made to third parties that have been related to the Trust's management.

The 8-14/XXVIII and 2-13/extraordinary meetings' resolutions by the Administrative Board of Fundatrópicos approved allocating to CATIE 85% of the yields generated by the Trust and capitalizing the remaining 15%. CATIE recognized income amounting to US\$619,000 and US\$614,000 in 2017 and 2016, respectively.

8. PROPERTY, FURNITURE, BEARER PLANTS AND EQUIPMENT - NET

Property, furniture, bearer plants and equipment as of December 31, 2017, are as follows:

	2017				2017
	2016	Additions	Disposals	Transfers And Adjustments	
Historical cost:					
Lands	US\$ 483				US\$ 483
Buildings	6,994				6,994
Machinery	645	US\$ 28	US\$ (17)		656
Vehicles	1,338	42	(89)		1,291
Office furniture and equipment	677	17	(39)		655
Residence furniture and equipment	258	8	(8)		258
Lab equipment	295		(1)		294
Computer equipment	1,076	55	(68)		1,063
Agriculture plantations		40		US\$531	571
Sub-total	<u>11,766</u>	<u>190</u>	<u>(222)</u>	<u>531</u>	<u>12,265</u>
Accumulated depreciation:					
Buildings	(3,742)	(141)			(3,883)
Machinery	(361)	(46)	16		(391)
Vehicles	(642)	(112)	37	(15)	(732)
Office furniture and equipment	(445)	(42)	33		(454)
Residence furniture and equipment	(185)	(12)	7		(190)
Lab equipment	(195)	(13)	1		(207)
Computer equipment	(783)	(96)	64		(815)
Agriculture plantations		(83)			(83)
Sub-total	<u>(6,353)</u>	<u>(545)</u>	<u>158</u>	<u>US\$ (15)</u>	<u>(6,755)</u>
Total	<u>US\$ 5,413</u>	<u>US\$(355)</u>	<u>US\$ (64)</u>	<u>US\$516</u>	<u>US\$ 5,510</u>

Property, furniture and equipment as of December 31, 2016 are as follows:

	2015	Additions	Disposals	2016
Historical cost:				
Lands	US\$ 483			US\$ 483
Buildings	6,942	US\$ 52		6,994
Machinery	619	37	US\$ (11)	645
Vehicles	1,257	115	(34)	1,338
Office furniture and equipment	676	37	(36)	677

(Continues)

	2015	Additions	Disposals	2016
Home furniture and equipment	US\$ 246	US\$ 16	US\$ (4)	US\$ 258
Laboratory equipment	293	9	(7)	295
Computer equipment	<u>1,066</u>	<u>76</u>	<u>(66)</u>	<u>1,076</u>
Sub-total	<u>11,582</u>	<u>342</u>	<u>(158)</u>	<u>11,766</u>
Accumulated depreciation:				
Buildings	(3,602)	(140)		(3,742)
Machinery	(318)	(45)	2	(361)
Vehicles	(560)	(111)	29	(642)
Office furniture and equipment	(437)	(42)	34	(445)
Home furniture and equipment	(176)	(13)	4	(185)
Laboratory equipment	(189)	(13)	7	(195)
Computer equipment	<u>(748)</u>	<u>(101)</u>	<u>66</u>	<u>(783)</u>
Sub-total	<u>(6,030)</u>	<u>(465)</u>	<u>142</u>	<u>(6,353)</u>
Total	<u>US\$ 5,552</u>	<u>US\$(123)</u>	<u>US\$ (16)</u>	<u>US\$ 5,413</u>

Donations corresponding to machinery, vehicles, furniture, and equipment were received, which amounted to the sum of US\$96,000 and US\$220,000 as of the years ended December 31, 2017 and 2016, respectively. Such donations come from the Agreement Fund, which amount to US\$27 and US\$176 for 2017 and 2016, respectively, from the Custody Fund, for the sums of US\$69 and US\$44 for 2017 and 2016, respectively. The previously mentioned transactions did not use or generate any cash.

For 2017, due to the change in the IFRS regarding biological assets (specifically bearing plants), biological assets were reclassified for the sum of US\$531 to the fixed assets account. This transaction did not use or generate any cash.

As of December 31, CATIE has the following plantations:

	Number of Planted Hectares	
	2017	2016
Coffee	20	20
Sugarcane	<u>151</u>	<u>156</u>
Total	<u>171</u>	<u>176</u>

During 2017, CATIE produced 611 coffee bushels, from which 315 were harvested at the commercial plantation and the other 193 bushels were harvested at the different cultivation areas of the experimental field station, at a price of US\$103.81, once the estimated costs at point of sale (amount determined at harvesting time) are deducted.

Also, during 2017, 11.440 sugar cane tons were harvested, at a selling price of US\$39 per ton, once the estimated costs at point of sale (amount determined at harvesting time) are deducted.

As of December 31, 2017, 20 hectares of coffee are at a production stage, and 145 sugar cane hectares are at a cutting stage. From the 147 hectares of wood plantations, 129.64 are at a growth stage, 17.4 recently established (less than 5 years).

As of December 31, 2017, there are 32 sugar cane hectares, which sugar harvests until 2019 have been granted as a security of the debt transaction with Hacienda Juan Viñas (see Note 11).

9. OTHER ASSETS

Other assets as of December 31 are as follows:

	2017	2016
Contribution certificates, Cooperativa de Productores de Leche, R.L. in colones	US\$484	US\$476
Security deposit, office lease in Bolivia, Guatemala and Peru	33	34
Performance bond deposits in El Salvador, Panama, Costa Rica and Nicaragua	41	41
Others	<u>61</u>	<u>24</u>
Total	<u>US\$619</u>	<u>US\$575</u>

The performance bond deposits correspond to deposits given as guarantee of several projects.

10. ACCRUED EXPENSES AND OTHER ACCOUNTS PAYABLE

The accumulated expenses and other accounts payable as of December 31 are as follows:

	2017	2016
Miscellaneous projects	US\$ 328	US\$337
Withholdings	58	79
Accumulated expenses	60	143
Funds in custody	190	80
Interest payable	2	4
Security deposits – bids	4	13
Accounts payable OTN	38	65
Provision for audits	18	17
Others	<u>353</u>	<u>153</u>
Total	<u>US\$1,051</u>	<u>US\$891</u>

11. LONG-TERM DEBT

Long-term debt as of December 31 is as follows:

	2017	2016
FUNDATRÓPICOS, 7.75% interest per annum, maturity in September 2019 in dollars, surety bond	US\$133	US\$ 256
FUNDATRÓPICOS, 3.00% interest per annum, Maturity in September 2033, in dollars, surety bonds, first 3 years only interest is paid	333	
Hacienda Juan Viñas, S.A., 6% interest per annum, maturity on June 20, 2019, in dollars, guarantee against sugarcane harvest 2017-2019	<u>13</u>	<u>20</u>
Sub-total	479	276
Less: Current portion of long-term debt	<u>(97)</u>	<u>(128)</u>
Net	<u>US\$382</u>	<u>US\$ 148</u>

A detail of the long-term debt maturities is as follows:

Year ended:	2017	2016
Until one year	US\$ 97	US\$128
From one to five years	89	92
After five years	<u>293</u>	<u>-</u>
Total	<u>US\$479</u>	<u>US\$276</u>

To grant loans, FUNDATRÓPICOS used funds of the FUNDATROPICOS-CATIE-BCT/2014 trust.

12. EMPLOYEE BENEFITS

CATIE's employee benefits are defined in the staff regulations for professional international and national staff. These regulations govern not only employee's duties and rights, but also a series of benefits determined by the institutional authorities. Based on the framework about the benefits defined by CATIE, the costs of these benefits for CATIE are assessed.

12.1 RECOGNITION OF YEARS OF SERVICE

CATIE operates this benefit solely for its international staff and it is estimated based on the following weeks in terms of the years of service:

Years of Continuous Service	Weeks to be Paid
02	08
03	10
04	12
05	14
06	16
07	18
08	20
09	22
10	24
11	26
12	28
13	30
14	32
15 or more	34

The present value of the liability from the recognition of the years of service is calculated in terms of the last base salary of the participants. Therefore, an increase in the salary of participants of the plan will increase the plan's liability.

There is a subsidiary ledger with individual accounts by employee. The benefit is paid at the end of the employment relationship to employees with two years of continuous service at CATIE. Total expense recognized in the comprehensive statement of activities was US\$70,000 in 2017 and US\$ 139,000 in 2016. Moreover, CATIE recognized payments and adjustments for US\$167,000 in 2017 and US\$34,000 in 2016.

12.2 REPATRIATION AND TRAVEL TO HOME COUNTRY

CATIE covers the following expenses at the end of the employment agreements of international professional staff:

- a. Travel expenses of the employee and dependent family members to their home country according to the airfare at the time of travel.
- b. Moving expenses of household goods up to an amount of US\$6,000.
- c. A lump sum of US\$2,750.

For this benefit, there is also a subsidiary ledger with individual accounts per employee. The benefit is paid at the end of the employment relationship to employees with two years of continuous service at CATIE. Total expense recognized in the comprehensive statement of activities was US\$ 111,000 in 2017 and US\$41,000 in 2016. Moreover, CATIE recognized payments and adjustments for US\$162,000 in 2017 and US\$23,000 in 2016.

12.3 VACATION FOR NATIONAL STAFF

From September to December 2016, CATIE dismissed and rehired the national staff at the main campus as part of a downsizing process thereby eliminating some employee benefits; as a result of this process, all the staff had to take the accumulated vacation days before the liquidation date, which resulted in the labor liability balance from vacations as of December 31, 2016 to be used entirely; the balance of this benefit became a debt as of December 31, 2017 because the collective vacation days were taken at the end of the year, thereby representing an account receivable from employees for US\$0 and a labor liability for US\$22,000 in 2017.

12.4 SEVERANCE PAY OF NATIONAL STAFF

The severance pay of the national staff is paid in accordance with the laws in each country. For the Costa Rican employees who are not members of the Employees' Association, CATIE transfers 5.33% of the monthly severance pay to SAFI Banco Popular.

For the remaining countries, CATIE monthly charges the amount of the severance pay to expenses and they are provisioned. CATIE is legally liable for this employee benefit which is recognized for each country as follows.

Country	Calculation Method
Honduras and Guatemala	Salaries earned in the last six months, or a fraction of shorter time, including overtime, salary in kind, usual bonuses, or any other salary, if any. The result is multiplied times 14 months (including 50% of the 13th and 14th month) and then divided by 12 months to obtain the average salary for the compensation.
El Salvador	One salary is recognized per each year of service or a fraction of a shorter time, with a maximum of 4 minimum salaries per year for an estimated amount of US\$251,70 in 2015, and the maximum annual compensation was US\$1,006.80.

(Continues)

Country	Calculation Method
Nicaragua	Law No.185 was approved on September 5, 1996. One month of salary for each of the first 3 years of work, and 20 days of salary for each year of work, starting on the fourth year of work. Under no circumstance, compensation will be less than one month or more than five months. Fractions between years served will be liquidated on a proportional basis.
Panama	Severance pay or the seniority bonus is calculated based on one week of salary per each year of service (1/52).

The most recent actuarial assessment of the obligation from the aforementioned benefits was conducted on December 31, 2017 by Luis Guillermo Fernández Valverde, Mathematician-Actuary, consultant, and founding member of the Costa Rican Association of Actuaries, member No.8963.

The present value of the obligation from the aforementioned benefits and the cost of the current service and past service were measured using the credit method of the foreseen Unit.

The fair value of the employee benefits according to the results of the actuarial study and the amounts of the employee benefits of CATIE as of December 31 are as follows:

2017						
Benefit	Country	Local Currency (in Thousands)	Exchange Rate	Actuarial Value (in Thousands US\$)	Total CATIE (in Thousands US\$)	Difference (in Thousands US\$)
Staff's vacation	Main campus	0	0	0	0	0
	Honduras	0	0	0	0	0
	Nicaragua	0	0	0	0	0
	Panama	0	0	0	0	0
	El Salvador	0	0	0	0	0
	International	0	0	0	0	0
	Sub-total			0	0	0
Staff's severance pay	Costa Rica	96,718	574	168	0	(168)
	Guatemala	2,767	7.34	377	129	(248)
	Honduras	1,155	23.63	49	10	(39)
	Nicaragua	1,236	30.99	40	36	(4)
	Panamá	14	1	15	4	(11)
	El Salvador	87	1	87	53	(34)
	Subtotal			736	232	(504)
Years of service and repatriation	Costa Rica	226	1	226	389	163
	Costa Rica	15	1	15	143	128
	Subtotal			241	532	291
Total				977	764	(213)

Year 2016						
Benefit	Country	Local Currency (in Thousands)	Exchange Rate	Actuarial Value (in Thousands US\$)	Total CATIE (in Thousands US\$)	Difference (in Thousands US\$)
Staff's vacation	Main campus	0	0	0	0	0
	Honduras	0	0	0	0	0
	Nicaragua	0	0	0	0	0
	Panama	0	0	0	0	0
	El Salvador	0	0	0	0	0
	International	0	0	0	0	0
	Sub-total			0	0	0
Staff's severance pay	Costa Rica	121,320	566.90	214	34	(180)
	Guatemala	1,938	7.37	263	129	(134)
	Honduras	1,873	22.55	136	64	(72)
	Nicaragua	0	-	0	195	195
	Panama	30	1.00	30	2	(28)
	El Salvador	38	1.00	38	45	7
	Sub-total			681	469	(212)
Years of service and repatriation	Costa Rica	324	1.00	324	486	162
	Costa Rica	28	1.00	28	194	166
	Sub-total			352	680	328
	Total			1,033	1,149	116

Reconciliation of employee benefits at December 31 is as follows:

	Year 2017	Year 2016
International staff provision	US\$532	US\$ 680
Labor provisions	<u>232</u>	<u>469</u>
Total	764	1,149
Provisión Cesantía en Entidades Externas	<u>213</u>	-
Total	<u>US\$977</u>	<u>US\$1,149</u>
Balances as actuary:		
International staff provision	US\$241	US\$ 352
Labor provisions	<u>736</u>	<u>681</u>
Total	<u>977</u>	<u>1,033</u>
Net actuarial (gain) loss	<u>US\$</u>	<u>US\$ (116)</u>

13. FINANCIAL INSTRUMENTS

A summary of the main disclosures regarding CATIE's financial instruments is as follows:

13.1 SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies and methods approved, including the recognition criteria, the measurement basis, and the basis on which income and expenses are recognized for each type of financial asset, financial liability, and capital instrument are discussed in Note 1 to the financial statements.

13.2 FINANCIAL INSTRUMENT CATEGORY

The classification of financial instruments is as follows:

	2017	2016
Cash and cash equivalents and investments	US\$4,115	US\$4,328
Financial assets:		
Accounts receivable	<u>1,672</u>	<u>1,349</u>
Total	<u>US\$5,787</u>	<u>US\$5,677</u>
Financial liabilities at amortized cost:		
Accounts and notes payable	<u>US\$1,214</u>	<u>US\$ 933</u>
Total	<u>US\$1,214</u>	<u>US\$ 933</u>

13.3 LEVERAGE RISK MANAGEMENT

CATIE manages its net asset structure to maximize funds by optimizing the fund and debt balance. The capital structure used consists of debt, cash, and funds. The leverage ratio is as follows:

	2017	2016
Loans and notes payable	US\$ 1,214	US\$ 933
Cash and cash equivalents	<u>(4,115)</u>	<u>(4,328)</u>
Available net cash	<u>US\$ (2,901)</u>	<u>US\$ (3,395)</u>
Net assets	<u>US\$13,469</u>	<u>US\$13,997</u>
Leverage ratio	<u>(22%)</u>	<u>(24%)</u>

13.4 EXCHANGE RATE RISK

CATIE performs transactions denominated in foreign currency, and therefore, it is exposed to the risk of exchange rate fluctuations in the quotes of these currencies regarding the US dollar, affecting its activities, financial position, and cash flows. CATIE does not have any spread agreements to mitigate such risk.

The balances of assets and liabilities denominated in foreign currencies in thousands are as follows:

	2017								
	Colones	Quetzales	Lempiras	Córdoba	Euros	US Dollar	Dominican Peso	Bolivian Peso	Peruvian Sol
Assets:									
Cash and cash equivalents	¢ 26.864	Q 3,957	L 462	C\$ 202	€807	BZ\$ 9	RD\$43	BS\$1	S/21
Financial investments		498							
Accounts receivable	38,930	90	29						
Other assets	<u>307,591</u>								
Total assets	<u>373,385</u>	<u>4,545</u>	<u>491</u>	<u>202</u>	<u>807</u>	<u>9</u>	<u>43</u>	<u>1</u>	<u>21</u>
Liabilities:									
Accounts payable and accrued expenses	<u>(144.877)</u>	<u>(1,097)</u>	<u>(394)</u>	<u>(1,697)</u>		<u>(1)</u>			
Net position (exposure) in thousands	<u>¢ 228,508</u>	<u>Q 3,448</u>	<u>L 97</u>	<u>C\$(1,495)</u>	<u>€807</u>	<u>BZ\$ 8</u>	<u>RD\$43</u>	<u>BS\$1</u>	<u>S/21</u>

	2016							
	Colones	Quetzales	Lempiras	Córdoba	Euros	Belize Dollar	Dominican Peso	Bolivian Peso
Assets:								
Cash and cash equivalents	¢ 18.740	Q 1,989	L 481	C\$ 166	€1,592	Bz\$ 5	RD\$46	Bs\$1
Financial investments	4.156	498						
Accounts receivable	39.675	39	12	277				
Other assets	<u>260.934</u>							
Total assets	323.505	2,526	493	443	1,592	5	46	1
Liabilities:								
Accounts payable and accrued expenses	¢(136.425)	Q(1,229)	L(1,674)	C\$(7,197)		Bz\$(1)		
Net position (exposure) in thousands	<u>¢ 289.220</u>	<u>Q 1,297</u>	<u>L(1,181)</u>	<u>C\$(6,754)</u>	<u>€1,592</u>	<u>Bz\$ 4</u>	<u>RD\$46</u>	<u>Bs\$1</u>

Foreign Exchange Sensitivity Analysis - The following itemization shows the sensitivity to a decrease or increase in the exchange rate, 5% is the sensitivity rate used by management and represents the best estimate of a variation in the exchange rate.

Sensitivity to an Increase / Decrease in the Exchange Rate -

	2017								
	Colones	Quetzales	Lempiras	Córdoba	Euros	Belize Dollar	Dominican Peso	Bolivian Peso	Peruvian Sol
Net position (exposure) in thousands	¢228.508	Q 3,448	L 97	C\$(1,495)	€ 807	Bz\$ 8	RD\$46.43	Bs 1	S/ 21
Closing exchange rate	<u>566.42</u>	<u>7.34</u>	<u>23.59</u>	<u>30.78</u>	<u>0.83</u>	<u>2.00</u>	<u>48.25</u>	<u>6.91</u>	<u>3.24</u>
Net position in thousands of dollars	<u>US\$ 403</u>	<u>US\$ 470</u>	<u>US\$ 4</u>	<u>US\$ (49)</u>	<u>US\$972</u>	<u>US\$ 4</u>	<u>US\$ 1</u>	<u>US\$</u>	<u>US\$6</u>
5% increase (loss) profit	<u>US\$ 19</u>	<u>US\$ 22</u>	<u>US\$</u>	<u>US\$ (2)</u>	<u>US\$ 46</u>	<u>US\$</u>	<u>US\$</u>	<u>US\$</u>	<u>US\$</u>
Decrease of 5% profit (loss)	<u>US\$ (21)</u>	<u>US\$ (25)</u>	<u>US\$</u>	<u>US\$ 3</u>	<u>US\$ (51)</u>	<u>US\$</u>	<u>US\$</u>	<u>US\$</u>	<u>US\$</u>

	2016							
	Colones	Quetzales	Lempiras	Córdoba	Euros	Belize Dollar	Dominican Peso	Bolivian Peso
Net position (exposure) in thousands	¢187.080	Q 1,297	L(1,181)	C\$(6,754)	€ 1,592	Bz\$ 4	RD\$ 46	Bs 1
Closing exchange rate	<u>548.18</u>	<u>7.52</u>	<u>23.50</u>	<u>29.32</u>	<u>0.95</u>	<u>1.96</u>	<u>46.59</u>	<u>6.86</u>
Net position in thousands of dollars	<u>US\$ 341</u>	<u>US\$ 172</u>	<u>US\$ (50)</u>	<u>US\$ (230)</u>	<u>US\$1,674</u>	<u>US\$ 2</u>	<u>US\$ 1</u>	<u>US\$</u>
Increase of 5% (loss) profit	<u>US\$ 16</u>	<u>US\$ 8</u>	<u>US\$ (2)</u>	<u>US\$ (11)</u>	<u>US\$ 80</u>	<u>US\$</u>	<u>US\$</u>	<u>US\$</u>
Decrease of 5% (loss) profit	<u>US\$ (18)</u>	<u>US\$ (9)</u>	<u>US\$ 3</u>	<u>US\$ 12</u>	<u>US\$ (88)</u>	<u>US\$</u>	<u>US\$</u>	<u>US\$</u>

13.5 CREDIT RISK

The financial instruments subject to the credit risk mainly include cash and cash equivalents, investments and accounts receivable.

Cash and cash equivalents and investments are held in strong financial institutions and pose a minimum risk. The credit risk in the accounts receivable is deemed high because payments of member country fees entail significant political factors. CATIE monitors past-due balances.

A description of aged fees is shown in Exhibit 2 of the supplementary information.

13.6 LIQUIDITY RISK

The management of CATIE manages the liquidity risk by keeping adequate cash reserves. Moreover, CATIE constantly monitors its cash flows and the matched maturity analysis, which pays a timely attention to the short-term and medium-term obligations. CATIE prepares an annual budget and gives a constant follow up to the cash balances.

The foreseen recovery of financial assets as of December 31, 2017 is as follows:

Financial Assets	Effective Rate	Less than 1 Month	From 1 to 3 Months	From 3 Months to 1 Year	More than 1 Year	Total
Interest-bearing instruments	Between 0,01% and 4% per annum	US\$3,855	US\$ 68	US\$ 184	US\$8	US\$4,115
Non interest-bearing instruments		<u>306</u>	<u>355</u>	<u>1,011</u>		<u>1,672</u>
Total		<u>US\$4,161</u>	<u>US\$423</u>	<u>US\$1,195</u>	<u>US\$8</u>	<u>US\$5,787</u>

The scheduled payments of the financial liabilities as of December 31, 2017 are as follows:

Financial Liabilities	Effective Rate	Less than 1 Month	From 1 to 3 Months	From 3 Months to 1 Year	More than 1 Year	Total
Interest-bearing obligations	Between 6% and 7.75% per annum		US\$ 30	US\$66	US\$382	US\$ 478
Non interest-bearing obligations		<u>US\$450</u>	<u>262</u>	<u>23</u>	<u>1</u>	<u>736</u>
Total		<u>US\$450</u>	<u>US\$292</u>	<u>US\$89</u>	<u>US\$383</u>	<u>US\$1,214</u>

The foreseen recovery of financial assets as of December 31, 2016 is as follows:

Financial Assets	Effective Rate	Less than 1 Month	From 1 to 3 Months	From 3 Months to 1 Year	More than 1 Year	Total
Interest-bearing instruments	Between 0,01% and 4% per annum	US\$4,253	US\$ 66	US\$ 9		US\$4,328
Non interest-bearing instruments		<u>91</u>	<u>558</u>	<u>700</u>		<u>1,349</u>
Total		<u>US\$4,344</u>	<u>US\$624</u>	<u>US\$709</u>	<u>US\$</u>	<u>US\$5,677</u>

The scheduled payments of the financial liabilities as of December 31, 2016 are as follows:

Financial Liabilities	Effective Rate	Less than 1 Month	From 1 to 3 Months	From 3 Months to 1 Year	More than 1 Year	Total
Interest-bearing obligations	Between 6% and 7.75% per annum		US\$ 54	US\$ 74	US\$148	US\$276
Non interest-bearing obligations		<u>US\$200</u>	<u>280</u>	<u>177</u>		<u>657</u>
Total		<u>US\$200</u>	<u>US\$334</u>	<u>US\$251</u>	<u>US\$148</u>	<u>US\$933</u>

13.7 INTEREST RATE RISK

CATIE has loan obligations that generate fixed interest rates; therefore, it is not subject to fluctuating interest rates.

13.8 FAIR VALUE OF FINANCIAL INSTRUMENTS

The estimates of the market fair value are carried out at a specific period of time and are based on relevant market information and information related to the financial instruments. These estimates do not reflect any premium or discount that might result from selling a financial instrument at a given period.

The fair value of financial instruments traded in active markets is estimated based on market price quotations on the dates of the financial statements.

The fair value of the financial instruments not traded in active markets is based on valuation techniques and assumptions based on the market conditions on the dates of the financial statements.

These estimates are subjective and, by nature, they entail uncertainty and a lot of judgment; therefore, they cannot be determined accurately. Any changes to the assumptions and criteria might affect these estimates.

The accounts receivable and payable are assets and liabilities that were not derived from determined or fixed payments and are not quoted in an active market. It is assumed that their carrying amount, less the allowance for impairment, if any, is close to their fair value.

The market value of short-term financial assets and liabilities is close to their carrying amount, mainly due to their maturity.

The methods and assumptions used by CATIE to determine the market fair value of the financial instruments are as follows:

- a. **Cash, Cash Equivalents and Temporary Investments** - The carrying amount of these assets is close to their fair value due to their current nature.
- b. **Accounts Receivable and Payable** - The carrying amount of the financial liabilities in less than one year is close to their fair value due to their short-term nature. CATIE carries out estimates for accounts receivable at their fair value.
- c. **Long-Term Debt** - The estimated fair value of loans payable is estimated based on the discounted amount of the future estimated cash flows. The loan rates are set at market values; therefore, their carrying amount is close to their fair value.

14. OPERATING EXPENSES

According to their functional classification, as of December 31 expenses are detailed below:

	2017	2016
Higher Guidelines, Administrative and Finance and Strategic Services (Institutional Support)	US\$ 2,104	US\$ 3,124
Research Division (Research)	8,671	11,176
Education Division (Teaching)	2,734	3,496
Administrative and Finance Department - Commercial Component (Subsidiary Companies)	2,590	2,516
External Projection Division (Projection)	<u>9,245</u>	<u>8,433</u>
Total	<u>US\$25,344</u>	<u>US\$28,745</u>

15. ADOPTION OF NEW AND REVISED INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS)

As of December 31, 2017, the following standards and interpretations had been published by the International Accounting Standard Board (IASB):

- a. ***Amendments to IFRS and the New Interpretations that are Mandatory for this Year*** - During this year, the Entity applied a series of new and amended IFRS issued by the International Accounting Standard Board (IASB), which are mandatory and effective for periods starting on or after January 1, 2017.

- **Amendments to IAS 7 - Disclosure Initiative** - Amendments to IAS 7, within the disclosure initiative (Amendments to IAS 7) are established with the objective that entities shall provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities.

To achieve this objective, the IASB requires that the following changes in liabilities arising from financing activities are disclosed (to the extent necessary): (i) changes from financing cash flows; (ii) changes arising from obtaining or losing control of subsidiaries or other businesses; (iii) the effect of changes in foreign exchange rates; (iv) changes in fair values; and (v) other changes.

The application of these amendments has had no impact on the CATIE's financial statements.

- **Amendments to IAS 12 - Recognition of Deferred Tax Assets for Unrealized Losses (to Clarify the Recognition of Deferred Tax Assets for Unrealized Losses Related to Debt Instruments Measured at Fair Value)** - IAS 12 provides requirements on the recognition and measurement of current or deferred tax liabilities or assets. The amendments clarify the requirements on recognition of deferred tax assets for unrealized losses, to address diversity in practice.

The application of these amendments has had no impact on the CATIE's financial statements.

- **Annual Improvements to IFRSs 2012-2014 Cycle - The Annual Improvements to IFRSs 2012-2014 Cycle** - Include a number of amendments to various IFRSs, which are summarized below.

- The amendments to IFRS 5 introduce specific guidance in IFRS 5 far when an entity reclassifies an asset (or disposal group) from held for sale to held for distribution to owners (or vice versa). The amendments clarify that such a change should be considered as a continuation of the original plan of disposal and hence requirements set out in IFRS 5 regarding the change of sale plan do not apply. The amendments also clarify the guidance far when held-far- distribution accounting is discontinued.
- The amendments to IFRS 7 provide additional guidance to clarify whether a servicing contract is continuing involvement in a transferred asset for the purpose of the disclosures required in relation to transferred assets.
- The amendments to IAS 19 clarify that the rate used to discount post-employment benefit obligations should be determined by reference to market yields at the end of the reporting period on high quality corporate bonds. The assessment of the depth of a market for high quality corporate bonds should be at the currency level (i.e. the same currency as the benefits are to be paid). For currencies for which there is no deep market in such high quality corporate bonds, the market yields at the end of the reporting period on government bonds denominated in that currency should be used instead.

The application of these amendments has had no effect on the CATIE's financial statements.

- b. ***New and Revised IFRSs in Issue but not yet Effective*** - The Entity has not applied the following new and revised IFRSs that have been issued but are not yet effective:

Standard or Interpretation	Ref.	Effective for Annual Periods Beginning on or After
IFRS 9 - <i>Financial Instruments</i>	I	January 1, 2017, with earlier application permitted
IFRS 15 - <i>Revenue from Contracts with Customers</i>	II	January 1, 2018, with earlier application permitted
IFRS 16 - <i>Leases</i>	III	January 1, 2019, with earlier application permitted
Amendments to IFRS 2 - <i>Classification and Measurement of Share-based Payment Transactions</i>	IV	January 1, 2018
Amendments to IFRS 10 and IAS 28 - <i>Sale or Contribution of Assets between an Investor and its Associate or Joint Venture</i>	V	Effective date has not determined yet; however, earlier application is permitted
Amendment to IAS 7 - <i>Disclosure Initiative</i>	VI	January 1, 2017, with earlier application permitted
Amendments to IAS 12 - <i>Recognition of Deferred Tax Assets for Unrealized Losses</i>	VII	January 1, 2017, with earlier application permitted

- I. **IFRS 9 - Financial Instruments** - IFRS 9 - Issued in November 2009, introduced new requirements for the classification and measurement of financial assets. IFRS 9 was subsequently amended in October 2010 to include requirements for the classification and measurement of financial liabilities and for derecognition, and in November 2013 to include the new requirements for general hedge accounting, Another revised version of IFRS 9 was issued in July 2014 mainly to include: a) impairment requirements for financial assets and b) limited amendments to the classification and measurement requirements by introducing a "fair value through other comprehensive income" (FVTOCI) measurement category for certain simple debt instruments.

Key requirements of IFRS 9:

- All recognized financial assets that are within the scope of IFRS 9 are required to be subsequently measured at amortized cost or fair value. Specifically, debt investments that are held within a business model whose objective is to collect the contractual cash flows and that have contractual cash flows that are solely payments of principal and interest on the principal outstanding are generally measured at amortized cost at the end of subsequent accounting periods. Debt instruments that are held within a business model whose objective is achieved both by collecting contractual cash flows and selling financial assets, and that have contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding, are generally measured at FVTOCI. All other debt investments and equity investments are measured at their fair value at the end of subsequent accounting periods. In addition, under IFRS 9, entities may make an irrevocable election to present subsequent changes in the fair value of an equity investment (that is not held for trading nor contingent consideration recognized by an acquirer in a business combination to which IFRS 3 applies) in other comprehensive income, with only dividend income generally recognized in profit or loss.
- With regard to the measurement of financial liabilities designated as at fair value through profit or loss, IFRS 9 requires that the amount of change in the fair value of a financial liability that is attributable to changes in the credit risk of that liability is presented in other comprehensive income, unless the recognition of such changes in other comprehensive income would create or enlarge an accounting mismatch in profit or loss. Changes in fair value attributable to a financial liability's credit risk are not subsequently reclassified to profit or loss. Under IAS 39, the entire amount of the change in the fair value of the financial liability designated as fair value through profit or loss is presented in profit or loss.
- In relation to the impairment of financial assets, IFRS 9 requires an expected credit loss model as opposed to an incurred credit loss model under IAS 39. The expected credit loss model requires an entity to account for expected credit losses and changes in those expected credit losses at each reporting date to reflect changes in credit risk since initial recognition. In other words, it is no longer necessary for a credit event to have occurred before credit losses are recognized.

- The new general hedge accounting requirements retain the three types of hedge accounting mechanisms currently available in IAS 39. Under IFRS 9, greater flexibility has been introduced to the types of transactions eligible for hedge accounting specifically broadening the types of instruments that qualify for hedging instruments and the types of risk components of non-financial items that are eligible for hedge accounting. In addition, the effectiveness test has been overhauled and replaced with the principle of an “economic relationship.” Retrospective assessment of hedge effectiveness is also no longer required. Enhanced disclosure requirements about an entity’s risk management activities have also been introduced.

The Entity’s management anticipates that the application of IFRS 9 may have a significant impact on the reported amounts regarding the Entity’s financial assets and liabilities. However, it is not feasible to provide a fair estimate of such effect until a detailed review has been completed.

- II. **IFRS 15 - Revenue from Contracts with Customers** - IFRS 15 establishes a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers. IFRS 15 will supersede the current revenue recognition guidance including IAS 18 *Revenue*, IAS 11 *Construction Contracts*, and the related interpretations when it becomes effective.

The core principle of IFRS 15 is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Specifically, the Standard introduces a 5-step approach to revenue recognition:

Step 1 - Identify the contract(s) with a customer;

Step 2 - Identify the performance obligations in the contract;

Step 3 - Determine the transaction price;

Step 4 - Allocate the transaction price to the performance obligations in the contract;

Step 5 - Recognize revenue when (or as) the entity satisfies a performance obligation.

Under IFRS 15, an entity recognizes revenue when (or as) a performance obligation is satisfied, i.e., when “control” of the goods or services underlying the particular performance obligation is transferred to the customer.

Likewise, IFRS 15 includes guidelines to overcome specific situations. Moreover, the number of required disclosures is increased. In April 2016, the IASB issued *Clarifications to IFRS 15* in relation to the identification of performance obligations, principal versus agent considerations, as well as licensing application guidance.

The Entity's management estimates that the application of IFRS 15 in the future may not have a significant effect on the reported amounts and disclosures made on the Entity's financial statements. However, it is not practicable to provide a fair estimate of such effect until the entity has made a detailed review.

- III. **IFRS 16 - Leases** - IFRS 16 was issued in January 2016 and supersedes IAS 17 "Leases" as well as the related interpretations. This new standard provides a model for the identification of most lease arrangements in the statement of financial position for lessees under one single accounting model for all models, eliminating the distinction between operating and finance leases. However, accounting for lessors remains with the distinction between both lease classifications. IFRS 16 is effective for the periods starting on January 1, 2019, with earlier application permitted for entities that have also adopted IFRS 15, Revenue from Contracts with Customers.

Under IFRS 16, lessees will recognize the right-of-use asset and the related lease liability. The "right of use" is treated as any other non-financial assets, with the corresponding depreciation, while liability bears interest. This usually results on a front-loaded expense profile (contrary to operating leases under IAS 17, where lease expenses are recognized on a straight-line basis) because straight-line depreciation leads to an overall front-loading of the expense throughout time.

Also, financial liability will be measured at present value of the minimum payments payable during the term of the lease, discounted at the interest rate implicit in the lease, provided it can be determined. If such rate cannot be determined, the lessee should use an incremental borrowing rate.

Nevertheless, a lessee can elect to account for lease payments as expense on the straight-line basis within the term of the lease, for contracts ending in 12 months or less, which do not contain purchase options (this election is made by class of asset), and for those contracts where underlying assets show a value that, when new, is not considered significant, for example, minor office equipment or personal computers (this election could be made on an individual basis for each lease agreement).

IFRS 16 provides different transition option, including full retrospective application or the cumulative catch-up approach, where amounts are not restated.

The entity is in the process of determining the potential impacts that will derive in the financial statements for the adoption of this standard, although due to the nature of its operation, a significant impact would not be expected.

- IV. **Amendments to IFRS 2 - Share-based Payment** - Share-based payment clarifies the classification and measurement of share-based payment transactions. The amendments contain clarifications and measurements addressed to the accounting for cash-settled share-based payment transactions, the classification of share-based payment

transactions with net settlement features, and the accounting for modifications of share-based payment transactions from cash-settled to equity-settled. Earlier application is allowed. Amendments are to be applied prospectively. Earlier application is allowed.

The application of these amendments would not have an impact on the disclosures or amounts recognized in the financial statements of the Entity.

- V. **Amendments to IFRS 10 and IAS 28 - Sale or Contribution of Assets between an Investor and its Associate or Joint Venture** - The amendments to IFRS 10 and IAS 28 deal with situations where there is a sale or contribution of assets between an investor and its associate or joint venture. Specifically, the amendments state that gains or losses resulting from the loss of control of a subsidiary that does not contain a business in a transaction with an associate or a joint venture that is accounted for using the equity method, are recognized in the parent's profit or loss only to the extent of the unrelated investors' interests in that associate or joint venture.

Similarly, gains and losses resulting from the remeasurement of investments retained in any former subsidiary (that has become an associate or a joint venture that is accounted for using the equity method) to fair value are recognized in the former parent's profit or loss only to the extent of the unrelated investors' interests in the new associate or joint venture.

The amendments should be prospectively applied.

The application of these amendments to IFRS 10 and IAS 28 may not have an impact on the Entity's current financial statements.

- VI. **Amendments to IAS 7 - Statement of Cash Flows: Disclosure Initiatives** - Amendments to IAS 7, within the disclosure initiative (Amendments to IAS 7) are established with the objective that entities shall provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities.

To achieve this objective, the IASB requires that the following changes in liabilities arising from financing activities are disclosed (to the extent necessary): (i) changes from financing cash flows; (ii) changes arising from obtaining or losing control of subsidiaries or other businesses; (iii) the effect of changes in foreign exchange rates; (iv) changes in fair values; and (v) other changes.

Earlier application is allowed.

The Entity's management expects some impact as a result of these amendments.

- VII. **Amendments to IAS 12 - Recognition of Deferred Tax Assets for Unrealized Losses** - IAS 12 provides requirements on the recognition and measurement of current or deferred tax liabilities or assets. The amendments clarify the requirements on recognition of deferred tax assets for unrealized losses, to address diversity in practice.

The application of these amendments would not have an impact on the disclosures or the amounts recognized in the financial statements of the Entity.

16. DISBURSEMENTS SUBJECT TO APPROVAL

Some grant agreements entered into with international organizations, detailed in Exhibit 5 of the supplementary information, stipulate that disbursements for agreed-upon programs executed with grant funds are subject to approval or rejection by those organizations, depending on compliance with the terms of each agreement.

As of December 31, 2017, CATIE's management is not aware of any amount of disbursements subject to reimbursement that have already been rejected by any donors.

17. CONTRACTUAL STATUS OF CATIE

On September 12, 2000, under Law No.8028, the Costa Rican Legislative Assembly ratified the articles of incorporation of CATIE entered into among the Government of Costa Rica, the Inter-American Institute for Cooperation on Agriculture (IICA) and CATIE. The most significant terms of this Law are as follows:

- a. The Inter-American Board of Agriculture will be the highest governing body of CATIE.
- b. CATIE's members may be regular or special. The regular members will be IICA, the Government of Costa Rica, and the Governments of the remaining member countries of IICA. Special members will include international governmental and non-governmental organizations, international centers, and private organizations with similar purposes as those of CATIE.
- c. IICA will contribute up to a maximum of 5% of IICA fees budget to CATIE's basic budget. The contribution made by IICA in 2017 and 2016 was US\$968,000 and US\$804,000. Each member country of CATIE will annually contribute with no less than US\$50,000 to cover CATIE's expenses.
- d. The agreement will be for a 20-year term as of the effective date and may be renewed for equal consecutive terms.

CATIE's equity consists of: i) the usufruct for the entire term of the articles of incorporation, for the equity consisting of lands, buildings, equipment, and other real and personal property contributed by IICA, plus improvements thereof, ii) all assets CATIE has acquired or will acquire in the future.

- e. Upon termination of the contract, all usufruct property as well as improvements thereof, will be returned to IICA. The remaining assets will be distributed between IICA, the Government of Costa Rica, and regular active members based on contributions made.

18. TAXES

Since CATIE is a not-for-profit international organization, it is exempted of any type of taxes, contributions, and national and municipal rates, whether present or future ones, as well as of any fees regarding customs, national licenses ("patentes"), and other.

19. RE-ISSUE OF THE FINANCIAL STATEMENTS

After issuing the independent auditors' report, dated March 20, 2018, CATIE's Management determined that the prior actuarial study assumed that the totality of CATIE's employees work for an indefinite term, when the correct information is that they work by a contract that has a defined term; thus, a new actuarial study was requested to the appraiser. Based on the new actuarial study, dated April 1, 2018, it was determined that the liabilities registered by CATIE as of December 31, 2017 are reasonable. We conducted our independent review of the new study and determined that the conclusions are reasonable.

20. APPROVAL OF THE FINANCIAL STATEMENTS

The financial statements have been approved by CATIE's management, and their issue has been authorized for June 21, 2018.

* * * * *

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER
(CATIE)**

AS OF DECEMBER 31, 2017

SUPPLEMENTAL FINANCIAL INFORMATION

EXHIBIT 1: Statement of fees of member countries and IICA.

EXHIBIT 2: Ageing analysis of pending fees from member countries and IICA.

EXHIBIT 3: Budget and execution of income by fund and source.

EXHIBIT 4: Budget and execution of expenses by fund and source.

EXHIBIT 5: Statement of financial position of agreement funds and funds in custody.

EXHIBIT 6: Execution of expenses by fund, division and expense purpose.

TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER(CATIE)

STATEMENT OF FEES OF MEMBER COUNTRIES AND IICA
YEAR ENDED DECEMBER 31, 2017

(Expressed in Thousands of U.S. Dollars)

	Fees Receivable at the Beginning of Year	Fees for the Year	Fees Collected During the Year			Uncollected Fees at Year-End		
			Previous Years	For the Year	Total Collected	Previous Years	Previous Years	For the Year
Inter-American Institute for Cooperation on Agriculture (IICA)		US\$ 968		US\$ 968	US\$ 968			
Regular Members:								
Government of Bolivia	US\$ 620	50				US\$ 620	US\$ 50	US\$ 670
Government of Colombia	662	50	US\$60		60	602	50	652
Government of Costa Rica		50		50	50			
Government of Guatemala		50		50	50			
Government of Honduras	250	50				250	50	300
Government of Panama		50		50	50			
Government of Nicaragua	14	50		36	36	14	14	14
Government of El Salvador	250	50				250	50	300
Government of Dominican Republic	405	50				405	50	455
Government of Mexico	50	50				50	50	100
Government of Paraguay	650	50				650	50	700
Government of Belize	250	50				250	50	300
Government of Venezuela	350	50				350	50	400
	<u>US\$3,501</u>	<u>US\$1,618</u>	<u>US\$60</u>	<u>US\$1,154</u>	<u>US\$1,214</u>	<u>US\$3,441</u>	<u>US\$464</u>	<u>US\$3,905</u>

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER (CATIE)**

**BUDGET AND EXECUTION OF INCOME BY FUND AND SOURCE
YEAR ENDED DECEMBER 31, 2017**
(Expressed in Thousands of U.S. Dollars)

Income Sources	Basic Fund		
	Budget	Execution	Balance
MEMBER FEES			
IICA	US\$1,000	US\$ 968	US\$ (32)
Member countries	<u>650</u>	<u>650</u>	<u> </u>
Sub-total	<u>1,650</u>	<u>1,618</u>	<u>(32)</u>
TRUSTS			
Fundatrópicos (COSUDE)	337	365	28
Fundatrópicos (USAID)	<u>248</u>	<u>254</u>	<u>6</u>
Sub-total	<u>585</u>	<u>619</u>	<u>34</u>
ADMINISTRATION & FINANCE DIVISION (DAF)			
Administration component	137	67	(70)
Treasury	28	26	(1)
Recovery of taxes	15	31	15
Work orders (maintenance)	5	8	3
Recovery of general services		8	8
Exchange rate difference	361	0	(361)
Overhead funds in custody DAF	3	2	(1)
Other income	<u>52</u>	<u>125</u>	<u>73</u>
Sub-total	<u>601</u>	<u>267</u>	<u>(334)</u>
Commercial component			
Overhead for funds in custody commercial	9	1	2
Contributions of commercial farms	<u>78</u>	<u>0</u>	<u>(78)</u>
Sub-total	<u>87</u>	<u>11</u>	<u>(76)</u>
GREEN AND INCLUSIVE RESEARCH AND DEVELOPMENT DIVISION (DIDVI)			
Overhead DIDVI projects	926	492	(434)
Overhead for funds in custody DIDVI	<u>130</u>	<u>137</u>	<u>7</u>
Sub-total	<u>1,056</u>	<u>629</u>	<u>(427)</u>
EDUCATION DIVISION			
Master's tuition	364	369	5
PhD's tuition	33	52	19
Overhead for professional master's degrees	42	32	(10)
Short course tuition	50	26	(24)

Income Sources	Basic Fund		
	Budget	Execution	Balance
Exchange students	US\$ 8	US\$ 4	US\$ (4)
Biostatistics unit	8	8	
Library			
Graduation fees	1		(1)
Graduation tests	<u>14</u>	<u>17</u>	<u>3</u>
Sub-total	<u>520</u>	<u>508</u>	<u>(12)</u>
OUTREACH DIVISION			
Recovery of indirect costs			
USAID	400	500	100
Overhead national technical offices	<u>334</u>	<u>327</u>	<u>(7)</u>
Sub-total	<u>734</u>	<u>827</u>	<u>93</u>
TOTAL	<u>US\$5,233</u>	<u>US\$4,479</u>	<u>US\$(754)</u>
ADMINISTRATION & FINANCE DIVISION (DAF)			
Administration component:			
Transportation	US\$ 279	US\$ 286	US\$ 7
Information technology	<u>290</u>	<u>266</u>	<u>(24)</u>
Sub-total	<u>569</u>	<u>552</u>	<u>(17)</u>
Commercial component:			
Seed orchard	55	44	(11)
Seed bank	310	455	145
Rooting of coffee stem cuttings	40	30	(10)
Lodging and hotel services	603	581	(22)
Laundry	27	24	(3)
Souvenir store	70	60	(10)
Coffee plantation	26	41	15
Sugarcane plantation	371	451	80
Dairy farm	565	548	(17)
Livestock farm	161	7	(154)
Forest plantation	<u>13</u>	<u>22</u>	<u>9</u>
Sub-total	<u>2,241</u>	<u>2,263</u>	<u>22</u>
TOTAL	<u>US\$2,810</u>	<u>US\$2,815</u>	<u>US\$ 5</u>

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER (CATIE)**

**BUDGET AND EXECUTION OF INCOME BY FUND AND SOURCE
YEAR ENDED DECEMBER 31, 2017**

(Expressed in Thousands of U.S. Dollars)

Income Sources	Agreement Fund		
	Budget	Execution	Balance
GREEN AND INCLUSIVE RESEARCH AND DEVELOPMENT DIVISION (DIDVI)			
Green and Inclusive Research and Development Directorate	US\$ 243	US\$ 338	US\$ 95
Forestry, biodiversity, and climate change program (PBBYC)	2,470	2,744	274
Agriculture, livestock, and agro-forestry program (PRAGA)	2,566	2,378	(188)
Economic and environmental research and development program	<u>520</u>	<u>640</u>	<u>120</u>
Sub-total	<u>5,799</u>	<u>6,100</u>	<u>301</u>
OUTREACH DIVISION			
Outreach directorate	3,120	426	(2,694)
Regional climate change program	2800	4,643	1,843
National Office Guatemala		1,299	1,299
National Office Honduras		450	450
National Office El Salvador			
National Office Nicaragua	575	600	25
National Office Panama		88	88
National Office Acre-Brazil			
National Office Dominican R.		17	17
National Office Bolivia			
Sub-total	<u>6,494</u>	<u>7,523</u>	<u>1,029</u>
MANAGED PROJECTS			
National Office Guatemala		74	74
Sub-total		<u>74</u>	<u>74</u>
TOTAL	<u>US\$12,293</u>	<u>US\$13,697</u>	<u>US\$1,404</u>

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER (CATIE)**

**BUDGET AND EXECUTION OF INCOME BY FUND AND SOURCE
YEAR ENDED DECEMBER 31, 2017**

(Expressed in Thousands of U.S. Dollars)

Income Sources	Funds in Custody		
	Budget	Execution	Balance
ADMINISTRATION & FINANCE DIVISION			
Administration component:			
Basic services	US\$ 10	US\$ (3)	US\$ (13)
Human development	3	3	
Infrastructure			
Concessions	30	18	(12)
International fair	100	76	(24)
Commercial component:			
Botanical garden	50	67	17
NRDC - commercial farm		29	29
DCO Investment fund			
Biotechnology laboratory	150	83	(67)
Plant genetics collections	<u>40</u>	<u>35</u>	<u>(5)</u>
Sub-total	<u>383</u>	<u>308</u>	<u>(75)</u>
STRATEGIC SERVICES			
Communication and Advocacy unit	<u>200</u>	<u>112</u>	<u>(88)</u>
Sub-total	<u>200</u>	<u>112</u>	<u>(88)</u>
GREEN AND INCLUSIVE RESEARCH AND DEVELOPMENT DIVISION (DIDVI)			
Green and Inclusive Research and Development Directorate			
Forestry, biodiversity, and climate change program (PBBYc)	1,088	1,193	105
Agriculture, livestock, and agro-forestry program (PRAGA)	450	750	300
Economic and environmental research and development program	<u>340</u>	<u>597</u>	<u>257</u>
Sub-total	<u>2,003</u>	<u>2,806</u>	<u>803</u>
EDUCATION DIVISION			
Scholarship funds	197	492	295
Scholarship funds and loans	75	98	23
Educational services	25	24	(1)
Master in agro-business		17	17
Master in sustainable tourism	100	185	85
Practical master in development	200	201	1
Online Education		22	22
Training unit	200	297	97
Orton Library		2	2

Income Sources	Funds in Custody		
	Budget		Balance
Biometrics unit	<u>US\$ 80</u>	<u>US\$ 254</u>	<u>US\$ 174</u>
Sub-total	<u>877</u>	<u>1,592</u>	<u>715</u>
OUTREACH DIVISION			
Outreach directorate	320	179	(141)
National Office - Belize			
National Office - Mexico	30		(30)
National Office - Guatemala	150	64	(86)
National Office - Honduras	150	62	(88)
National Office - El Salvador	136	21	(115)
National Office - Nicaragua	175	15	(160)
National Office - Panama	75	44	(31)
National Office - Dominican Rep.	30		(30)
National Office - Acre Brazil			
National Office - Bolivia	<u>70</u>	<u> </u>	<u>(70)</u>
Sub-total	<u>1,136</u>	<u>385</u>	<u>(751)</u>
TOTAL	<u>4,599</u>	<u>5,203</u>	<u>604</u>
TOTAL BUDGET AND EXECUTION	<u>US\$24,935</u>	<u>US\$26,194</u>	<u>US\$ 1,259</u>

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER (CATIE)**

**BUDGET AND EXECUTION OF EXPENSES BY FUND AND SOURCE
YEAR ENDED DECEMBER 31, 2017**

(Expressed in Thousands of U.S. Dollars)

Sources of Expenses	Basic Fund		
	Budget	Execution	Balance
TOP GUIDELINES (DSU)			
General directorate	US\$ 384	US\$ 388	US\$ (4)
General sub-directorate	127	157	(30)
Board of Directors	92	65	27
High Council	26	3	23
Internal audit	163	78	85
External audit	<u>60</u>	<u>63</u>	<u>(3)</u>
Sub-total	<u>852</u>	<u>754</u>	<u>98</u>
ADMINISTRATION & FINANCE			
DIVISION (DAF)			
Administration component			
Administration and finance directorate			
Finance and accounting	386	293	93
External audit	29	34	(5)
Human development	177	180	(3)
General services and production	46	40	6
Surveillance services	261	243	18
Maintenance	202	231	(29)
Integrated waste management	10	8	2
Concierge services	<u>65</u>	<u>61</u>	<u>4</u>
Sub-total	<u>1,176</u>	<u>1,090</u>	<u>86</u>
Commercial component			
Commercial Management			
La Lola Farm	39	32	7
Plant genetics collections	133	121	12
Biotechnology laboratory	<u>22</u>	<u>27</u>	<u>(5)</u>
Sub-total	<u>194</u>	<u>180</u>	<u>14</u>
Sub-total	<u>1,370</u>	<u>1,270</u>	<u>100</u>
STRATEGIC SERVICES			
Legal services	36	36	
Communication and Advocacy unit	82	78	4
Development and outreach office	41	18	23
Strategic alliance office	<u>130</u>	<u>19</u>	<u>111</u>
Sub-total	<u>288</u>	<u>151</u>	<u>138</u>

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER (CATIE)**

BUDGET AND EXECUTION OF EXPENSES BY FUND AND SOURCE

YEAR ENDED DECEMBER 31, 2017

(Expressed in Thousands of U.S. Dollars)

Sources of Expenses	Basic Fund		
	Budget	Execution	Balance
GREEN AND INCLUSIVE RESEARCH AND DEVELOPMENT DIVISION (DIDVI)			
Green and inclusive research and development division	US\$ 178	US\$ 183	US\$ (5)
Forestry, biodiversity, and climate change program (PBBYC)	360	349	11
Agriculture, livestock, and agro-forestry program (PRAGA)	242	240	2
Economic and environmental research and development program	<u>87</u>	<u>88</u>	<u>(1)</u>
Sub-total	<u>867</u>	<u>860</u>	<u>7</u>
EDUCATION DIVISION			
Education directorate	371	379	(8)
Fundatrópicos scholarships	116	112	4
Professors technical departments	205	179	26
Orton Library	160	98	62
Biostatistics unit	<u>92</u>	<u>94</u>	<u>(2)</u>
Sub-total	<u>944</u>	<u>862</u>	<u>82</u>
OUTREACH DIVISION			
Outreach and development directorate	41	44	(3)
PRCC-UICN operations support	15	14	1
National Office - Belize	5	1	4
National Office - Mexico	16	10	6
National Office - Guatemala	52	42	10
National Office - Honduras	48	49	(1)
National Office - El Salvador	37	37	
National Office - Nicaragua	34	35	(1)
National Office - Dominican Rep.	25	16	9
National Office - Colombia	10	5	5
National Office - Panama	44	39	5
National Office - Bolivia	<u>20</u>	<u>20</u>	
Sub-total	<u>347</u>	<u>312</u>	<u>35</u>
OTHER BUDGET ITEMS			
Fee for impairment - member countries	364	340	24
Reimbursement for vacation		(11)	11
Doubtful accounts		83	(83)
Difference in Five-Year Provision			
Operating Reserve	<u>201</u>		<u>201</u>
Sub-total	<u>565</u>	<u>412</u>	<u>153</u>
TOTAL	<u>US\$5,233</u>	<u>US\$4,622</u>	<u>US\$611</u>

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER (CATIE)**

**BUDGET AND EXECUTION OF EXPENSES BY FUND AND SOURCE
YEAR ENDED DECEMBER 31, 2017**

(Expressed in Thousands of U.S. Dollars)

Sources of Expenses	Operating Reserve		
	Budget	Execution	Balance
ADMINISTRATION & FINANCE			
DIVISION (DAF)			
Administration component:			
Information technology	US\$ 280	US\$ 250	US\$ 30
Transportation	<u>168</u>	<u>178</u>	<u>(10)</u>
Sub-total	<u>448</u>	<u>428</u>	<u>20</u>
Commercial component:			
Commercial Directorate			
Lodging and hotel services	365	286	79
Laundry	28	22	6
Coffee plantation	92	85	7
Sugarcane plantation	371	363	8
Forest plantation	38	15	23
Livestock farm	137	7	130
General dairy industry	439	476	(37)
Dairy industry, breeding and replacement			
Seed bank	292	381	(89)
Seed orchard	55	46	9
Rooting of coffee stem cuttings	40	49	(9)
Souvenir store	<u>66</u>	<u>58</u>	<u>8</u>
Sub-total	<u>1,923</u>	<u>1,788</u>	<u>135</u>
TOTAL	<u>US\$2,371</u>	<u>US\$2,216</u>	<u>US\$155</u>

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER (CATIE)**

**BUDGET AND EXECUTION OF EXPENSES BY FUND AND SOURCE
YEAR ENDED DECEMBER 31, 2017**

(Expressed in Thousands of U.S. Dollars)

Sources of Expenses	Agreement Fund		
	Budget	Execution	Balance
GREEN AND INCLUSIVE RESEARCH AND DEVELOPMENT DIVISION (DIDVI)			
Green and inclusive research and development division	US\$ 585	US\$ 714	US\$ (129)
Forestry, biodiversity, and climate change program (PBBYC)	1,934	1,683	251
Agriculture, livestock, and agro-forestry program (PRAGA)	1,009	1,827	(818)
Economic and environmental research and development program	<u>624</u>	<u>1,045</u>	<u>(421)</u>
Sub-total	<u>4,152</u>	<u>5,269</u>	<u>(1,117)</u>
OUTREACH DIVISION			
Outreach and development directorate	1,299	1,553	(254)
Regional climate change program	3,946	4,839	(893)
National Office Guatemala	172	320	(148)
National Office Honduras	5	606	(601)
National Office El Salvador			
National Office Nicaragua	1,032	921	111
National Office Panama		72	(72)
State of de Acre Brazil			
National Office Dominican Rep.		18	(18)
State of de Bolivia			
Sub-total	<u>6,454</u>	<u>8,329</u>	<u>(1,875)</u>
MANAGED PROJECTS			
National Office Guatemala		75	(75)
Sub-total		<u>75</u>	<u>(75)</u>
TOTAL	<u>US\$10,606</u>	<u>US\$13,673</u>	<u>US\$(3,067)</u>

**TROPICAL AGRICULTURE RESEARCH
AND TRAINING CENTER (CATIE)**

**BUDGET AND EXECUTION OF EXPENSES BY FUND AND SOURCE
YEAR ENDED DECEMBER 31, 2017**

(Expressed in Thousands of U.S. Dollars)

Sources of Expenses	Funds in Custody		
	Budget	Execution	Balance
ADMINISTRATION & FINANCE			
DIVISION (DAF)			
Administration component:			
Basic services	US\$ 10	US\$ 13	US\$ (3)
Human development	3	1	2
Infrastructure			
Concessions	10	12	(2)
International fair	<u>70</u>	<u>64</u>	<u>6</u>
Sub-total	<u>93</u>	<u>90</u>	<u>3</u>
Commercial component:			
Botanical garden	50	55	(5)
NRDC commercial farm	1	5	(4)
DCO Investment fund			
Biotechnology laboratory	180	97	83
Plant genetics collections	<u>38</u>	<u>37</u>	<u>1</u>
Sub-total	<u>269</u>	<u>194</u>	<u>75</u>
Sub-total	<u>362</u>	<u>284</u>	<u>78</u>
STRATEGIC SERVICES			
Communication and Advocacy unit	<u>250</u>	<u>106</u>	<u>144</u>
Sub-total	<u>250</u>	<u>106</u>	<u>144</u>
GREEN AND INCLUSIVE RESEARCH AND DEVELOPMENT DIVISION (DIDVI)			
Green and inclusive research and development division (DIDVI)	52	247	(195)
Forestry, biodiversity, and climate change program (PBBYC)	849	1,013	(164)
Agriculture, livestock, and agro-forestry program (PRAGA)	1,066	709	357
Economic and environmental research and development program	<u>325</u>	<u>498</u>	<u>(173)</u>
Sub-total	<u>2,292</u>	<u>2,467</u>	<u>(175)</u>
EDUCATION DIVISION			
Scholarship funds	346	845	(499)
Scholarship funds and loans	90	279	(189)
Educational services	25	30	(5)
Master in agro-business	12	9	3
Master in sustainable tourism	95	156	(61)

Sources of Expenses	Funds in Custody		
	Balance	Execution	Balance
Practical master in development	US\$ 200		US\$ 200
Training unit	73	US\$ 49	24
Online Education	200	294	(94)
Orton Library	1	4	(3)
Biostatistics unit	<u>80</u>	<u>205</u>	<u>(125)</u>
Sub-total	<u>1,122</u>	<u>1,871</u>	<u>(749)</u>
OUTREACH DIVISION			
Outreach directorate and Revolving Fund	240	337	(97)
National Office - Mexico		5	(5)
National Office - Belize			
National Office - Guatemala	162	141	21
National Office - Honduras	58	47	11
National Office - El Salvador	44	8	36
National Office - Nicaragua	192	3	189
National Office - Panama	21	60	(39)
National Office - Dominican Rep.			
National Office - State of Acre Brazil			
National Office - Bolivia	<u>36</u>	<u>3</u>	<u>33</u>
Sub-total	<u>753</u>	<u>604</u>	<u>149</u>
TOTAL	<u>4,779</u>	<u>5,332</u>	<u>(553)</u>
TOTAL BUDGET AND EXECUTION	<u>US\$22,989</u>	<u>US\$25,842</u>	<u>US\$(2,853)</u>

TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER (CATIE)

**SUMMARY OF INCOME AND EXPENSES IN AGREEMENT FUNDS
YEAR ENDED DECEMBER 31, 2017**

(Expressed in Thousands of U.S. Dollars)

Fund	Source	Agreement	Cost	Name of Donor	Name of Project	Balances as of December 31, 2016		Adjustments to Previous Periods		Movements of the Year		Balances as of December 31, 2017		
						Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor	
2	001	005	DG60	2	Word Cocoa Foundation	Selection and generation of moniliasis-resistant cacao genotypes and maintenance and conservation of the international cacao collection.	US\$ 0.00	US\$ 0.21	US\$ 0.00	US\$ 0.00	US\$ 35.00	US\$ 34.82	US\$ 0.00	US\$ 0.40
2	007	021	DI90	3	World Bank	Strategic Support for the Development of the Atlantic Forest Corridor in Paraguay (P161498). Contract 7183347	0.00	0.00	0.00	0.00	31.25	27.71	0.00	3.54
2	008	005	DB25	4	Central American Bank of Economic Integration	Pre-feasibility of Water Supply System Project for the Middle Basis of Tempisque River and Coastal Communities (PAACUME)	0.00	0.00	0.00	0.00	61.07	72.96	11.89	0.00
2	010	002	DG56	5	National Autonomous Agricultural Research Institute	INIAP Specific Technical Cooperation Agreement	0.00	16.32	0.00	0.00	0.00	1.25	0.00	15.07
2	011	008	DA50	7	The Center for International Forestry Research	Forest, Agroforestry Program (FTA)	49.71	0.00	0.00	1.71	48.00	0.00	0.00	0.00
2	011	009	DA51	8	The Center for International Forestry Research	CGIAR Research Program: Forest Trees and Agroforestry (FTA)	0.00	0.00	0.00	0.00	184.25	183.21	0.00	1.04
2	013	034	DH66	9	International Development Bank	Developing competitive livestock production systems with low greenhouse gas emissions in Central America. FONTAGRO FTG/RF-14652-RF Project	0.00	22.31	0.00	0.00	82.00	98.70	0.00	5.61
2	013	035	GE17	10	International Development Bank	Project of the protection of traditional ecological knowledge of indigenous peoples in the border of Honduras and Guatemala ATN/OC14754-RG	0.00	63.68	0.00	0.00	177.82	241.50	0.00	0.00
2	013	036	DE40	11	International Development Bank	Mechanisms and Networks for the Transfer of Technology Related to Climate Change in Latin America and the Caribbean. No. ATN/FM-14836-RG	0.00	7.27	0.00	0.00	1,106.52	267.44	0.00	846.35
2	013	038	DH84	12	Inter-American Development Bank (IADB)	Innovations to encourage the adaptation to climate change of the Agricultural and Livestock System in Latin America and the Caribbean	0.00	28.64	0.00	0.00	46.80	56.17	0.00	19.27
2	013	039	DH93	13	Inter-American Development Bank (IADB)	Latin American and Caribbean Platform for a livestock production sustainable strengthening:	0.00	0.00	0.00	0.00	141.98	13.15	0.00	128.83
2	014	003	DG28	14	Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement	Agreement between the Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement (CIRAD) and the Tropical Agriculture Research and Training Center (CATIE)	0.00	36.87	0.00	0.00	35.78	56.24	0.00	16.41
2	014	005	DE33	15	Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement	Enhancing Adaptation and Resilience to Drought in Dry Tropical Social-Ecological Systems (Collaborative Research and Management)	38.87	0.00	0.00	0.00	20.45	0.01	18.44	0.00
2	014	006	DF33	16	Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement	CIRAD - Persyst Department	0.90	0.00	0.00	0.00	59.77	25.42	0.00	33.45

Fund	Source	Agreement	Cost	Name of Donor	Name of Project	Balances as of December 31, 2016		Adjustments to Previous Periods		Movements of the Year		Balances as of December 31, 2017		
						Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor	
2	014	007	DC30	17	Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement	Forests and Ecological intensification of Agricultural Systems	US\$ 0.00	US\$ 0.00	US\$ 0.00	US\$ 0.00	US\$ 13.31	US\$ 5.98	US\$ 0.00	US\$ 7.34
2	016	004	DH62	18	International Centre for Tropical Agriculture	CIAT - CATIE AGREEMENT, Competitive meat and dairy through sustainable intensification and access to niche markets in Nicaragua. C-069-14	0.00	2.39	0.00	0.00	0.00	0.17	0.00	2.22
2	016	006	DA48	19	International Centre for Tropical Agriculture	Partner Sub-Agreement CCAFS (Climate Change, Agriculture, and Food Security _International Centre for Tropical Agriculture (CIAT) C-061-15	9.83	0.00	0.00	0.00	54.52	52.20	7.51	0.00
2	016	007	DH76	20	International Centre for Tropical Agriculture	PARTNER SUB-AGREEMENT CCAFS (CLIMATE CHANGE, AGRICULTURE, AND FOOD SECURITY_CCAFS LIVESTOCK+ Ref: C-093-15	0.00	16.56	0.00	0.00	5.20	21.77	0.00	0.00
2	019	005	GG12	21	Swiss Agency for Development and Cooperation	Unit for Technical Assistance to Water Harvest Project in Nicaragua	0.00	918.38	0.84	0.08	550.00	835.84	0.00	631.78
2	019	006	GG13	22	Swiss Agency for Development and Cooperation	Promotion adoption of Moringa sp. As an alternative to improve poor farmer live in the Northern dry corridor of Nicaragua. 7F-08758.01	0.00	41.85	0.08	0.00	50.00	84.86	0.00	6.92
2	024	012	DH75	23	Food and Agriculture Organization of the United Nations	Climatic Intelligent Agro-Forestry for the Dry Corridor of Central America, Kuxur Rum and Quesungal in Guatemala and Honduras	14.98	0.00	0.00	0.00	15.00	0.02	0.00	0.00
2	024	013	DI88	24	Food and Agriculture Organization of the United Nations	Assessment of contribution of sustainable forest management to socioeconomic feasibility of REDD+ strategies in Latin America. FAO-CATIE	0.00	19.77	0.00	0.00	69.25	89.02	0.00	0.00
2	024	014	GD30	25	Food and Agriculture Organization of the United Nations	Enhancing climatic resilience of rural families by restoring landscapes and degraded lands in Guatemala	0.00	0.00	0.00	0.00	17.06	0.00	0.00	17.06
2	028	005	DG65	26	Fundecooperacion para el Desarrollo Sostenible	Water harvest and more efficient use of water in protected and diversified systems in the main horticultural zone in CR: Enhancing pilot experiences with agro-ecological producers in Northern Cartago and other important zones in the Greater San Jose area (CODE 060-14)	0.00	0.00	0.00	0.00	64.00	0.00	0.00	64.00
2	029	003	DG47	27	Centre for Agricultural Bioscience International	CABI-PLANTWISE	0.00	5.79	0.00	0.00	84.39	77.31	0.00	12.87
2	033	012	GE19	28	German Technical Cooperation Agency (GIZ)	CLIFOR Program, PN 11.2163.1-004.00 028/15 /2016/83231879	0.00	38.49	0.00	0.00	104.22	164.59	21.88	0.00
2	041	001	DF03	29	Bioversity International	BIOVERSITY INTERNATIONAL	0.00	16.61	0.00	0.00	112.00	116.27	0.00	12.34
2	041	002	DF28	30	Bioversity International	LOA 2013-04 (BIOVERSITY/CATIE Administrative Agreement in 2013) (LoA 2014/10 Addendum Integrating approaches for enhancing productivity and Fusarium wilt management in banana Gros Michel (LOA213/52)	8.52	0.00	0.00	0.00	13.84	5.73	0.41	0.00
2	041	003	DI70	31	Bioversity International	Forestry to enhance livelihoods and sustain forests in Mesoamerica: How institutional arrangements and value chains affect benefits and resources (LOA:14/006)	0.00	14.98	0.00	0.00	7.68	22.27	0.00	0.39
2	041	004	DE32	32	International Plant Genetic Resources Institute	"Assessing the state of art products agro-climatic information in Central America" LoA CCAFS 2014/87	3.00	0.00	0.00	0.00	3.00	0.02	0.02	0.00

Fund	Source	Agreement	Cost	Name of Donor	Name of Project	Balances as of December 31, 2016		Adjustments to Previous Periods		Movements of the Year		Balances as of December 31, 2017	
						Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor
2	041	006	DC25	33	Bioversity International								
					Design and baseline of randomized control trials on crowdsourcing crop improvement in Prueba3 project LOA 2015/76 CATIE/IDEA	US\$ 0.00	US\$ 10.89	US\$ 0.00	US\$ 0.00	US\$ 20.94	US\$ 31.83	US\$ 0.00	US\$ 0.00
2	041	007	DA49	34	Bioversity International								
					Systematic comparison of different approaches to a participative assessment of annual crop varieties for climate adaptation (LOA 2015/73 CATIE-MAP)	0.00	25.42	0.00	0.00	20.00	45.53	0.11	0.00
2	041	008	GD24	35	Bioversity International								
					Support in creating robust climate information systems on climate and food security in Guatemala	13.30	0.00	0.00	0.00	34.13	21.37	0.54	0.00
2	043	012	GI13	36	United Nations Office for Project Services								
					Support to the Community Base REDD – Capacity Strengthening	0.00	19.80	0.00	0.00	40.00	23.20	0.00	36.60
2	043	013	DE49	37	United Nations Environment Programme								
					Small-scale financing agreement SSFA/REDD-004/2016	0.00	0.00	0.00	0.00	0.00	2.10	2.10	0.00
2	043	014	GD27	38	United Nations Development Programme								
					Sustainable Forest Management Project and Multiple Global Environmental Benefits	0.00	20.16	0.00	0.00	31.94	52.10	0.00	0.00
2	043	015	GD29	39	United Nations Development Programme								
					Micro-capital subsidy agreement between the Implementation Partner and the Recipient Institution for the delivery of CATIE Subsidy funds	0.00	0.00	0.00	0.00	60.00	1.29	0.00	58.71
2	067	003	DF29	40	Institut de Recherche pour le Developpement								
					MACACC (Agreement N° AIRD-13-AGRO-0005-09)	0.00	10.29	0.00	0.00	0.00	15.95	5.67	0.00
2	082	010	GE15	41	European Union								
					Strengthened local capacities for the productive development of community forestry and assessment of forest goods and services (DCI-ALA/2014/338-885)	30.86	0.00	0.00	0.00	25.48	0.00	5.38	0.00
2	082	011	GA28	42	European Union								
					Coastal Area Management - Call "WATERCLIMA LAC" DCI-ENV/2014/350-470	0.00	1,550.10	306.05	24.63	0.00	1,166.47	0.00	102.21
2	082	012	GD28	43	European Union								
					Subsidy Agreement, external actions of the European Union, FOOD/2017/386-542 National Nutritional Information Platform (PINN)	0.00	0.00	0.00	0.00	1,063.14	99.15	0.00	963.99
2	084	016	DH72	45	International Centre for Tropical Agriculture								
					Sub-agreement of the CCAFS partner (Climate change, agriculture and food security International Centre for Tropical Agriculture (CIAT) C-061-15	0.00	0.00	0.00	0.00	8.06	0.00	0.00	8.06
2	084	017	DG57	46	United States Department of Agriculture								
					"Evaluation of Improved Cacao (Theobroma cacao) Materials for Agronomic Performance, Reaction to Diseases and Uptake of Cadmium."	4.28	0.00	0.00	0.00	76.34	30.38	0.00	41.68
2	084	018	DH80	47	United States Department of Agriculture								
					Low Emissions Cattle Farming /USDA La Ganadería de Bajas Emisiones	51.05	0.00	0.00	0.00	358.30	217.55	0.00	89.71
2	084	019	DG61	48	United States Department of Agriculture								
					Development of Clones of Theobroma cacao With Resistance to Frosty Pod and Black Pod Using Genomics-assisted Breeding Methodology AGREEMENT 58-6038-6-009-F	0.00	19.40	0.00	0.00	108.50	116.76	0.00	11.13
2	085	006	GA15	49	United States Agency for International Development								
					USAID Regional Climate Change Program RCCP N° 596-12-000001	0.00	93.69	36.18	8.32	4,642.75	4,838.56	129.98	0.00
2	085	009	GA43	51	United States Agency for International Development								
					Climate-Smart territories as management approach for design, implementation, monitoring and evaluation of climate change projects in Peru	34.73	0.00	5.51	1.04	426.49	387.01	0.00	0.28
2	095	100	DG63	52	EARTHCORP de Costa Rica Foundation								
					Lease agreement for facilities and lands in La Lola farm and technical cooperation between CATIE and EARTHCORP de Costa Rica Foundation	0.00	0.00	0.00	0.00	33.32	38.44	5.11	0.00
2	104	004	DC15	53	University of Gothenburg								
					Gothenburg EFD STAGE II	0.00	25.42	0.00	0.00	0.00	18.54	0.00	6.88
2	104	005	DC17	54	University of Gothenburg								
					EFD-COMMONS	0.00	0.00	0.00	0.00	5.74	5.74	0.00	0.00
2	104	009	DC28	55	University of Gothenburg								
					Environment for Development Initiative in Central America Work Plan 2017 EfD .EEU ref 17002, Sida No 61050043	0.00	0.00	0.00	0.00	262.77	206.21	0.00	56.57

Fund	Source	Agreement	Cost	Name of Donor	Name of Project	Balances as of December 31, 2016		Adjustments to Previous Periods		Movements of the Year		Balances as of December 31, 2017		
						Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor	
2	104	010	DC32	56	University of Gothenburg	EFD Travel Management Services	US\$ 0.00	US\$ 0.00	US\$ 0.00	US\$ 22.68	US\$ 34.09	US\$ 45.74	US\$ 0.00	US\$ 11.03
2	104	011	DC33	57	University of Gothenburg	Effects of forest certification on bird biodiversity in Sweden	0.00	0.00	0.00	0.00	15.62	7.04	0.00	8.58
2	104	012	DH91	58	University of Gothenburg	Develop Sustainable Futures for Food Production in The Tropics, Using the CR dairy sector: Optimising environmental and economic outcomes	0.00	0.00	0.00	0.00	0.00	13.45	13.45	0.00
2	108	005	DE36	59	United Nations Environment Programme	Joint UNEP-UNIDO Programme to host and manage the climate Technology Centre and Network Ref., DTIE 14-EN039	0.32	0.00	0.00	0.00	0.00	0.00	0.32	0.00
2	108	006	DE38	60	United Nations Environment Programme	Joint UNEP-UNIDO Programme to host and Manage the Climate Technology Centre and Network (CTCN)	0.00	84.94	0.00	0.00	85.00	53.39	0.00	116.56
2	108	007	DH73	61	United Nations Environment Programme	Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants: achieving SLCP emissions reductions and co-benefits from improved manure management in the livestock sector	23.50	0.00	0.00	0.00	56.51	33.00	0.00	0.00
2	108	008	DH77	62	United Nations Environment Programme	Roadmap to Nationally Appropriate Mitigation Action in Livestock Sector of Honduras and Nicaragua UNEP - NCF4	69.26	0.00	2.98	4.81	105.37	52.03	14.10	0.00
2	108	009	DE41	63	United Nations Environment Programme	Joint UNEP-UNIDO Programme to host and manage the Climate Technology Centre and Network (CTCN) Reference number: DTIE15-EN0104	1.95	0.00	0.00	0.00	1.94	0.00	0.01	0.00
2	111	008	DA42	64	Royal Norwegian Embassy	Mesoamerican Agroenvironmental Programme (MAP Norway) Second Phase	0.00	394.94	0.00	0.00	31.37	433.15	6.84	0.00
2	112	001	DF10	65	La Red Regional de Investigación y Desarrollo del Plátano y Banano para América Latina y El Caribe	MUSALAC	0.00	13.86	0.00	0.00	5.42	0.00	0.00	19.28
2	113	003	GF21	66	Ministerio del Medio Ambiente y Recursos Naturales	MARN Cuenca San Vicente (BID N° 2358/OC-ES,GRT/WS-12281-ES)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	121	002	DI41	67	Ministerio de Relaciones Exteriores de Finlandia	FINNFOR II-CATIE/MAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	129	002	DG50	68	Nestle Ltd.	Mejoramiento genético de variedades de Cacao	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.00
2	159	003	GD26	69	Fundación para la Conservación en Guatemala	Cogestion Territorial para la Conservacion y manejo sostenible del complejo volcanico Acatenango-Fuego	0.00	37.41	0.00	0.00	93.01	146.51	16.09	0.00
2	163	003	DI72	70	Centro Internacional de Investigación para el Desarrollo (IDRC)	To manage the implementation of the "Catalysing Open and Collaborative Science to Address Global Development Challenges (OCSDNet)"	1.36	0.00	0.00	0.00	11.83	10.47	0.00	0.00
2	163	004	DC24	71	International Develepment Research Center	Using an Enviromental Economics Perspective to Influence Policies in Latin America and the Caribbean / Centre File 107959-001 (LACEEP Fase IV)	0.00	519.18	0.00	0.00	0.00	349.64	0.00	169.54
2	173	001	GN01	72	Estado de ACRE-BRAZIL	Estado de Acre	0.00	6.96	0.00	0.00	0.00	0.00	0.00	6.96
2	180	001	DF26	73	World Agroforestry Centre	ICRAF-CATIE	0.00	9.36	0.00	0.00	19.00	15.01	0.00	13.35
2	182	002	GI10	74	Fundacion para la Conservacion de los Recursos Naturales	Consultoría "Creación de un modelo integral de incetivos por servicios ambientales, que promueva la conservación y la restauración ambiental, y aumente los ingresos de los pequeños productores	0.00	3.98	0.00	0.00	0.00	2.61	0.00	1.38
2	183	003	GI12	75	Fundacion para la Conservacion de los Recursos Naturales	Puesto en marcha del plan de negocios concertado para la comercialización de café en las subcuencas de Cirí y Trinidad.	0.00	6.41	0.00	0.00	0.00	0.00	0.00	6.41
2	186	001	DC19	76	Conservación Internacional	CI-Ecosystem-Based Adaptation	0.00	15.34	0.00	0.00	85.99	149.86	48.53	0.00
2	191	006	DI74	77	Costa Rica Por Siempre	Acuíferos de Pococi, Sistema Acuatico Caño Negro y Rio Naranjo Savegre	47.14	0.00	0.00	0.00	72.94	24.13	0.00	1.67

Fund	Source	Agreement	Cost	Name of Donor	Name of Project	Balances as of December 31, 2016		Adjustments to Previous Periods		Movements of the Year		Balances as of December 31, 2017	
						Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor
2	191	007	DI78	78	Costa Rica Por Siempre								
					Development of ecological integrity indicators and their respective monitoring protocols at a local level for inland waters and land areas in 32 wildlife protection areas of Costa Rica	US\$ 0.00	US\$ 56.83	US\$ 0.00	US\$ 0.00	US\$ 0.00	US\$ 52.26	US\$ 0.00	US\$ 4.56
2	196	001	DC23	79	Korea Forest Research Institute	0.00	22.21	8.87	8.87	82.33	97.45	0.00	7.10
2	199	003	DI79	80	Debt-for-Nature Swap USA								
					Agreement to Receive Donation 038-2014-02-010203040506/CATIE-INBIO. Design of a monitoring system for Fund of the First Debt-for-Nature Swap USA-CR. TC 528.94	16.13	0.00	0.00	0.00	0.00	0.43	16.55	0.00
2	199	004	DC29	81	National Biodiversity Institute (INBio)								
					Strengthening the community management of rural pipelines in areas of influence and connectivity for the Aquifers of Guácimo-Pococí, Priority Area Tortuguero	0.00	15.43	0.00	0.00	0.09	16.99	1.46	0.00
2	200	002	DI89	82	Ministry of the Environment and Natural Resources								
					CD/MARN/02/2016 "Consultancy: technical support to the development of ENA REDD-Mba El Salvador" N°TF 099529 Project	0.00	0.00	0.00	0.00	274.59	243.15	0.00	31.44
2	202	001	GG11	83	EPTISA Servicios de Ingenieria S.A.								
					PROGRAM ON THE INSTITUTIONAL STRENGTHENING OF DEVELOPMENT POLICIES OF NICARAGUA (POFI)	0.00	1.58	0.00	0.00	0.00	0.00	0.00	1.58
2	206	001	DA46	84	The Center for International Forestry Research								
					Forest Trees and Agroforestry Program (FTA)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	207	001	GA02	85	Quality Institute								
					Strengthening of national capacities for implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture in Guatemala.	0.00	2.04	2.04	0.00	0.00	0.00	0.00	0.00
2	208	002	DG55	86	Texas A&M Agrilife Research								
					Revitalizing the Central American Coffee Sector (Sub-recipient N° 06-S140670)	1.99	0.00	0.00	0.00	6.36	3.63	0.00	0.74
2	209	001	DH59	87	Save the Children Federation, Inc								
					Program of Integrated Actions on Food Security and Nutrition in the Western Highlands (PAISANO)	11.55	0.00	0.00	0.00	12.50	0.95	0.00	0.00
2	210	001	GF25	88	National Center for Agricultural and Forestry Technology								
					Strengthening of Family Agriculture applying Sustainable Technology to Climate Change in El Salvador	68.26	0.00	0.00	0.00	0.00	0.00	68.26	0.00
2	216	002	GA49	89	National System of Conservation Areas of the Ministry of Environment and Energy								
					Plan considering as a case study the basin of Arenal River to achieve a comprehensive management of the watershed. Consulting service agreement between CATIE and SINAC, Contract number	1.54	0.00	0.00	0.00	0.00	0.00	1.54	0.00
2	219	001	DH74	91	British Embassy								
					Evidence based decision making: Nationally Appropriate Mitigation Actions (NAMA) for the livestock sector of Costa Rica	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	222	001	DI77	92	Energy, Natural Resources, Environment and Mining Secretariat								
					Strengthening the Sub-System of Protected Marine Areas.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	222	002	DH78	93	Energy, Natural Resources, Environment and Mining Secretariat								
					GEF HONDURAS PROJECT Delivering Multiple Environmental Benefits through the sustainable management of productive landscapes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	223	001	DG58	94	Rural Development Administration								
					Rural Development Administration (RDA) of The Republic of Korea	0.00	54.88	0.00	0.00	55.00	54.94	0.00	54.95
2	223	002	DG64	95	KoLFACI of the Rural Development Administration (RDA)								
					Enhancement of cacao production through the use of improved germplasm and selected climate smart agricultural practices	0.00	0.00	0.00	0.00	222.00	180.72	0.00	41.28
2	224	001	DI80	96	LUXEMBOURG Agency for Development Cooperation								
					Addendum 1. Framework Agreement of Technical Cooperation MAE/013-15 1006 entered into by and between LuxDev and CATIE	0.00	66.38	0.00	0.00	260.50	225.89	0.00	101.00

Fund	Source	Agreement	Cost	Name of Donor	Name of Project	Balances as of December 31, 2016		Adjustments to Previous Periods		Movements of the Year		Balances as of December 31, 2017	
						Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor
2	225	001	DE43 97	Ministry of the Environment of Haiti	Carbon support program No. GRT / FM-11803-HA y TSO / HR-13930- HA pouexecuter FMAM-BID Macaya Project on the protection of the upper part of the water basin of Macaya Park, hereinafter "the Project"	US\$ 0.00	US\$ 12.72	US\$ 0.00	US\$ 0.00	US\$ 0.00	US\$ 17.97	US\$ 5.25	US\$ 0.00
2	226	001	DI81 98	World Resources Institute	Supporting Initiative 20 by 20: A country-led effort to bring Restoring 20 million hectares of degraded lands in Latin America and the Carib-bean into restoration by 2020. Project number 15_III_072_Lateinamerika_A_Initiative 20 by 20	0.00	19.00	0.00	0.00	156.35	144.42	0.00	30.93
2	227	001	GI11 99	Ministry for Foreign Affairs of Finland	Forest and Forest Management in Central America /CATIE -MAP-FINNFOR	1.65	0.00	0.00	0.00	19.42	9.15	0.00	8.63
2	227	002	GE18 00	Energy, Natural Resources, Environment and Mining Secretariat	Nº 16_III_080_Central America_A_Developing secondary forest	0.00	36.36	0.00	0.00	142.03	199.49	21.10	0.00
2	227	003	DH90 01	Energy, Natural Resources, Environment and Mining Secretariat	Delivering Multiple Environmental Benefits through the sustainable management of productive landscapes	0.00	0.00	0.00	0.00	134.59	131.75	0.00	2.84
2	227	004	GI14 02	Ministry of the Environment of Panama	A regional strategy to mitigate and adapt to climate change	0.00	0.00	0.00	0.00	28.60	36.86	8.26	0.00
2	228	001	DB22 03	Citibank International Limited, Luxembourg Branch	Finance in Motion GmbH /Market Opportunities Studies and Environmental and Social Country Risk Assessments	1.72	0.00	0.00	0.00	0.00	0.00	1.72	0.00
2	229	001	DI82 04	Westfaelische Wihelms-Universitaet	Consortium Agreement for the project: "Green Transformations in the global South (GreeTS): opening the black-box of a pro-active state and management of sustainability trade-offs in Costa Rica and Vietnam"	0.00	32.99	0.00	0.00	0.00	45.61	12.62	0.00
2	231	001	DE45 05	Fundecooperacion para el Desarrollo Sostenible	Implementing lessons: Improving the capacities of the inhabitants of Nicoya Peninsula to face the impacts of climate change on water resources (Nº 051-14)	0.00	5.78	0.00	0.00	30.01	12.80	0.00	22.99
2	231	002	DE48 06	Fundecooperacion para el Desarrollo Sostenible	Technical-financial proposal to study effective practices for the adaptation of priority crops in Costa Rica." CODE (116-14).	0.00	1.46	0.00	0.00	30.00	33.34	1.88	0.00
2	232	001	DG59 07	World Coffee Research	World Coffee Research 16203	37.71	0.00	0.00	0.00	47.92	11.96	1.74	0.00
2	233	002	DG62 08	Inter-American Institute for Cooperation on Agriculture	Agreement to delegate the implementation of regional research and agricultural extension actions within the framework of the Comprehensive Coffee Rust Management Program	9.78	0.00	0.00	9.78	190.77	150.42	0.00	40.35
2	234	001	DC27 09	Global Green Growth Institute	GGGI_Consulting Services_LPH-2016-0130	0.00	9.97	0.00	0.00	0.00	15.40	5.43	0.00
2	235	001	DE46 10	SwedBio/Stockholm Resilience	Support for the consolidation of a Latin American course on governance, decision analysis and leadership to move from knowledge to action in adaptation and mitigation initiatives.	0.00	0.96	0.96	0.00	0.00	0.00	0.00	0.00
2	237	001	GJ03 12	Minister of Higher Education on Science and Technology	Financial technological alternatives for the renewal, rehabilitation, and promotion of coffee plantations in the Dominican Republic	0.00	0.24	0.00	0.00	17.42	18.30	0.64	0.00
2	243	001	DH83 13	Korea Rural Economic Institute	Integrated Silvopastoral Approaches for Ecosystem Management	0.00	5.02	0.00	0.00	25.00	28.26	0.00	1.76
2	244	001	DI84 14	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety	Development of sustainable forestry models & links to private finance for secondary forests.	0.00	0.00	0.00	0.00	273.91	265.82	0.00	8.09
2	244	002	DH85 15	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety	International Climate Initiative (IKI)Scaling up Biodiversity Conservation through Climatesmart Agrosilvopastoral Practices in Landscapes dominated by Cattle-raising Systems in Three Regions of Mexico	3.59	0.00	0.47	0.50	217.05	225.00	11.51	0.00

Fund	Source	Agreement	Cost	Name of Donor	Name of Project	Balances as of December 31, 2016		Adjustments to Previous Periods		Movements of the Year		Balances as of December 31, 2017	
						Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor
2	246	001	DB24	16	Executive Directorate of the Mesoamerican Integration and Development Program								
					UDA/PIDM/Fine Aroma Cocoa Value Chain								
2	247	001	DC31	17	Nicaraguan Electricity Company	US\$ 0.00	US\$ 0.00	US\$ 0.00	US\$ 0.00	US\$ 44.91	US\$ 21.49	US\$ 0.00	US\$ 23.42
					Technical assistance to strengthen the Technical Unit and the Project and Monitoring of the Implementation of the Offsetting Mechanism of Environmental Services (MCSA) Agreement13-2017 IDEA/ENEL/NIC_Asistencia Técnica	0.00	0.00	0.00	0.00	60.00	60.00	0.00	0.00
2	248	001	DE50	18	Technological Forestry Center of Catalonia								
					Models and decision Support tools for integrated Forest policy development under global change and associated Risk and Uncertainty	0.00	0.00	0.00	0.00	33.10	17.68	0.00	15.43
2	249	001	DI91	19	OXFAM INTERMÓN								
					Sustainable Reduction of Food Insecurity in the municipalities of Alto Artibonite	0.00	0.00	0.00	0.00	192.80	29.42	0.00	163.38
2	250	001	DC34	20	Johns Hopkins University (Maryland)								
					EGAP_JHU_Monitoring Experiment - Community monitoring to facilitate climate change adaptation by local institutions in water-scarce regions of Central America	0.00	0.00	0.00	0.00	35.73	37.08	1.36	0.00
					Total agreements	US\$557.48	US\$4,461.52	US\$363.98	US\$82.42	US\$13,623.13	US\$13,597.54	US\$467.77	US\$4,115.94

Fund	Source	Agreement	Cost	Name of Donor	Name of Project	Balances as of December 31, 2016		Adjustments to Previous Periods		Movements of the Year		Balances as of December 31, 2017	
						Debtor	Creditor	Debits	Credits	Income	Expenses	Deudor	Acreeador
3	024	009	GD21	23	Food and Agriculture Organization of the United Nations (FAO)								
					FAO - Institutional Strengthening	US\$ 0.00	US\$ 16.09	US\$ 0.00	US\$ 0.00	US\$ 71.08	US\$ 77.75	US\$ 0.00	US\$ 9.42
3	097	039	GD13	24	National Commission of Protected Areas								
					CONAP / Netherlands	0.00	1.69	0.00	0.00	0.01	-0.04	0.00	1.75
3	097	058	GD16	25	Ministry of Agriculture and Livestock (MAGA)								
					MAGA AGREEMENT 89-2007	0.00	104.61	0.00	0.00	2.44	-2.57	0.00	109.61
					Total Managed Funds	US\$0.00	US\$122.39	US\$0.00	US\$0.00	US\$73.53	US\$75.14	US\$0.00	US\$120.78

**TROPICAL AGRICULTURE RESEARCH AND TRAINING CENTER
(CATIE)**

**SUMMARY OF INCOME AND EXPENSES IN FUNDS IN CUSTODY AND MANAGED PROJECTS
YEAR ENDED DECEMBER 31, 2017**

(Expressed in Thousands of U.S. Dollars)

Fund	Source	Agreement	Cost	Name of Cost Center	Balances as of December 31, 2016		Adjustment to Previous Periods		Movements of the Year		Balances as of December 31, 2017	
					Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor
8	085	010	EB59	1 USAID-Scholarships PRCC	US\$ 0.00	US\$ 10.94	US\$ 0.00	US\$ 0.00	US\$ 32.74	US\$ 30.95	US\$ 0.00	US\$ 12.73
8	092	005	DH01	2 Livestock and Environmental Management	0.00	107.87	0.38	3.26	294.06	281.98	0.00	122.83
8	092	025	DE01	3 Global Change and Basin Program	0.00	31.95	0.00	0.00	333.36	307.59	0.00	57.72
8	092	026	DC11	4 Environment	0.00	54.52	22.68	0.00	307.21	236.77	0.00	102.28
8	092	029	BE11	5 Concessions	0.00	2.70	0.00	0.00	18.24	11.96	0.00	8.98
8	092	030	DA05	6 Soil Laboratory	0.00	28.49	0.00	0.00	26.22	23.65	0.00	31.06
8	092	035	GI02	7 National Technical Office - Panama	0.00	19.49	0.00	0.00	44.38	59.63	0.00	4.24
8	092	040	GM02	8 National Technical Office - Bolivia	14.76	0.00	0.00	0.00	0.13	3.37	18.00	0.00
8	092	046	BD02	9 Occupational Health	1.54	0.00	0.00	0.00	2.65	0.91	0.00	0.19
8	092	047	BE15	10 CATIE International Fair	17.18	0.00	0.00	0.00	76.22	63.51	4.47	0.00
8	093	004	EC01	11 Training Units	0.00	12.43	142.93	155.93	297.04	293.52	0.00	28.95
8	093	005	EB27	12 Miscellaneous postgraduate services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	093	006	EB29	13 Textbooks and Materials	0.00	2.34	0.00	2.56	13.63	19.09	0.55	0.00
8	093	007	EB32	14 Student Life	0.00	0.07	0.00	0.00	10.66	10.86	0.12	0.00
8	093	014	EB37	15 DAAD Scholarships	0.00	0.00	0.00	0.00	54.02	46.19	0.00	7.83
8	093	028	EB03	16 MAG Costa Rica Scholarships	0.00	15.41	0.00	0.00	14.22	29.47	0.00	0.16
8	094	002	GF01	17 National Technical Office - El Salvador	1.34	0.00	22.95	20.00	20.95	8.16	0.00	8.50
8	094	042	DA15	18 Research and Development Directorate	0.00	13.99	0.00	0.00	32.45	25.97	0.00	20.46
8	094	046	GG01	19 National Technical Office - Nicaragua	45.59	0.00	0.40	0.00	15.07	2.67	33.58	0.00
8	094	054	DD10	20 Integrated Management of Watersheds	57.16	0.00	0.00	0.00	87.81	55.34	24.69	0.00
8	094	061	DB01	21 Agribusiness Development Unit	0.00	45.09	0.00	0.00	201.65	206.24	0.00	40.50
8	094	064	DI23	22 Natural Resources and Environment Journal	0.00	5.72	2.50	0.00	0.00	0.00	0.00	3.22
8	094	070	DG33	23 Cacaocultura Latinoamericana	0.00	39.13	7.47	0.00	226.33	244.09	0.00	13.90
8	094	084	DG36	24 Grupo Café, Profitability and Diversity	30.25	0.00	4.42	0.00	86.49	50.69	0.00	1.12
8	094	092	DG38	25 Commercial Cocoa	0.00	22.29	0.00	0.00	120.75	113.45	0.00	29.58
8	094	101	FI06	26 NRDC Commercial Farm	0.00	10.02	0.00	0.00	29.40	5.38	0.00	34.04
8	095	022	BB08	27 CATIE basic services	0.00	18.02	0.00	0.00	-3.40	13.08	0.00	1.54
8	095	033	GD02	28 Project Management - Guatemala	0.00	64.15	0.00	2.04	64.48	141.23	10.55	0.00
8	095	063	FH01	29 CATIE Botanical Garden	0.00	0.05	0.00	0.00	67.18	55.38	0.00	11.85
8	095	067	DA16	30 Agro-forestry Advice	1.60	0.00	0.00	0.00	0.00	0.00	1.60	0.00
8	095	073	DG34	31 Publications and Consultancies - Nicaragua	0.00	0.40	0.00	0.00	2.41	1.69	0.00	1.12
8	095	075	GE02	32 National Technical Office - Honduras	3.33	0.00	25.00	25.00	61.73	46.65	0.00	11.75
8	095	079	ED02	33 ORTON Library	0.00	3.55	0.00	0.00	1.01	3.90	0.00	0.66
8	095	082	DG35	34 Coffee Essay - Bonilla II	0.00	0.99	0.00	0.00	20.44	16.53	0.00	4.90
8	095	086	CB01	35 Communication and Advocacy unit	1.06	0.00	0.00	10.00	112.15	105.75	0.00	15.34
8	095	096	EB22	36 Fundraising Isabel Gutierrez	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00
8	095	097	GA04	37 Regional Support and Outreach Directorate	0.00	0.00	0.00	0.00	0.00	1.51	1.51	0.00
8	096	001	EB08	38 Scholarships - CONACYT	0.00	0.40	0.00	0.00	142.20	119.66	0.00	22.94
8	096	002	EB05	39 Scholarships - World Bank	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
8	096	003	EB34	40 Scholarships - OAS	0.00	12.90	0.00	0.00	28.14	40.50	0.00	0.54
8	096	018	EB58	41 Online Education	0.00	61.99	33.15	0.00	22.25	48.88	0.00	2.21

Fund	Source	Agreement	Cost	Name of Cost Center	Balances as of December 31, 2016		Adjustment to Previous Periods		Movements of the Year		Balances as of December 31, 2017		
					Debtor	Creditor	Debits	Credits	Income	Expenses	Debtor	Creditor	
8	096	028	EE01	42	Biometrics unit	US\$ 0.00	US\$ 25.30	US\$ 0.00	US\$ 0.00	US\$ 254.31	US\$ 205.18	US\$ 0.00	US\$ 74.43
8	096	032	EB48	43	Scholarships - IGERT	0.00	15.09	0.00	0.00	22.19	20.75	0.00	16.53
8	096	034	EB19	44	Student Trust for Medical Emergencies	0.00	14.16	0.00	0.00	0.00	0.00	0.00	14.16
8	096	036	EB16	45	Exchange Students	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.00
8	096	039	EB17	46	Educational Fund	0.00	104.61	0.00	38.50	90.64	189.85	0.00	43.90
8	096	044	EB14	47	Scholarships from Donation	0.00	23.57	0.00	0.00	0.00	23.47	0.00	0.10
8	096	045	EB02	48	Belgium Cooperation Scholarships	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	096	047	EB49	49	Scholarships - IADB	0.00	0.65	0.00	0.00	15.94	28.75	12.16	0.00
8	096	049	EB10	50	Student Scholarships	0.00	8.06	0.00	0.00	72.81	99.30	18.43	0.00
8	096	050	EB04	51	Scholarships SENACYT / FUNDACYT	0.00	51.50	0.00	0.00	10.01	47.73	0.00	13.78
8	096	051	EB28	52	Vannesa Sequeira Scholarship Fund	0.00	42.83	42.83	0.00	0.00	0.00	0.00	0.00
8	096	053	EB24	53	Master in agro-business CATIE-INCAE	0.00	12.81	0.00	0.00	17.33	8.88	0.00	21.27
8	096	054	EB54	54	IICA - Academic Legacy H. Wallace	0.00	114.74	0.00	0.00	90.58	130.20	0.00	75.11
8	136	001	FI10	55	Investment Fund DCO	0.00	13.31	0.00	0.00	0.00	0.00	0.00	13.31
8	145	001	EB42	56	Master's in Sustainable Tourism	0.00	18.12	38.50	0.00	184.84	156.94	0.00	7.51
8	150	001	FI12	57	Operating BIOTECH	343.00	0.00	0.00	0.00	82.90	97.20	357.30	0.00
8	151	001	FI13	58	Hibridos Comerciales	252.59	0.00	0.00	0.00	0.00	0.00	252.59	0.00
8	154	001	GB03	59	National Technical Office - Belize	0.00	1.13	0.00	0.00	0.10	0.00	0.00	1.23
8	155	001	GC03	60	Fundraising OTN Mexico	0.00	11.21	0.00	0.00	0.00	4.87	0.00	6.34
8	156	001	GA14	61	UGO Opportunity Management Unit	0.00	197.66	0.00	2.50	179.08	335.69	0.00	43.55
8	160	001	FI14	62	Laboratories/ DCO	82.83	0.00	0.00	82.83	0.00	0.00	0.00	0.00
8	162	001	DF24	63	Chair for Agro-ecology and Agro Biodiversity	0.00	0.09	0.00	0.00	0.00	0.02	0.00	0.07
8	165	001	FI15	64	Plant genetics collections	0.00	11.68	0.00	0.00	35.21	36.69	0.00	10.20
8	166	001	EB43	65	M. Podovan Doctoral Scholarship	0.00	1.18	0.86	0.00	8.50	9.34	0.52	0.00
8	167	001	EB44	66	School Accreditation and Quality	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	169	001	EB45	67	Zaira Ramos Doctoral Scholarship	0.00	0.56	0.00	0.00	0.66	0.04	0.00	1.18
8	170	001	EB46	68	Mariela Leandro Scholarships	0.00	1.10	1.10	0.00	0.00	0.00	0.00	0.00
8	171	001	EB47	69	Practical master's in development	0.00	17.63	0.00	0.00	200.65	218.28	0.00	0.00
8	174	001	GJ02	70	National Technical Office- Dominican Rep.	0.00	0.75	0.00	0.00	0.00	0.10	0.00	0.65
8	177	001	FI16	71	Commercial Directorate	73.32	0.00	0.00	0.00	0.00	0.00	73.32	0.00
8	179	001	AA03	72	Álvaro Umaña Fundraising	49.13	0.00	0.00	0.00	121.64	67.49	0.00	5.02
8	183	002	DA41	73	MFA - Norway MAP TC Tripoint	0.00	198.64	0.00	0.00	85.94	129.49	0.00	155.09
8	189	001	GN02	74	National Technical Office- Acre Brazil	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.06
8	195	001	DE23	75	Chair for Environmental Decisions	0.00	2.95	0.00	0.96	132.52	168.03	31.60	0.00
8	201	001	EB52	76	Educational Fund Seed Capital	0.00	78.59	0.00	0.00	7.33	89.43	3.51	0.00
8	220	001	EB60	77	University of Bangor	0.00	0.59	0.59	0.00	0.00	0.00	0.00	0.00
8	221	001	DI76	78	Wallace Conference	0.00	26.01	0.00	0.00	0.00	0.00	0.00	26.01
8	242	001	DI16	79	Course on Diversified Forest Management	0.00	160.59	0.00	0.00	726.42	537.68	0.00	349.32
Total Custody						<u>US\$974.68</u>	<u>US\$1,740.15</u>	<u>US\$345.77</u>	<u>US\$343.58</u>	<u>US\$5,171.13</u>	<u>US\$5,300.81</u>	<u>US\$844.65</u>	<u>US\$1,467.23</u>

	Staff	Travel and Per Diem	Communication and Printing	Maintenance of Equipment and Buildings	General Expenses	Training and Scholarships	Investment in Equipment and Infrastructure	Consumables and Specific Costs	Institutional Support and Overhead	Total
Administration component	US\$ 6	US\$ 1	US\$ 2	US\$ 2	US\$ 32		US\$ 5	US\$ 36	US\$ 6	US\$ 90
Commercial component	116	2	10	13	14		1	29	9	194
Strategic Services	78		2		25					105
Green and Inclusive Research and Development	1,746	137	87	13	79	US\$ 198	10	28	169	2,467
Education Division	494	49	17	5	45	1,185	33	3	40	1,871
Outreach Division	<u>389</u>	<u>61</u>	<u>23</u>	<u>30</u>	<u>65</u>	<u>14</u>	<u>2</u>	<u>1</u>	<u>20</u>	<u>605</u>
Total Funds in Custody	<u>2,829</u>	<u>250</u>	<u>141</u>	<u>63</u>	<u>260</u>	<u>1,397</u>	<u>51</u>	<u>97</u>	<u>244</u>	<u>5,332</u>
TOTAL	<u>US\$15,009</u>	<u>US\$1,853</u>	<u>US\$587</u>	<u>US\$446</u>	<u>US\$2,030</u>	<u>US\$2,823</u>	<u>US\$471</u>	<u>US\$1,094</u>	<u>US\$1,528</u>	<u>US\$25,841</u>

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2017 Financial Report

Ordinary Meeting 54 of the Board of Directors

19 to 22 March 2018 – Turrialba, Costa Rica

I. Introduction

This document contains information on the execution of the income and expenses budget program of the Tropical Agricultural Research and Higher Education Center (CATIE) for the 2017 period.

During 2017, the General Directorate in conjunction with the Center's directorates and the Budget Office, undertook a review and follow-up process of the institutional budget program for the year. This process allowed the adjustment of income and expenditure projections for the different accounting funds, based on realistic income expectations, and considering the changes that have occurred in the CATIE project portfolio and the expected behavior of productive and commercial activities.

External fund management activities through donations and specific projects continue to be the main source of income generation for the institution, followed by contributions from partner members, the contribution of Fundatrópicos Trust and the surplus from commercial and service activities. Payment defaults by partners, which directly affect the Center's liquidity, compromises the results at the end of the period.

CATIE's upper level directorates continue to make the efforts required to identify new sources of external financing, such as donations, scholarships and agreements with partners to ensure financial stability in the short and medium term. Likewise, the administration has made significant financial adjustment measures, in order to maintain stability in income versus expense results and achieve a positive net result of US\$21 (thousands) for 2017, after having absorbed US\$82,824.00 from one of the Institutional Custody Funds with a deficit balance from the last administration.

Efforts continue to be made for funds operated under the custody fund modality, which provides financial support while receiving funds from donors; these showed high levels of overdrafts for US\$1.5 million when the new administration took office in March 2016. Thanks to this effort, these funds were stabilized as of December 31, 2017, remaining at US\$845,000, for which actions will continue to be taken to reduce the deficit.

II. Structure of the Budget and accounting funds

CATIE's income and expenditure budget consists of basic funds, productive and commercial activity funds, agreements and custody funds. The breakdown of the budget by fund is based on the nature of the activities carried out, the origin of the resources that finance them, and by restrictions existing in each one. Each fund is an independent financial unit with its own assets, liabilities, net assets, income and expenses.

The Center's Financial Statements identify the restricted or unrestricted nature of the accounting funds described below.

Basic activities fund: These are classified as non-restricted funds, consisting of resources coming from the contributions of IICA and the quotas of the CATIE member countries, income from teaching activities, surpluses from service activities and commercial farms, sums received for the recovery of indirect costs (RCI) and overhead (OH) from projects, donations and specific contributions from different agencies and governments, as well as administrative management, treasury management and trust yields.

Productive and commercial activities funds: Cataloged as non-restricted funds, these include the activities developed on the sugarcane and coffee farms, the beef and dairy cattle fattening farms, forestry and the sale of forest seeds. They also include institutional services, such as lodging, hotel services, transport, laundry and the sale of souvenirs, among others.

Agreement funds: Their use is strictly restricted to activities previously indicated by the fund financier. These resources are not owned by CATIE. The Center is responsible for the execution of these funds in accordance with the terms and regulations established in the respective agreement, contract or letter of understanding.

Funds in custody: These are created for the control of revenues and expenditures at the divisional level as an outcome of contracts and projects with specific purposes to be developed in a short term. These include consultancies and/or projects for amounts less than US\$75,000, educational scholarships for scientific and professional master's programs, scholarships for training courses and technical communication services, among others, that are also part of this fund's income.

III. Financial Results.

a) Financial Situation Statement 2017-2016 Comparison US\$

	2017	2016
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	3,855	4,253
Investments held at maturity	260	75
Accounts receivable	3,130	3,057
Inventories	370	514
Total current assets	7,615	7,899
REAL ESTATE, FURNITURE, EQUIPMENT – Net	5,510	5,413
INTANGIBLE ASSETS	16	34
BIOLOGICAL ASSETS	417	896
TRUST FUNDS	1,640	1,568
OTHER ASSETS	619	575
Total non-current assets	7,572	8,486
TOTAL ASSETS	15,817	16,385
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES:		
Current portion of long-term debt	97	128
Commercial accounts payable	54	72
Employee benefits	764	1,149
Cumulative expenses and other accounts payable	1,051	891
Total current liabilities	1,996	2,240
LONG-TERM DEBT	382	148
TOTAL LIABILITIES	2,348	2,388
NET ASSETS:		
Unrestricted funds:		
Regular funds	1,691	1,332
Plant fund	6,061	6,343
Temporarily restricted funds:	0	
Agreement funds	4,237	4,582
Funds in custody	1,480	1,740
TOTAL NET ASSETS	13,469	13,997
TOTAL NET LIABILITIES AND ASSETS	15,817	16,385

The Financial Situation Statement as of December 31, 2017 and 2016 shows a negative variation in total assets of \$568 (thousands) mainly in "Cash and Cash Equivalents", furniture and equipment biologicals assets, as a result of the change in the NIC 16 and NIC 41.

The total variation of liabilities was an increase of \$60,000 as a result of the decrease in the payment of employee benefits, the increase in accumulated expenses, and the increase in long-term debt for loans acquired with Fundatrópicos from which US\$333,333.00 was received in 2017.

The total variation in net assets showed a decrease of \$568 (thousands), mainly due to the reduction in restricted fund assets from agreements of US\$435 (thousands) and funds in custody of US\$260 (thousands). It is important to mention that the net assets of the Regular Funds are being recovered with the results obtained.

b) Integral Results Statement

As of 31 December 2017

US\$

	2017					
	Regular Unrestricted Funds			Temporarily Restricted Funds		
	Basic Activities Fund	Commercial Activities Fund	Sub-total	Agreements	Custody	Total
Income:						
IIICA Contribution	968	-	968	-	-	968
Member country quotas	650	-	650	-	-	650
Student enrollment	508	-	508	-	-	508
Institutional support and overhead	1.469	-	1.469	-	-	1.469
Miscellaneous	265	-	265	-	-	265
Funds released from restrictions	-	490	490	13.673	5.332	19.495
Management of goods and services	-	1.217	1.217	-	-	1.217
Agricultural activities	-	1.108	1.108	-	-	1.108
Trust fund contributions	619	-	619	-	-	619
Total fund income	4.479	2.815	7.294	13.673	5.332	26.299
Expenditures:						
Personnel	3.440	960	4.401	7.780	2.829	15.009
Travel and per diems	175	28	203	1.401	250	1.854
Communications and printing	124	42	166	280	141	588
Building maintenance	52	221	273	108	64	444
General expenses	275	186	461	886	260	1.607
Training and scholarships	118	0	119	1.308	1.398	2.824
Investment (in assets)	-	0	0	420	50	470
Inpts and costs	14	774	788	208	97	1.093
Overhead cost	-	4	4	1.280	244	1.528
Total expenditures	4.199	2.215	6.414	13.673	5.332	25.419
Primary surplus	280	599	880	-	-	880
Transfer fund for commercial activities	599	(599)	-	-	-	-
Increase in unrestricted net assets	880	-	880	-	-	880
Other non-current expenditures:						
Donation and sale of assets	127	-	127	-	-	127
Earnings valuation of biological assets	-	-	-	-	-	-
Total non-current income	127	-	127	-	-	127
Other non-current expenditures						
Depreciation cost	545	-	545	-	-	545
Losses due to disposal of assets	17	-	17	-	-	17
Losses in valuation of biological assets	-	-	-	-	-	-
Deterioration of accounts payable	423	-	423	-	-	423
Total non-current expenses	986	-	986	-	-	986
Increase in unrestricted net assets after non-current items	21	-	21	-	-	21

The positive result of \$21 (thousands) in operating activities for the year ending December 31, 2017, was the product of constant monitoring of income and expenses throughout the year, which allowed timely decisions in reducing expenses, as soon as the lack of income due to sub-executions was detected, which allowed maintaining a structure in accordance with the financial capacity of the Institution. The primary operating result in basic activities of \$280 (thousands) was the outcome of aggressive management in meeting planned revenues and exerting strict budgetary control over the execution of expenses. The primary operating result of the commercial activities was US \$599,000, of which \$422,000 was for services and \$177,000 for farms. The primary total result was US \$879 (thousands).

However, after the primary result, the non-operating income and expenses that have a large impact on the final integral result are incorporated, mainly in depreciation and amortization expenses of fixed assets for \$545 (thousands), the net effect of applying the diminished fees receivable of US\$340,000 from 8 countries with balances in default for more than 2 years and a reversal due to diminished payment of quotas from previous years made by Colombia through an agreement with Corpoica for \$60,000, the deterioration of other accounts receivable (Custody Fund deficit) for US\$82,000.

IV. 2017 Budget Execution Results

The current Administration has continued to review the cost structure of the institution in order to take measures to reduce its operating expenses; this will help adjust it to current budgetary capacity. This has been a permanent process since the beginning of March 2016, seeking to prioritize the strategic activities of the institution to ensure its continuity and strengthening in the short and medium term, which entails seeking new sources of financing with partners in Europe, Asia, South America and the Caribbean.

The total amount of the income budget executed for 2017 was US\$26.7 million, without taking into account those revenues related to the fair value earnings of biological assets, sale and disposal of assets, donation of property and equipment, or the capitalization of new investments in biological assets.

The following is a breakdown of the execution of income that make up the CATIE budget program for 2017.

Table 1: Details of the execution of the income budget program for 2017 (Amounts in US\$ x 1000)

2017 Income Budget, (amounts in USD x 1000)				
Fund / Division / Program	Budget	Execution	Budget Balance	Percent Variation
BASIC ACTIVITIES	5.233	5,078	155	97%
IICA Contribution	1.000	968	32	97%
Member quotas	650	650	0	100%
Fundatropicos Trust	585	619	-35	106%
Administration and Finance - Services	601	565	36	113%
Administration and Finance - Commercial	86	187	-101	217%
Research for Green and Inclusive Development	1.056	629	427	60%
Education	520	508	12	98%
Outreach	735	829	-94	113%
Other items	0	8	-8	0%
COMMERCIAL ACTIVITIES	2.810	2.815	-4	100%
Administration and Finance - Services	1.269	1.217	52	96%
Administration and Finance - Commercial	1.541	1.598	-57	104%
AGREEMENTS	12.293	13.623	-1.330	111%
Research for Green and Inclusive Development	5.799	6.100	-301	105%
Outreach	6.495	7.523	-1.029	116%
CUSTODY	4.598	5.204	-605	113%
Administration and Finance - Services	143	94	49	66%
Administration and Finance - Commercial	240	29	211	12%
Strategic Services	200	112	88	56%
Research for Green and Inclusive Development	2.003	2.991	-988	149%
Education	877	1.592	-715	181%
Outreach	1.136	386	750	34%
TOTAL BUDGET	24.936	26.720	-1.785	107%

a) Execution of budgeted income from the basic fund and contributions of the fund from productive and commercial activities

The basic fund at the income level presented a budget compliance of 97%, which represented US\$5.0 million, considering the commercial surpluses that contributed US\$599,000 to the basic budget, exceeding the contribution plan that was US\$439,000.

In the case of the member quotas income line, the IICA contribution of US\$31,600 was not met. Another important income component was the returns from the Fundatrópicos Trust, which exceeded the income expectation by US\$34,000, with a total received of US\$619,000.

Regarding service activities, these showed reasonable behavior during the year 2017.

Revenues related to agricultural activities (Administration and Finance - Commercial), had a better result in sugarcane activity due to a better price and the production of 1000 tons more than the projection that was set for the year; coffee continues to show a deficient due to market prices and the low productivity of the plantations which have already reached the end of their productive life; while forestry behaved as projected. Dairy activity did not meet its income projections, as a result of a decrease in the number of milk cows (21) compared to 2016. This phenomenon was expected because heifers were sold before the administration of the Center took office in 2016, which led to a decrease in the growth of the herd and logical repercussions on the amount of milk produced.

The results obtained by the seed bank in 2017 were favorable, obtaining a surplus of US\$53,700.

Despite some adverse situations, there was an increase in income from commercial activities to basic activities.

On the other hand, the research division for inclusive green development had an income deficit of US\$427,000, mainly caused by a sub-execution of several projects which did not allow the full collection of the expected overhead; in addition, some projects started their implementation activities with a delay, such as the Ikl Livestock Growth System - Mexico, Marn Technical Support to Redd Formulation, and new project initiatives that could not be solidified. Likewise, the contribution of overhead from the division's custody funds had an over execution of 6%.

b) Execution of budgeted revenues in the agreements fund

At the global level, the agreements funds had an income execution of more than 11%, with satisfactory execution in the Research for Inclusive Green Development division and the Outreach division. The Research for Inclusive Green Development division showed significant over-execution mainly in projects financed by IDB and new agreements signed in the PRAGA Program with USDA, KOLFACI and MIAMBIENTE.

The External Projection division managed to increase its execution significantly through the regional PRCC project (Regional Climate Change Program), accelerating its execution in the region and receiving US\$4.6 (millions) in income from the donor. Similarly, in Guatemala the implementation of the PINN Project (Nutrition Information Platform) financed by the European Union for US\$1.0 (million) was initiated.

c) Execution of income budgeted in the custody fund

In general, the funds in custody showed an over-execution of 13%, mainly in the Education division and the Research for Inclusive Green Development division.

In Outreach, the Opportunities Management Unit (UGO) did not achieve its objective, due to a change of Institutional strategy in the attainment of resources for the Institution; these negotiations are now being carried out through the Office of Strategic Alliances. The National Offices of Honduras and Nicaragua generated fewer resources than originally budgeted.

Execution of budgeted expenses in 2017

During 2017, the Administration established strict budgetary control in order to achieve savings in the execution of expenses and ensure financial management in accordance with approved budgets. In this line, operating costs were reduced during 2017. The financial execution of restricted funds showed reasonable results with respect to the approved budgets. As indicated in Table 2, there was an execution of expenditures of US\$25.7 million for the 2017 period, which meant an execution of 112% of the plan.

The expense budget separately presents a reserve of US\$364,000 to cover the diminished member country quotas in 2017 and another similar category to cover unforeseen reductions in income or contingencies for US\$251,000.

Details of execution of the 2017 expenditure budget per Center fund is shown below.

Table 2: Details of the execution of the 2017 expenditure budget program (Amounts in US\$ x 1000)

2017 Expenditure Budget (USD x \$1000)				
Fund / Division / Program	Initial Budget	Execution	Budget Balance	Percent Variation
BASIC ACTIVITIES	5,233	4,621	420	88%
Upper level Directorates	802	754	48	94%
Administration and Finance - Services	1,176	1,080	96	92%
Administration and Finance - Commercial	193	180	14	93%
Strategic Services	288	151	137	52%
Research for Green and Inclusive Development	867	860	7	99%
Education	944	862	82	91%
Outreach	347	311	36	90%
<i>Other items (accounts in arrears)</i>	364	423	-59	116%
<i>Operational Reserve</i>	251	0	251	0%
COMMERCIAL ACTIVITIES	2,371	2,215	155	93%
Administration and Finance - Services	907	738	170	81%
Administration and Finance - Commercial	1,463	1,478	-15	101%
AGREEMENTS	10,606	13,597	-2,992	128%
Research for Green and Inclusive Development	4,152	5,269	-1,117	127%
Outreach	6,454	8,329	-1,875	129%
CUSTODY	4,780	5,332	-552	112%
Administration and Finance - Services	93	89	3	97%
Administration and Finance - Commercial	270	195	75	72%
Strategic Services	250	106	144	42%
Research for Green and Inclusive Development	2,292	2,467	-175	108%
Education	1,122	1,871	-749	167%
Outreach	753	604	149	80%
TOTAL BUDGET	22,989	25,765	-2,969	112%

a) Execution of budgeted expenses for basic funds and productive and commercial activities

At the level of basic costs and expenses, this administration took measures and made efforts to reduce expenses, promote greater austerity, and optimize the use of institutional resources, which improved results in 2017 with respect to 2016. These actions generated savings in the Research Division, Upper level Directorate Development, and Outreach.

The sub-execution of expenses contributed to minimizing the lack of income and improving the Center's operating results, from an excess of income over expenses in 2016 of US\$39,000, to an excess of income over expenditures of US\$21,000 in 2017, which allowed absorbing the sum of US\$82,834 from the Commercial Laboratories custody fund.

Parallel to the reduction of income in commercial activities and services, expenditures showed a general decrease of 7%, mainly in the management of accommodation, technology, and information activities; agricultural activities showed a small increase in expenses, the product of a greater increase in sugarcane production and coffee harvesting.

b) Execution of budgeted expenditures in the agreements fund

It was possible to have greater expense execution in 2017. This fact impacts the financial execution channeled through restricted funds which show a decrease in net assets. The general direction, with the support of other divisional directors, has intensified the efforts and strategies to obtain these results.

c) Execution of budgeted expenses in the custody fund

Execution was also increased at the budget level of the funds in custody, which was higher than the amount budgeted in the Research for Inclusive Green Development division.

The Education division increased its execution, as a result of higher expenses in the Sustainable Tourism Master's program and in the educational funds for student scholarships.

V. Financial Indicators

	Unit	2016	2017	%
Operational surplus	US\$x1000	474	879	46%
Net surplus	US\$x1000	39	21	-85%
Total assets	US\$x1000	16,385	15,817	-4%
Total liabilities	US\$x1000	2,388	2,348	-2%
Net assets - unrestricted	US\$x1000	7,675	7,752	1%
Net assets - restricted	US\$x1000	6,322	5,517	-11%
Institutional Liquidity Ratio	Factor	3	3	-
Indebtedness	%	2	2	
Recovery of membership fees	%	29	60	-
Internal financing	US\$x1000	1,532	1,312	-14.4%
Productive activities contribution	US\$x1000	553	599	8.3%

In 2017, CATIE's new administration implemented a review process of the institution's financial and administrative management. This process has focused on maintaining the levels of income and expenses within approved budgets, with greater control and financial discipline, as well as adapting the operational and cost structure of the Center to its current economic capacity.

The table of indicators shows that the Center's levels of indebtedness are minimal compared to its total assets, maintaining the relationship where total assets exceed total liabilities by a factor of two. The measures adopted to reduce costs and increase operating efficiency along with better market conditions allowed an 8.3% increase in the financial contributions from productive activities and institutional services to the unrestricted basic fund in 2017.

The indicators of financial liquidity also show a decrease in restricted net assets of 11%, the outcome of greater execution in expenses. It is also important to mention the reduction of 14.4% in the financing of agreements and funds in custody. There is a decrease in the institutional liquidity ratio due to the decrease in current assets and the increase in total liabilities.

VI. Conclusion

The financial results for 2017 reflect that despite the circumstances faced by the Center during the year, key financial indicator results were maintained and improved; the monitoring process will therefore continue to identify opportunities for improvement and the management of financial risks that may impact the performance of strategic functions.

CATIE should seek new sources of funding and not continue what is currently being done, to allow a greater generation of resources through projects that integrate more technical and educational programs in the longer term. CATIE should maintain negotiations with donor-partners to promote the Center's strategies and priorities, for which it must continue to evolve its business model according to international trends.

The commitments assumed by the new administration with the backing of the Board of Directors, around adopting responsible, transparent financial management, focused on giving priority to the Center's strategic functions, constituting the elements that guided the process of financial reorganization in 2017 and these will be maintained during 2018.



Modification of the 2018 Budget Program

54^o Ordinary Meeting of the Board of Directors

March 19th to 20th, 2018 – Turrialba, Costa Rica

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I. Introduction

This document contains the updated version of the revenues and expenditures budget program for the Tropical Agricultural Research and Higher Education Center (CATIE) for 2018. The review process that brought about this budget modification was led by the Director General's Office and covered unrestricted accounting funds (core, regular and productive activities) and restricted accounting funds (projects and funds in custody), which are described in Section II.

The main objective of the review of the institutional budget program for 2018 was to make an integrated and realistic analysis of the financial resources that are expected to enter the Center during the year, in order to adjust the projections of revenues from the different accounting funds and make the respective budget allotments to CATIE's different divisions and areas. This exercise is one of the measures adopted by the new Director General to maintain a financial balance between the institution's revenues and expenditures.

According to what is stipulated in Article 32 of CATIE's Financial By-laws, the Director General may approve modifications to increase or decrease by up to 10% the total amount of the approved institutional budget, whenever the Center has the respective financial content and the corresponding modifications are made to the revenues and expenditures accounts, as needed. The Director General must inform the Board of Directors of these modifications during the next meeting. Any increases or decreases in the total amount of the institutional budget surpassing 10% must be submitted to the Board of Directors for approval.

Based on this norm, and given that the total amount of the modification to the revenues and expenditures budget program for 2018, for US\$592 (thousand), corresponds to approximately 3% of the total budget approved for 2018 for US\$21.240 (thousand), according to the resolution 2-17/49° of the Executive and Finance Committee of the Board of Directors, issued on September 11th, 2017, the Director General is hereby informing the members of the Board of Directors regarding the application of the budget modification described in this document.

II. Budget Structure and accounting funds

CATIE's revenues and expenditures budget is comprised by the core, productive and commercial activities, agreements and custody funds. The segregation of the budget by funds originates from the nature of the activities conducted, from the origin of the resources that fund them and from the existing restrictions for each of them. Each fund is an independent financial unit with its own assets, liabilities, net assets, revenues and expenditures.

The Center's Financial Statements identify the restricted or unrestricted nature of the accounting funds as described below.

Core Activities fund: includes unrestricted funds, constituted by resources from contributions from IICA and quotas from CATIE's member countries, revenues from teaching activities, surpluses from service activities and commercial farms, monies received for the recovery of indirect costs (RIC) and overhead (OH) from projects, donations and specific contributions from different organisms and governments, and from CATIE's administrative management, management of the treasury and yields from trust funds.

Productive and commercial activities fund: are unrestricted funds, and come from activities conducted at the sugar cane, coffee, forestry and beef cattle farms, CATIE's dairy and from the sale of forest tree seeds. They also include income from institutional services, such as housing, hotels, transportation, laundry and souvenir sales, among others.

Projects Fund: its use is restricted solely to activities that the funder/donor of the funds has approved previously. These resources do not belong to CATIE. The Center is in charge of executing the funds according to the terms and regulations established in the respective agreement, contract or letter of understanding.

Funds in Custody: are created to control revenues and expenditures at the divisional level. These funds come from short-term contracts and projects with specific ends and which are executed by CATIE. These include consultancies and/or projects for amounts under US\$ 75 (thousand), student scholarships for the scientific and professional master's programs, scholarships for training courses and technical communication services, among others, that also form part of the revenues for this fund.

III. Description of the process to modify the 2017 budget program

During the first two months of 2018, the Director General, together with the directors of the Center and the Budget Office, conducted a review process of the institutional Budget program for this year. This process allowed them to adjust the projections of revenues and expenditures for the different accounting funds, based on realistic expectations of revenues. They took into consideration the changes that occurred in the portfolio of CATIE's projects and the behavior expected from productive and commercial activities carried out by the Center.

In order to make this modification, the staff responsible for each of CATIE's divisions, programs and work areas reviewed the initial projections for revenues and expenditures for 2017. They proceeded to incorporate the necessary adjustments according to the new negotiations of projects, revisions of revenue goals, changes in the cost structures and setting of institutional priorities by the Director General.

IV. Modification of budgeted revenues for 2018

The total amount of the modified revenues budget for 2018 is estimated nearly US\$20.6 million, without taking into consideration those revenues related to earnings due to the reasonable value of biological assets, sale of assets, donation of properties and equipment, or the capitalization of new investments in biological assets.

The details of the modifications made to the lines of revenues within CATIE's budget program for 2018 are presented below.

Table 1: Details of modifications to the revenues budget program for 2018
(Amounts in Thousands for US\$)

ACCOUNTING FUND	INITIAL BUDGET 2018	MODIFICATION	FINAL BUDGET 2018	PERCENTE VARIATION
CORE ACTIVITIES FUND	4.629	408	5.037	8%
IICA Contribution	1.000	0	1.000	0%
Members country quotas	600	0	600	0%
Fundatropicos Trust fund	592	0	592	0%
Administration and finance - Services	463	0	463	0%
Administration and finance - Commercial	180	0	180	0%
Research for Ecological and Inclusive Development	668	-133	535	-25%
Education	726	342	1.068	32%
Outreach	399	199	598	33%
COMMERCIAL ACTIVITIES FUND	2.768	0	2.768	0%
Administration and finance - Services	1.244	0	1.244	0%
Administration and finance - Commercial	1.524	0	1.524	0%
AGREEMENTS FUND	10.853	-1.271	9.582	-13%
Research for Ecological and Inclusive Development	6.693	-1.986	4.707	-42%
Outreach	4.160	715	4.875	15%
CUSTODY FUND	2.989	271	3.260	8%
Administration and finance - Services	138	0	138	0%
Administration and finance - Commercial	1	0	1	0%
Strategic Services	200	0	200	0%
Research for Ecological and Inclusive Development	1.180	0	1.180	0%
Education	1.147	271	1.418	19%
Outreach	323	0	323	0%
TOTAL BUDGET	21.240	-592	20.647	-3%

The unrestricted core fund shows a total a total increase of US\$408 (thousands) in its revenues budget 2018. The lines of Administration and Finance – Services and of Education show the greatest increases in revenues US\$199 (thousands) and US\$342 (thousands), respectively.

In the case of the revenue line Outreach, the increase in the revenue of the product was a result of the agreement extension with USAID, Regional Program of Climate Change (PRCC), the change is extended until February 2019, as well the Guatemala Project entry financing by European Union (PINN), which in this office strengthens financially actions.

In the education activities, the increase in the recovering of scholarship registration was a promotion of 58 student's; as part of the exchange strategy, the signing of the agreement between Corpoica-Colombia and the payment to the Dominican Republic, as part of the exchange strategy of: debt for education, are aspects that contribute to the sustenance and growth of the Postgrad School starting 2018.

The reduction in revenue regarding overhead by the Research Division for the Ecological and Inclusive Development complies with a detailed review of the agreements signed and the possible execution of those agreements for that period. With that in mind, the desired revenue for the agreement fund have suffered a drop because the Division is considering duly justified signatures and approved agreements beforehand. Therefore, if there are more project proposals, then those proposals will be incorporated in the budget.

To compensate for the reduction in revenue, the Division has begun new projects such as UE-Platform on information about Nutrition (from the Spanish initials PINN - Plataforma de información sobre Nutrición) in Guatemala for the amount of US\$840 thousand, the IFARHU Projects, and Mi Ambiente Project in Panama represent US\$1.3 million from the budget.

The funds in custody have a small increment because the Education Division has intensified their actions and strategies to identify and capture new sources of external financing for scholarships and to continue with the strengthening of the education activities driven by the current administration of the Center.

V. Modification of budgeted expenditures for 2018

As shown in Table 2, CATIE will have a total expenses budget of nearly US\$20.6 million in 2018 to fund the activities conducted by the Center's different divisions.

The modified expenditures budget includes a reserve for US\$350 (thousand) to cover the deterioration of member countries' quotas during 2018 and another similar amount to cover reductions in revenues or unforeseen for US\$92 (thousand).

It is important to point out that according to provisions established in the Center's normative framework, the allotment of budgeted resources from the unrestricted core fund will be done giving priority to CATIE's strategic functions and seeking the greatest possible optimization in the administration of the institution's financial resources.

The variations in budgeted expenditures in the core fund were conducted in order to maintain the financial balance between revenues and expenditures. For maintaining the budget level austerity on the expenses are top guidelines and the administration and financial search for make efficient the support operations as

security support, maintenance support, and the miscellaneous service.

The Strategic Alliances office has an assigned budget to improve the efficiency of the fund management process and financing projects, this office ensure the proper coordination between the area leaders and the program leaders.

The key functions of research and education have been strengthened to ensure the stability of technicians and scientists, and maintain the teaching staff who can attend the student's academic needs in the coming periods.

The CATIE's local offices in Costa Rica continue to be relevant in executing and projecting projects in other countries. CATIE's management has provided a budget for South America such as Peru, Brazil, and Ecuador in order to expand opportunities in the search for new financial partners.

The details for the modified allotment of the Center's expenditures budget for 2018 are presented below.

**Table 2: Details of modifications to the 2018 expenditures budget program
(Amount in Thousands - US\$)**

ACCOUNTING FUND	INITIAL BUDGET 2018	MODIFICATION	FINAL BUDGET 2018	PERCENT VARIATION
CORE ACTIVITIES	4.629	408	5.037	8%
Governing bodies	742	-106	636	-17%
Administration and Finance - Services	1.029	165	1.194	14%
Administration and Finance - Commercial	193	-46	147	-31%
Strategic services	158	104	262	40%
Research for Ecological and Inclusive Development	759	150	909	17%
Education	826	309	1.135	27%
Outreach	322	-10	312	-3%
Others	600	-158	442	-36%
Deterioration in country quotas	350	0	350	0%
Reserve/Operative Fund	250	-158	92	-173%
COMMERCIAL ACTIVITIES FUND	2.768	0	2.768	0%
Administration and Finance - Services	916	-1	915	0%
Administration and Finance - Commercial	1.352	1	1.353	0%
Service Activities Surplus	328	0	328	0%
Commercial Activities Surplus	173	0	173	0%
AGREEMENTS FUND	10.853	-1.271	9.582	-13%
Research for Green and Inclusive Development	6.693	-1.986	4.707	-42%
Outreach	4.160	715	4.875	15%
CUSTODY FUND	2.989	271	3.260	8%
Administration and Finance - Services	138	0	138	0%
Administration and Finance - Commercial	1	0	1	0%
Strategic Services	200	0	200	0%
Research for Ecological and Inclusive Development	1.180	0	1.180	0%
Education	1.147	271	1.418	19%
Outreach	323		323	0%
TOTAL BUDGET	21.240	-592	20.647	-3%

VI. The 2018 modified revenues and expenditures budget

Annexed 1, shows the modified budget of CATIE'S expenses and revenues for 2018, grouped by his different accounting funds. The preparation of this budget allows CATIE to maintain a financial balance, administer

its available financial resources more efficiently and economically and prioritize the continuity of its key functions.

**Annexed 1
Modified 2018 Budget program
(Amount in Thousands US\$)**

Lines	Unrestricted funds		Restricted Funds			TOTAL	%
	Core Fund	%	Commercial Fund	Projects Funds	Funds in Custody		
REVENUES:							
IICA contribution	1.000	20%	0	0	0	1.000	5%
Country quotas	600	12%	0	0	0	600	3%
Fundatropicos Trust fund	592	12%	0	0	0	592	3%
Administration and Finance	463	9%	0	0	138	601	3%
Productive and commercial activities	180	4%	2.768	0	1	2.949	14%
Strategic services	0	0%	0	0	200	200	1%
Research for Ecological and Inclusive Development	535	11%	0	4.707	1.180	6.422	31%
Education	1.068	21%	0	0	1.418	2.486	12%
Outreach	598	12%	0	4.875	323	5.796	28%
Total revenues	5.037	100%	2.768	9.582	3.260	20.647	100%
% distribution of revenues by accounting fund	24%		13%	46%	16%	100%	
EXPENDITURES:							
Governing bodies	636	13%	0	0	0	636	3%
Administration and Finance	1.194	24%	0	0	138	1.332	6%
Productive and commercial activities	147	3%	2.267	0	1	2.415	12%
Strategic services	262	5%	0	0	200	462	2%
Research for Ecological and Inclusive Development	909	18%	0	4.707	1.180	6.796	33%
Education	1.135	23%	0	0	1.418	2.553	12%
Outreach	312	6%	0	4.875	323	5.510	27%
Total Expenditures	4.595	91%	2.267	9.582	3.260	19.704	95%
% distribution of expenditures by accounting fund	23%		12%	49%	17%	100%	
Unapplied budget balances	442	10%	501	0	0	943	5%
Application budget balances							
Operative reserve fund	92	21%	0	0	0	92	10%
Deterioration in country quotas	350	79%	0	0	0	350	37%
Transfer of surpluses to core fund	0	0%	501	0	0	501	53%
Financial reserve- restricted funds	0	0%	0	0	0	0	0%
Unapplied balances	0	100%	0	0	0	0	100%



2019 Budget

55th Ordinary Meeting of the Board of Directors

September 18 to 20, 2018 – Turrialba, Costa Rica

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I. Executive Summary

This document contains the proposed Budget Program for income and expenses of the Tropical Agricultural Research and Higher Education Center (CATIE) for the year 2019.

This document contains the following information:

- a) Structure of the budget and accounting funds
- b) Divisional Allocations 2019
- c) Income and expenditure budget 2019

This budget considers the different income projections for the programs, units and branches that make up the Center, these estimates may change during the coming months, so at the beginning of 2019 they will be revised and adjusted for submission to the next Board of Directors.

The General Directorate of CATIE, following the recommendations of the Board of Directors and the External Evaluation, has strengthened the Office of Strategic Alliances, with the appointment of Dr. Roberto Quiros. This office currently plays an important role in monitoring the different actions for resource mobilization, including for Fundatrópicos and The Tropics Foundation.

II. Structure of the budget and accounting funds

CATIE's income and expenses budget contains Core, Commercial, Agreements and Custody funds. The segregation of the budget by funds is due to the nature of the activities carried out, the origin of the resources that finance them and by the restrictions existing for each one. Each fund is an independent financial unit with its own assets, liabilities, net assets, income and expenses.

The Financial Statements of the Center identify the restricted or unrestricted nature of the funds controlled in the following categories:

Core Activities Fund: These are classified as non-restricted funds, consisting of resources from the contributions of IICA and CATIE member country fees, income originating from the teaching activities, surpluses from services and commercial farm activities, sums received for indirect cost recovery (RCI) and Overhead (OH) for projects, donations and specific contributions from different agencies and governments, as well as administrative management, treasury management and trust yields.

Services and Commercial Farm Activities Fund: These are cataloged as non-restricted funds, covering the activities carried out in sugarcane and coffee farms, breeding and fattening of beef cattle, the dairy, forestry and sale of forest seeds. It also includes institutional services, such as lodging, hotel, transportation, laundry and sale of souvenirs, among others.

Agreements Fund: The use of these funds is strictly limited to the activities that the fund financier has previously indicated. These resources are not owned by CATIE.

The Center is responsible for the execution of the funds in accordance with the terms and regulations established in the respective agreement, contract or letter of understanding.

Funds in Custody: This fund was created for the control of income and expenditures at the divisional level for small donations and projects with specific purposes to be developed in a short term. Small consultancies and/or projects for amounts less than US\$75,000, educational scholarships for scientific and professional masters, scholarships for training courses and technical communication services, among others, are also part of the income for this fund.

III. Divisional Allocations

For the 2019 period, a total revenue budget of US\$24.4 million is projected, which has been allocated to the different divisions of the Center, without taking into account those revenues related to the fair value gains of biological assets, sale and disposition of assets, donation of plant property and equipment, as well as the capitalization of new investments in biological assets.

It is important to mention that a reserve of US\$350,000 is provided to cover the possible deterioration of member country fee payments in 2019, and to maintain an operating reserve of US\$82,000.

To compare the allocation of the core budget among the Center's divisions, the distributions for the current 2018 period were included, the objective being to emphasize that the distribution of the core budget was carried out strategically.

Table 1

Divisional Allocations 2019 (in USD x 1000)							
Description	Core Fund (2018)	2019 Allocation					
		Core Fund	Commercial Fund	Agreements Fund	Custody Fund	Total, Allocation	% of Allocation
Higher Directives	636	622	0	0	0	622	2.8%
Administration and Finance	1,194	1,273	0	0	139	1,412	6.3%
Commercial	147	150	2,522	0	21	2,693	12.0%
Strategic Services	262	312	0	0	100	412	1.8%
Technical Programs (PIDEA, PByCC, PRAGA)	909	927	0	5,904	966	7,797	34.8%
Education	1,135	1,138	0	0	1,709	2,846	12.7%
Outreach	312	325	0	5,485	383	6,193	27.6%
Reserve Fund	92	82	0	0	0	82	0.4%
Unrecovered Country Fees	350	350	0	0	0	350	1.6%
TOTAL	5,037	5,179	2,522	11,388	3,318	22,408	100%

IV 2019 Income and expenditure budget

CATIE finances its core activities of research, education, and outreach with resources from the Core, Commercial, Agreements and Custody Funds. The main components of income are member country fees, yields from trusts, recovery of indirect costs, Overhead, donations, agreements and contracts with external partners.

In this plan, some important proposals are being considered with partners such as CIRAD, EUROCLIMA, Bioversity, FIDA, and FAO, among others.

CATIE is also recovering fees from member countries in arrears by offering educational scholarships in exchange for canceling what is owed; it is important to mention that unrecovered country fees have a significant effect on the Center's financial outcome, which obliges us to maintain a reserve of US\$350,000. The governments of Colombia and the Dominican Republic have already agreed to debt swaps for education in a gradual way that began in 2017.

Table 2 below shows the comparative distribution of the budget by fund, division and program for the periods 2018 and 2019. At the general level, the increase in core fund income stands at 3%, mainly in the education division which shows a rebound in student enrollment as a result of scholarship management in partner countries such as Colombia, the Dominican Republic, and others.

The technical programs have also increased project initiatives with support from the Office of Strategic Alliances.

Table 2

Comparative income budgets for 2019 and 2018 (in USD x 1000)				
Fund / Division / Program	2018 BUDGET	2019 BUDGET	Absolute variation	Percent variation
CORE ACTIVITIES FUND	5,036	5,179	143	3%
IICA Contribution	1,000	1,000	0	0%
Member country fees	600	600	0	0%
Fundatrópicos Trust	592	605	13	2%
Administration and Finance - Services	463	441	-22	-5%
Administration and Finance - Commercial	180	171	-9	-5%
Technical Programs (PIDEA, PBBByCC, PRAGA)	535	631	96	18%
Education	1,068	1,334	266	25%
Outreach	598	397	-201	-34%
COMMERCIAL ACTIVITIES FUND	2,768	2,522	-246	-9%
Administration and Finance - Services	1,244	1,206	-38	-3%
Administration and Finance - Commercial	1,524	1,316	-208	-14%
AGREEMENTS FUND	9,582	11,388	1,806	19%
Technical Programs (PIDEA, PBBByCC, PRAGA)	4,707	5,904	1,196	25%
Outreach	4,875	5,485	610	13%
FUNDS IN CUSTODY	3,260	3,318	58	2%
Administration and Finance - Services	138	139	1	1%
Administration and Finance - Commercial	1	21	20	2000%
Strategic Services	200	100	-100	-50%
Technical Programs (PIDEA, PBBByCC, PRAGA)	1,180	966	-214	-18%
Education	1,418	1,709	290	20%
Outreach	323	383	60	19%
TOTAL BUDGET	20,647	22,408	1,761	9%

The agricultural activities have an adjustment in expected income due to the fact that the Sugarcane Farm started the harvest of 5 hectares of organic sugarcane that will strengthen the income from this activity, and dairy activity will have a stabilization of the dairy herd at approximately 230 milking cows. With regard to coffee activity, CATIE does not project any planting and marketing in the short term, however, the established research projects continue.

Table 3

Comparison of expenditure budgets for 2019 and 2018 (in USD x 1000)				
Fund / Division / Program	2018 BUDGET	2019 BUDGET	Absolute variation	Percent variation
CORE ACTIVITIES FUND	5,036	5,179	143	3%
Higher Directives	636	622	-14	-2%
Administration and Finance - Services	1,194	1,273	80	7%
Administration and Finance - Commercial	147	150	3	2%
Strategic Services	262	312	50	19%
Technical Programs (PIDEA, PByCC, PRAGA)	909	927	18	2%
Education	1,135	1,138	3	0%
Outreach	312	325	13	4%
Other Categories	442	432	-10	-2%
Unrecovered country fees	350	350	0	0%
Reserve/Operations Fund	92	82	-10	-11%
COMMERCIAL ACTIVITIES FUND	2,769	2,522	-247	-9%
Administration and Finance - Services	915	893	-22	-2%
Administration and Finance - Commercial	1,353	1,152	-201	-15%
Surplus Service Activities	328	313	-15	-5%
Surplus Commercial Activities	173	164	-9	-5%
AGREEMENTS FUND	9,582	11,388	1,806	19%
Technical Programs (PIDEA, PByCC, PRAGA)	4,707	5,904	1,197	25%
Outreach	4,875	5,485	610	13%
FUNDS IN CUSTODY	3,260	3,318	58	2%
Administration and Finance - Services	138	139	1	1%
Administration and Finance - Commercial	1	21	20	2000%
Strategic Services	200	100	-100	-50%
Technical Programs (PIDEA, PByCC, PRAGA)	1,180	966	-214	-18%
Education	1,418	1,709	291	20%
Outreach	323	383	60	19%
TOTAL BUDGET	20,647	22,408	1,761	9%

Table 3 gives a comparison of budget levels for 2019 with those of 2018, showing an overall increase of 9%, going from \$20.6 million in 2018 to \$22.4 million for 2019, mainly due to new initiatives in the agreements fund.

Given the way budgetary mechanics have been, the amounts will be modified in the next period as the signing of new agreements, consultancies and educational scholarships becomes official. In this way, a better estimate of the expenditure budget will be obtained in the first quarter of 2019. The budget considers a reserve amount to face the problem of unrecovered country fees and other eventualities, as a way to mitigate risks.