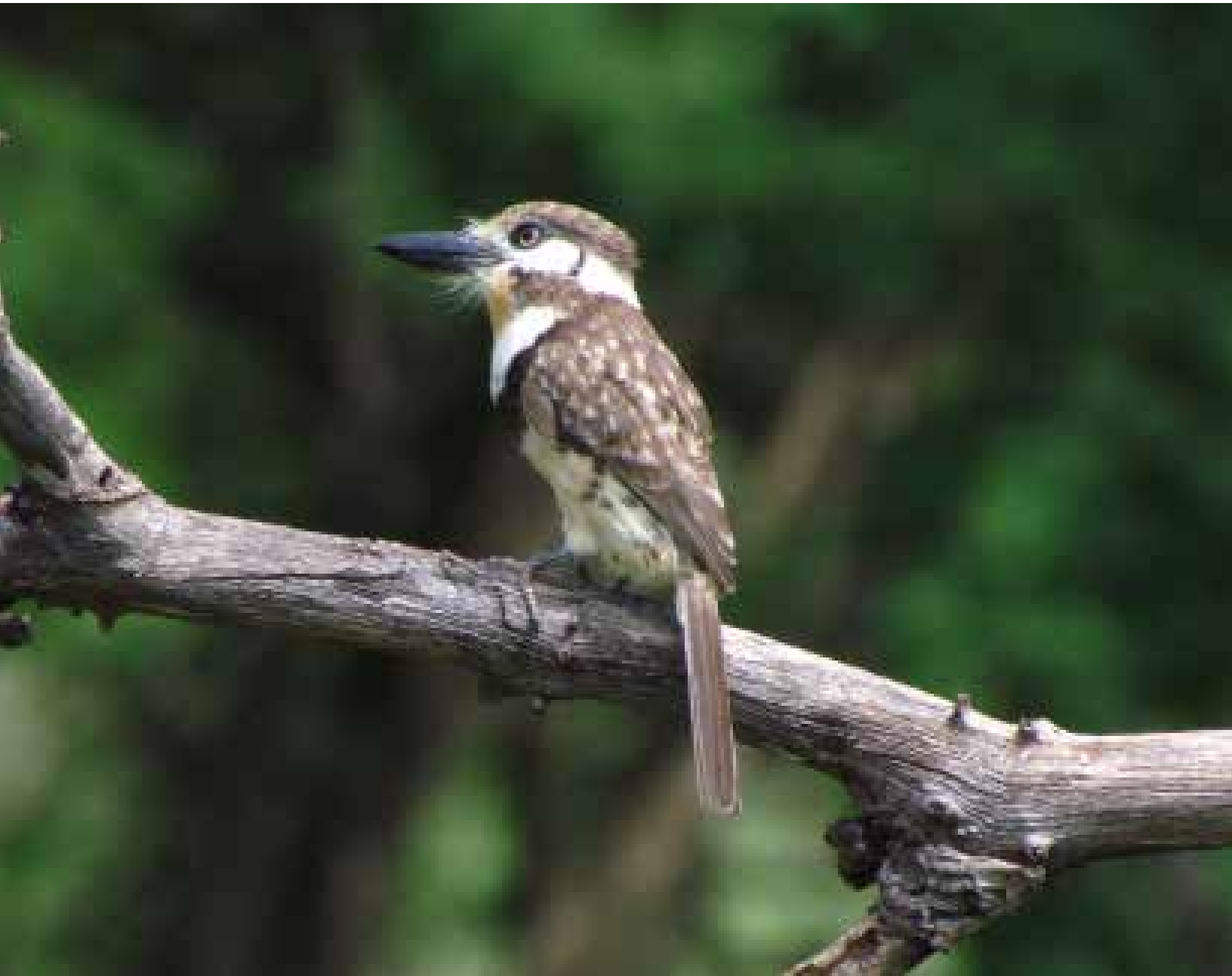
CATIE

Solutions for environment and development
Soluciones para el ambiente y desarrollo

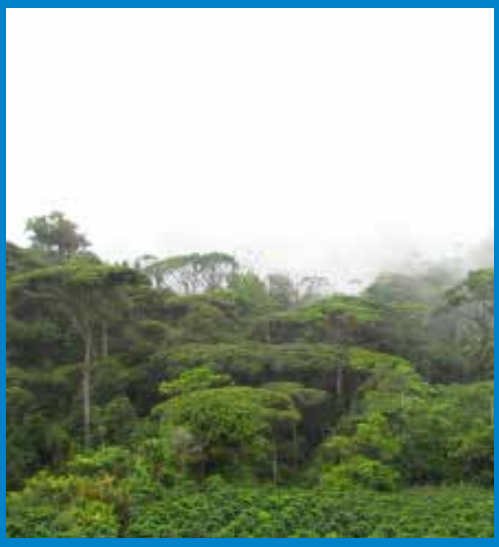
Biennial Report 2015-2016

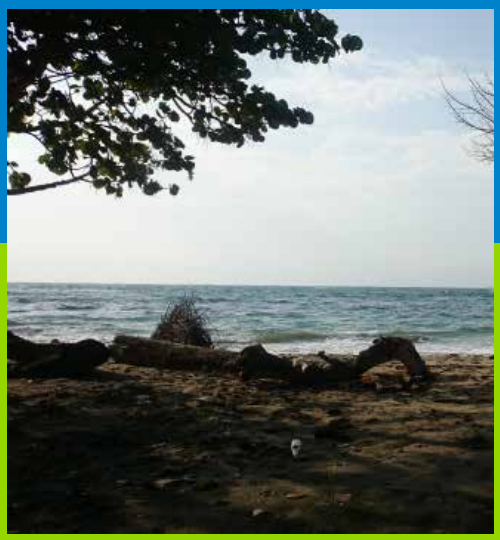
CONTENT



Mission

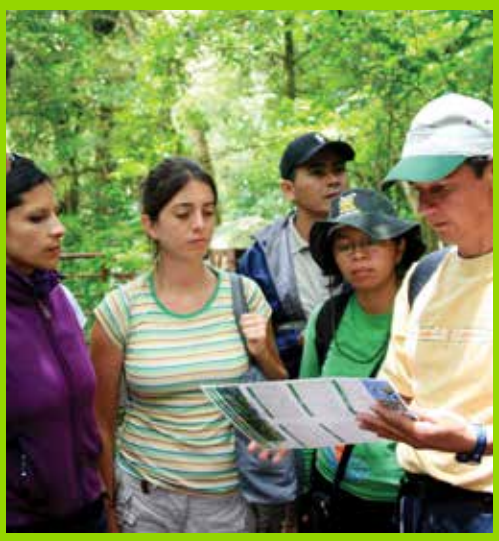
Increase sustainable and inclusive human wellbeing in Latin America and the Caribbean, promoting education, research and outreach for the sustainable management of agricultura and conservation of natural resources.





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.



EXECUTIVE SUMMARY

CATIE continues training professionals capable of dealing with challenges and problems in agriculture, natural resources, the environment and rural development, as well as with the ability to take advantage of opportunities for sustainable development.

In 2015-2016, CATIE achieved significant advances in its strategic objective of strengthening scientific and professional education in systemic approaches through development of innovative graduate, professional and technical educational products, both in the classroom and via distance learning.

Furthermore, the CATIE has as its main responsibility to contribute to reaching sustainable livelihoods, agricultural and forestry systems, territories and value chains through systemic and interdisciplinary research.

Toward this goal, in 2016, personnel in the different DID programs carried out actions that translated into positive effects for the rural population of Central America. This population represents 41.4% of the total population of the region and includes at least 2.3 million families that depend on agriculture.

During 2015-2016, CATIE continued its process of consolidation as a regional research and development platform, adding new international initiatives and organizations to this platform and relations with the Inter-American Institute for Cooperation on Agriculture (IICA) in the areas of education and research were strengthened.

CATIE initiatives in its member countries promoted integration with institutional units, programs and projects and at the same time sought strategic alignment and integration with public sector policies and agencies in the country. In addition, the capacities of thousands of people were strengthened through training and technical assistance.

Finally, CATIE's new administration, which took office in March 2016, faced great challenges, including a financial and administrative review of the institution. Management has been focused on maintaining the levels of income and expenses within the approved budgets, having greater control and proper financial discipline, and adapting the operational and cost structure to current economic capabilities.

QUALITY EDUCATION

The master's has given me very valuable tools and knowledge for my development as a researcher, taking more into account the inevitable climate change and its impact on agriculture. My mind has been opened to other issues I knew nothing about. I intend to apply what I have learned in further research, in the publication of scientific articles and on my own agroforestry farm. I wish to share my research with national institutions, above all with those interested in the cultivation of coffee. ***Marvin Alejandro Brenes Loaiza, Master's Student in Agroforestry and Sustainable Agriculture, Class of 2015–2016, Costa Rica.***

In 2015-2016, CATIE achieved significant advances in its strategic objective of strengthening scientific and professional education in systemic approaches through development of innovative graduate, professional and technical educational products, both in the classroom and via distance learning.

An example of this is the accreditation granted by the System for Higher Education (SINAES, Spanish acronym) for the Doctorate of Science in Agriculture and Natural Resources Program and four international academic master's degrees:

Agroforestry and sustainable agricultura, Economy, development and climate change, Management and conservation of forests and biodiversity, Integrated watershed management. This accreditation ensures that these programs comply with the highest internationally accepted quality standards and are committed to a continuous improvement program. With this accreditation, CATIE becomes the university in Costa Rica with more accredited graduate degrees.

In addition, CATIE reconsidered the duration and content of its scientific masters from 24 to 18 months, which internalizes—for each one of the areas of specialization—the complex relationships between economic, social and environmental dimensions of production and conservation at the beginning of the 21st century. In order to move forward with this strategic adjustment, a process of monitoring and evaluation of the progress of student research projects was launched, facilitating the follow-up and the incorporation of requested adjustments.

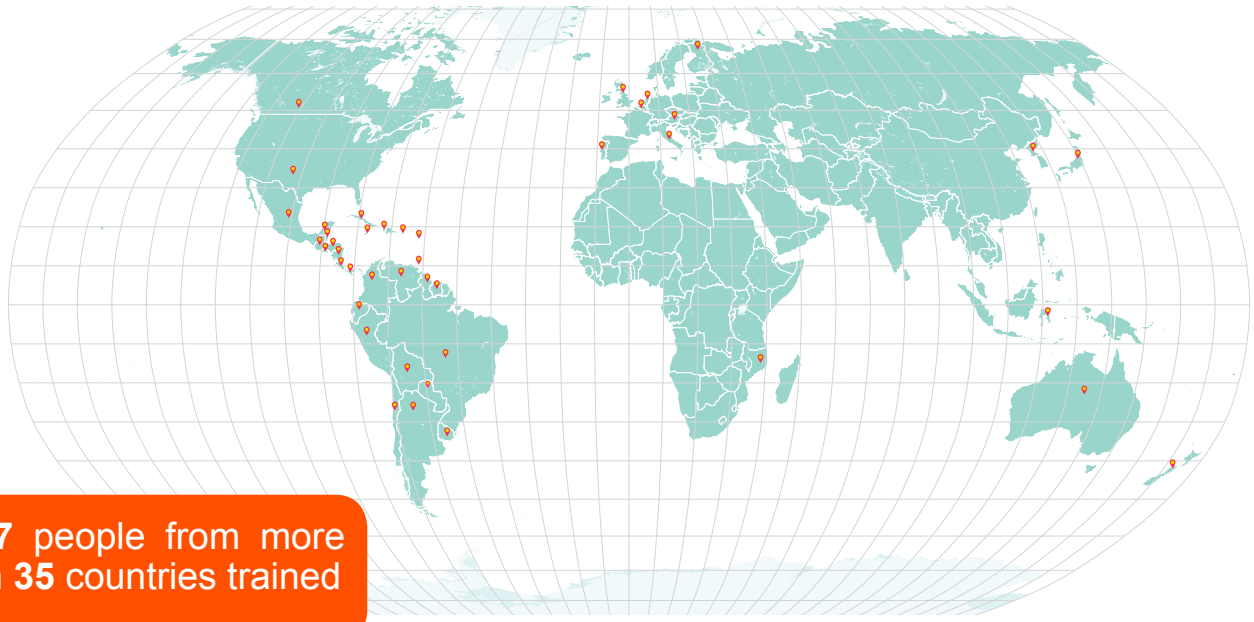
CATIE is the university in Costa Rica with more accredited graduate careers.

In its interest to offer academic programs that respond to the new necessities and demands of the countries of Latin America, in 2015-2016 CATIE expanded its academic offering at the graduate level, in both classroom and virtual modes, on topics of international relevance.

- International professional master's in administration and development of sustainable businesses (ADNS, Spanish acronym)
- International academic master's in mitigation and adaptation to climate change (MACC)
- Virtual international professional master's in watershed management

The virtual platform has also been a complement to traditional classroom education, allowing greater accessibility to information and generating an educational process that improves interactivity, communication and application of knowledge.

CATIE continues to be one of the best training options in the Latin America region. The majority of courses are taught at CATIE headquarters, although a significant number are carried out in the member countries, whether linked to research and development projects or strategic alliances with national or regional institutions.



2277 people from more than **35** countries trained

Capacity building

2277 people from more than **35** countries trained in strategic, special and virtual courses, workshops, diplomas and in the Cooperative Studies Abroad Program (CSAP). Topics: adaptation and mitigation to climate change, diversified management of forests, enterprise development, watershed management, territorial management, ecosystem approaches, rural sustainable development, climatesmart agricultural practices, biostatistics, REDD+ initiatives, sustainable tourism, among others.

CATIE continues training professionals capable of dealing with challenges and problems in agriculture, natural resources, the environment and rural development, as well as with the ability to take advantage of opportunities for sustainable development.

When our graduates return to their countries, they are agents of change, providing leadership and putting into practice the skills acquired during their studies to solve the great problems that affect the territories, such a poverty, food and nutrition insecurity, degradation of ecosystems and the environment, climate change and variability, the decreasing availability and quality of water, desertification and soil degradation and the need to change to a base of renewable energy. All of this falls within a sustainable development approach tied to social and environmental responsibility.

More leaders for change

163 students (85 men and 78 women) from over 15 countries completed our graduate program and 149 obtained their master's or doctoral degree.

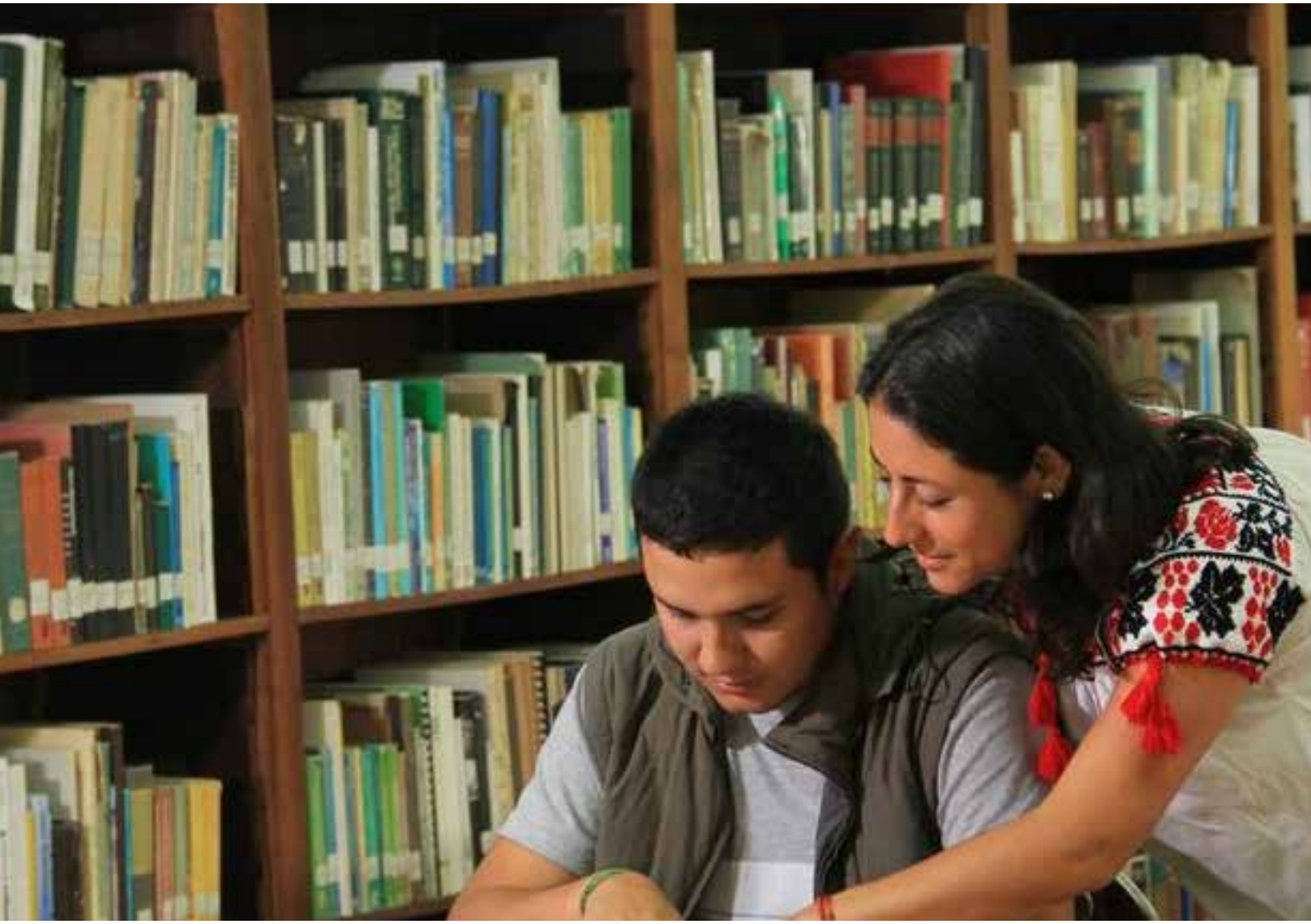
A step forward in gender equity

Up to 1995, only 10.5% of the graduates were women, while from 2006 to 2016, 48.3% of the graduating classes were women. In 2016, the four doctorates and more tan half of the master's degrees were obtained by women from many various countries in Latin America.

Cooperation with different institutions has helped generate a favorable environment for integrated knowledge management. CATIE has more than 65 agreements in place with academic institutions from around the world, including the following:

- Colombia: National University, Manuela Beltrán University, University of Amazonia and International University Foundation of the American Tropics (Unitrópico)
- Mexico: University of Veracruz
- Peru: National Cultural University of Amazonia, Toribio Mendoza National University and the National University of Central Peru
- United States of America: Montana Tribal College President's Association

Finally, the Orton Memorial Library improved accessibility to CATIE's scientific and technical production by strengthening the Institutional Repository with 552 new bibliographical resources, reaching a total of more than 8000. As a result, it enjoys the position of 1207 in the world by the Ranking Web of Repositories (and in fifth place in the nation) and was accepted in the Kimuk National Repository of Costa Rica, in the Federated Network of Institutional Repositories of Scientific Publications (La Referencia) and in TAPipedia.



RESEARCH AND DEVELOPMENT

La primera experiencia con el proyecto del CATIE fue sembrar en el huerto. Nos trajeron las plantitas de tomate y chiltoma y las puse en línea. Nunca lo había hecho antes. Luego, cosechamos y vimos que nos dio bastantes frutos. El cultivo no se da igual que al hacerlo tradicionalmente o fertilizado, se da mejor, la planta y sus frutos tienen un mejor desarrollo. Vamos a continuar implementando lo que hemos aprendido. **Lucio Talabera Cordero, integrante de ECA-MAP, comunidad de La Chata, El Cuá, Nicaragua.**

CATIE's main responsibility is to contribute to the achievement of sustainable livelihoods, agricultural and forestry systems, territories and value chains through systemic and transdisciplinary research.

Toward this end, the institution carried out actions that translated into results with positive effects for the rural population of Central America. This population represents 41.4% of the total population of the region with at least 2.3 million families that are dependent on agriculture.

These actions included continued strengthening of the implementation of the climate smart territory (CST) approach in several countries of the region. For example, three local development plans were formulated (two in NicaCentral and one in Trifinio); support was given to the consolidation of two territorial information systems (the Gescon Network in NicaCentral and SINTET in Trifinio) and both actions were part of the Mesoamerican Agro-environmental Program (MAP); CST creation was promoted in 15 countries (through the Ibero-American Model Forest Network); and CST technical capacities were strengthened in local public and private institutions.

The CST approach, among others, was incorporated into the territorial management action plan of the Central American Rural Territorial Development Strategy (Spanish acronym ECADERT) and the strategic plan of the Trifinio Food and Nutritional Security Network.

In the period 2015-2016, CATIE continued its consolidation as a regional research and development platform. New initiatives and international organizations were added to this platform such as the 20x20 Initiative (led by WRI, CATIE, CIAT and others), the Chinese Academy of Forest Sciences, the Korean Rural Development Agency, and new public and private institutions such as Illy Coffee, USDA, Mars Incorporated, Global Crop Diversity Trust (GCDT) and GIZ.

Publications that contribute to knowledge management

Activities developed under the framework of the platform produced a total of 481 publications during 2015-2016.

Cooperation with CGIAR programs was also strengthened: Climate Change, Agriculture and Food Security (CCAFS), Bioversity International, World Agroforestry Center (ICRAF), and Forests, Trees and Agroforestry (FTA); and a proposal for the scientific framework of the Mesoamerican Scientific Cooperation Platform for Agroforestry Systems with Perennial Crops 2017-2027 was formulated.

The institution also continued its efforts to conserve and distribute the germplasm it safeguards. Toward this end it managed to maintain its coffee, cacao, pejibaye (peach palm) and fruit tree collections. The collection of orthodox seeds with more than 6000 accessions was examined, classified and entered into a new digital program for germplasm administration.

Coffee and cacao materials distributed throughout the world

More than 250 varieties of coffee and cacao clones have been distributed to 10 different countries.

With respect to plant breeding activities, new coffee hybrids were created (in a project with World Coffee Research and the Center for International Cooperation in Agricultural Research for Development), and a new methodology was developed to produce coffee microplants in the laboratory in solid culture media. In the field, a new method for the reproduction of F1 hybrids was developed using rooted cuttings.

Taking these advances into account, an agreement was consolidated and signed with the company GAIA ARTISAN COFFEE S.A. for the mass reproduction of coffee hybrids. This agreement is a first step for the commercial promotion of the hybrids as an alternative to the traditional varieties, given their high productivity, leaf rust tolerance and good cup quality traits.

A través de la empresa GAIA ARTISAN COFFEE S.A. se han distribuido más de **70 000 plantas de híbridos de café que son más productivas y tolerantes a la roya del café** entre pequeños productores caficultores.

CATIE also gained new support for the conservation of cacao germplasm from EarthCorp (United States), Barry Callebaut (Brazil), Lindt (Switzerland) and the United States Department of Agriculture (USDA)-Puerto Rico, and contributions will continue from USDA-Miami and MARS, Nestlé, World Cocoa Foundation, Felchlin (Switzerland), Hershey (United States) and GIZ.

CATIE program contributions to key issues

During 2015 and 2016, CATIE supported priority actions in its member countries through its research and development programs:

Research on Development, Economy and Environment

EThis program positioned CATIE as a reference institution in the field of environmental economics in Latin America and the Caribbean. In 2016, 259 agricultural producers and beekeepers were trained through three different projects (CASCADA, Proyecto Crédito and PROMIEL) and 16 value chains were strengthened in the agricultural, forestry and livestock sectors of eight Latin American countries.

In addition, in 2015 the program commemorated the tenth anniversary of the Latin American and Caribbean Environmental Economics Program (LACEEP) and supported the creation of the Association of Environmental Economists for Latin America and the Caribbean.

Production and Conservation in Forests Programs

To address new needs in the region, the Forests program created two new components, the Forest Management and Climate Change Unit and the Latin American Chairoin Forestry Policy and Economics (CLAPEF). The latter initiated a new project in 2016 (GreeTS) that aims to promote green economies in Costa Rica and Vietnam.

For its part, the Ibero-American Model Forest Network contributed to the implementation of climate smart territories in 15 countries. Forest restoration was also promoted in Central America by leading an innovative process under the 20x20 Initiative to channel funds from European impact investors.

Forestry and conservation actions also had technical and political level impacts in Costa Rica, Nicaragua, El Salvador, Honduras and Guatemala.

Sustainable Agriculture and Agroforestry

During 2015 and 2016, the actions of this program were focused on strengthening Central American coffee production. This is why the program supported the formulation of the Central America Program for Integrated Coffee Leaf Rust Management (PROCAGICA) and the first NAMA (Nationally Appropriate Mitigation Action) for coffee in Costa Rica and the world.

Moreover, it distributed coffee hybrids in Costa Rica, Nicaragua and Guatemala (as part of CGIAR's Forests, Trees and Agroforestry program), and in collaboration with the Costa Rican Coffee Institute (ICAFE) it created a training program for technicians and farmers on coffee production systems, an experience that was replicated in Guatemala and Honduras.

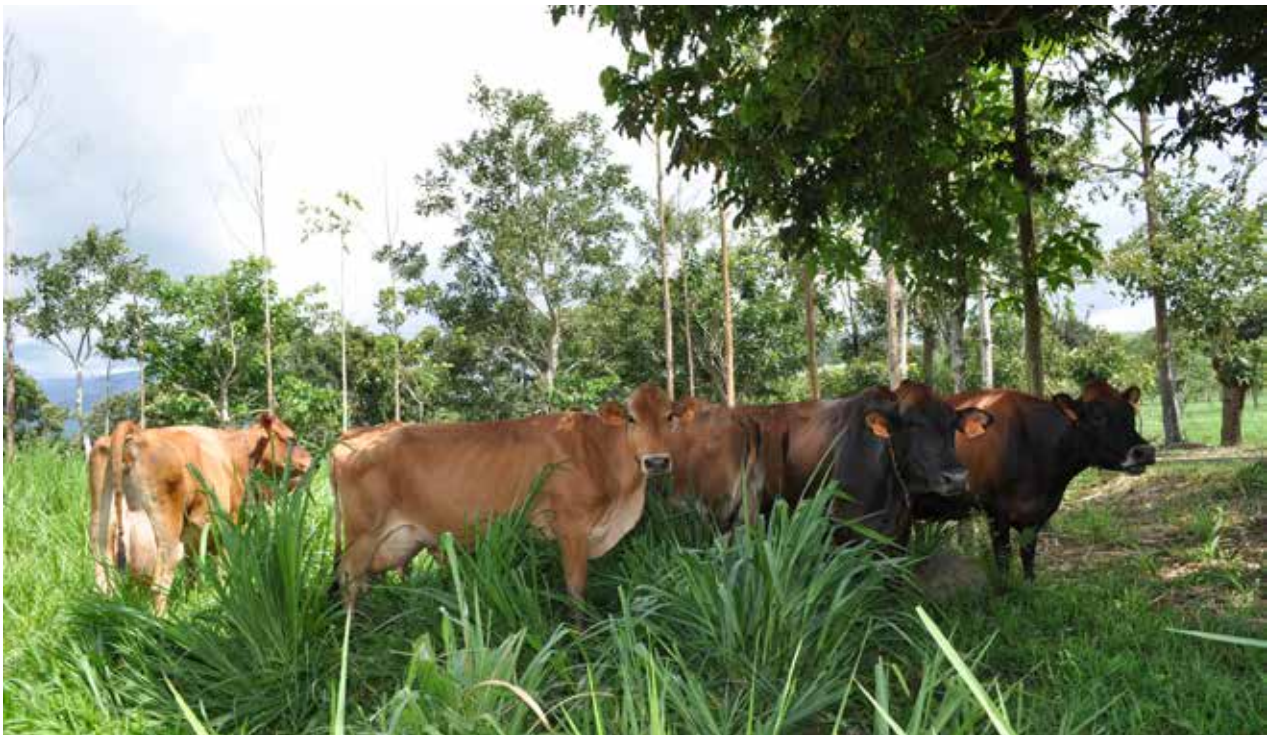
Livestock and Environmental Management

Thanks to the strategic relationships that this program developed with partners in the livestock sector of Costa Rica, Nicaragua, Honduras, Colombia and Mexico, six research and training projects were approved in 2015 to address national and regional needs for the promotion of sustainable livestock production.

The development of sustainable, climate-adapted, low emission livestock production requires new knowledge and new skills. Toward this end, GAMA:

- Contributed to the formulation of the Low Emissions Livestock Production Strategy and the Livestock NAMA for Costa Rica
- Led the launch of the Climate Smart Agriculture regional initiative that was signed at the Paris COP
- Obtained the backing of the Central American Agricultural Council (CAC) to improve SICA's regional policy and exploit the integral value of manure
- Worked on the issue of certification for livestock farms and incentive mechanisms for sustainable livestock production and green markets in Nicaragua

- Adapted Field School protocols for cattle ranching landscapes in Honduras
- Created a Livestock NAMA for Honduras with national institutions
- Determined baseline greenhouse gas emissions in livestock of Honduras and Nicaragua
- Evaluated the adoption of best livestock production practices through payment for environmental services
- Obtained the approval of the BioPaSOS project to promote the use of climate-smart agroforestry systems in cattle ranching landscapes of Mexico (financed by IKI/BMU-Germany)
- Trained professionals and technicians from government institutions and ministries, as well as community promoters, facilitators and university students on livestock and environmental issues



Climate Change and Watersheds

Capacity-building was a key work area and in 2016 around 397 people improved their knowledge by learning about leadership and governance in planning processes for adaptation and mitigation in productive territories, adaptation to climate change, conservation of biodiversity in protected wildlands, and REDD+.

The second key work area was technical assistance. For this, the Latin American Chair for Environmental Decisions on Global Change (CLADA) created a methodology to help insurance operators with the

assignment of insurance for the producers of 12 crops, and it involved the ASADAS of Guanacaste, Costa Rica, in the Futuragua project to help them cope with drought and training in water management.

In addition, the WaterClima-LAC Coastal Zone Management project created methodologies for assessing vulnerability to climate change, water ecosystem services and climate risk. This project had an impact on the management of resources for more than 80 institutions through knowledge exchange.

Another outstanding PCCC project was EcoAdapt, which developed strategies for adaptation to climate change, incorporating principles of the Climate Smart Territories approach in the Jujuy Model Forest in Argentina, the Chiquitano Model Forest in Bolivia, and the Araucarias Model Forest of Alto Malleco in Chile.

Finally, the program initiated the first two global technical assistantships for the CTCN, one in Chile and the other in Colombia, the two countries that are pioneers in the development of national metrics for adaptation to climate change in developing countries

Regional Climate Change Program (RCCP)

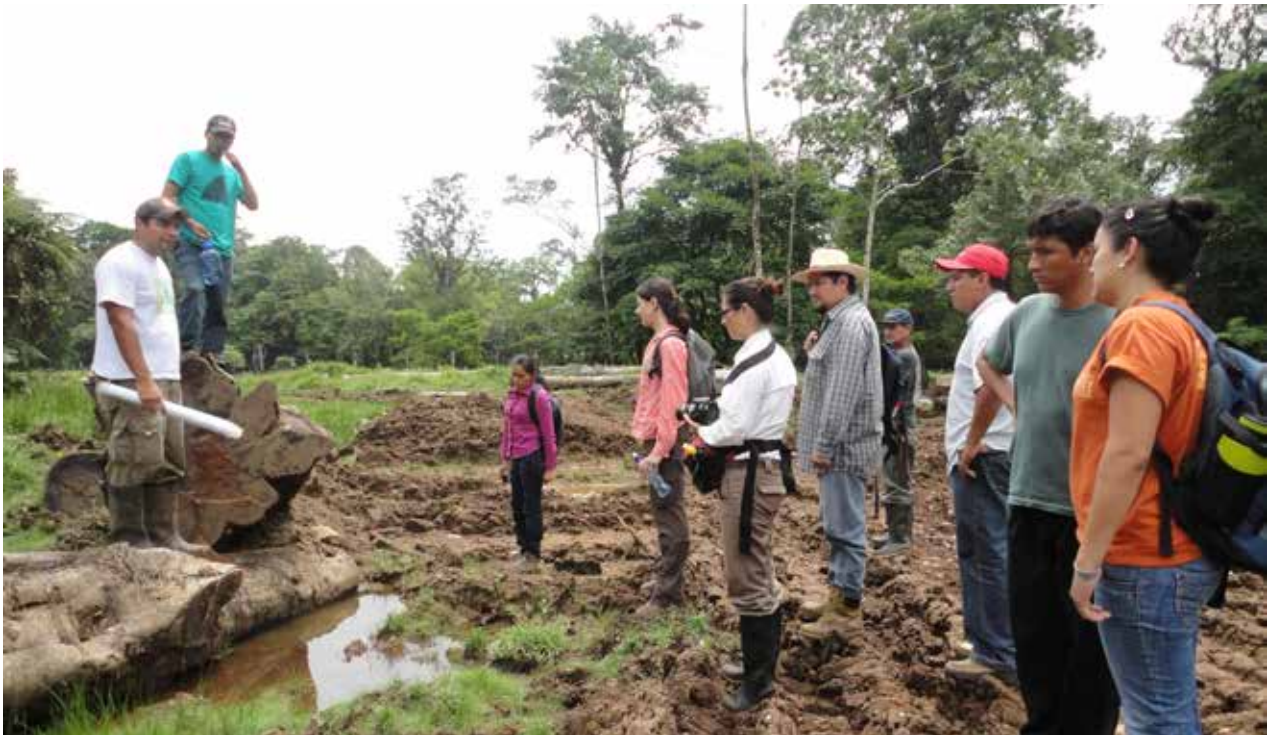
The Regional Climate Change Program is a five-year cooperative initiative of the United States Agency for International Development (USAID), implemented by a CATIE-led consortium with the participation of the International Union for the Conservation of Nature (IUCN), CARE, DAI and Terra Global, with technical support from the US Environmental Protection Agency (EPA) in coordination with the Central American Commission for Environment and Development (CCAD).

Under this framework, CATIE and its implementing partners provide technical assistance to governments and civil society organizations in Central America and the Dominican Republic to promote sustainable territories by improving the availability, access and use of climate information for decision-making and helping to strengthen environmental management.

Some of the most important achievements of the program for the period 2015-2016 are highlighted below:

- Supported the development of Restoration Strategies for Guatemala, El Salvador, Honduras and Costa Rica.
- Provided technical assistance for the formulation of the National Emission Reduction Programs for Guatemala, the Dominican Republic and Costa Rica.
- Supported the design and implementation of the REDD+ Monitoring, Reporting and Verification System for Guatemala, El Salvador, Honduras, Costa Rica and the Dominican Republic.
- Developed and validated a Protocol for Free, Prior and Informed Consent (FPIC).
- Formulated a blue carbon methodology to quantify the existence of CO2 stocks in mangroves of the region.
- Developed a methodology to identify and implement synergies between adaptation and mitigation (SAM).
- Provided technical assistance to the Regional Strategic Program for Forest Ecosystem Management (PERFOR).
- Ten professionals from the region graduated with master's degrees in fields related to sustainable landscapes and climate change.
- Developed Centro Clima, the first climate information system for Central America and the Dominican Republic, as well as climate information tools for users in the coffee and fisheries sectors.
- Trained 811 users on climate change, adaptation and climate information with a focus on coffee and biodiversity of coastal marine systems.
- Installed a video conference communication system for the region's meteorological services and the Regional Hydrological Resource Center (CRRH) to facilitate the generation of its regional climate products.
- Supported the CRRH in the organization of the Central American Climate Forum to generate climate prospects for the region.

- Trained 258 staff persons from environmental authorities, municipalities, universities, civil society and private sector entities on appropriate landfill and wastewater management as well as environmental case law, with the support of 20 EPA experts.
- Provided technical assistance for updating the environmental impact assessment monitoring system for the Ministry of the Environment of the Dominican Republic.



Mesoamerican Agro-environmental Program (MAP-Norway)

Between 2015 and 2016, 4318 families (8000 people, 51% women) in NicaCentral (north-central area of Nicaragua) and Trifinio (the border area between El Salvador, Guatemala and Honduras) completed their learning processes. The families were grouped into 263 multi-thematic Field Schools (ECAs) for training on climate change, nutritional education, gender equity, and household setting and multi-commodity improvement (vegetables, basic grains, coffee, cocoa and pastures). During the period the families participated in 3300 ECA sessions and 29,500 technical assistance sessions. A total of 68 climate-smart agroecological and agroforestry technologies were shared with families through ECA sessions. Most of these technologies were evaluated based on the three pillars of Climate Smart Agriculture (production, SAN, climate change adaptation and mitigation).

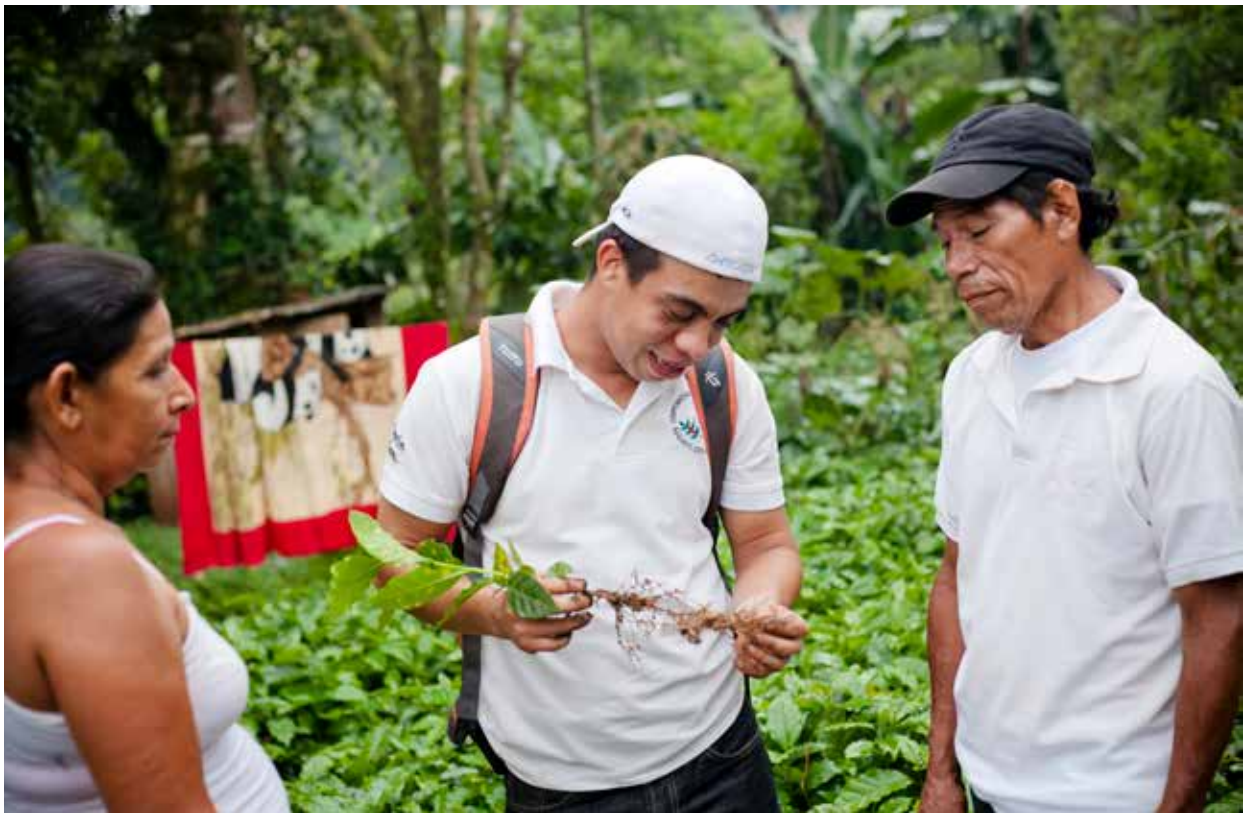
As a result, the average number of food produced by families in both territories increased significantly, from eight foods in 2013 to 16 in 2017. The increase in family food production is related to diversification of the diet. Families incorporated a wide variety of foods, increasing the average number of foods they consume within each food group. For example, in both territories, between 2013 and 2016, the average number of foods consumed in the leafy green vegetable group increased from 2.8 to 7.5 and in the cereal and tuber

group from 2.8 to 5.3. For the fruit, meat, egg, fish and dairy groups, a reduction in the average number of foods consumed was observed from 2013 to 2015; this situation began to recover in 2016, reaching levels higher than those observed in 2013. The decline observed until 2015 could possibly be related to the drought that was experienced in 2014 and 2015.

MAP-Norway also strengthened the socio-organizational and business capacities of 630 participants (44% women) from 30 producer organizations through 44 sessions of the Territorial Business Training School with a focus on gender, equity and climate change. These organizations now offer 36 new products linked to priority value chains and the work provides income for their families.

In 2016, MAP-Norway held the first International Course on Identification, Assessment and Promotion of Climate Smart Agriculture (CSA) Practices, in which nearly 40 people from 10 countries in Latin America and the Caribbean participated. It also held on-site and virtual workshops about CSA to representatives of the region's ministries of agriculture, livestock and environment.

In order to scale up its apprenticeships and the CST approach, MAP-Norway signed 24 agreements with producer organizations, educational institutions and territorial platforms in 2016. These have the potential to reach 38,971 families, 704 technicians, 292 teachers/researchers and 1567 students. The program also methodologically supported the implementation of the Trifinio Plan Trinational Commission's Strategic Plan (2014-2018) for the food and nutritional security policy of the Trinational Lempa River Commonwealth (Spanish acronym MTFRL) in Trifinio and the management plan for the Peñas Blancas hydrological reserve, which incorporated CST principles.



MAP Norway in numbers

- 4318 families trained
- 263 Field Schools
- 68 agroecological and agroforestry technologies implemented
- 44 sessions of Territorial Business Training Schools
- 36 new products
- 24 new agreements for upscaling

IICA and CATIE Cooperation

Following the resolution of the Inter-American Board of Agriculture (IABA), CATIE and the Inter-American Institute for Cooperation on Agriculture (IICA) have strengthened their relations. Under the framework of a cooperation agenda developed by the two institutions, they have managed to support one another in the areas of education and research with projects such as PROCAGICA and BioPaSOS; as well as at the country level including Nicaragua, Guatemala, Belize and Mexico.

ACTIONS IN THE COUNTRIES

"I like the way we learn in farmer field schools; we have already improved our knowledge and we share our experience with the group. It is a space where one feels the confidence to share and discuss with everybody how to apply what is learned in the trainings." Luisa López Manzanares, Maizama, Muy Muy, Matagalpa Nicaragua.

Guatemala

CATIE initiatives in Guatemala during 2015 and 2016 promoted integration with institutional projects and strategic alignment with policies and agencies of the public sector in the country.

During this time, CATIE led initiatives related to 10 national policies and six international agreements. In coordination with different CATIE programs, 10 agricultural chains were analyzed, work was carried out with 2033 persons in 33 Farmer Field Schools (FFSs) in the Trifinio area to incorporate the climatesmart territorial approach (CST) in several local development instruments and an initiative was developed to implement climate-smart production systems in 15 municipalities in southeastern Guatemala.

At the local level, the National Office led the first Local Extension System (SLE) to promote a strategic model of municipal coordination in San Juan Comalapa, Chimaltenango, and developed strategic management and sustainability of 890,55 ha in Acatenango Volcano, thus helping strengthen the Guatemalan System of Protected Areas (SIGAP, Spanish acronym).

Likewise, CATIE coordinated with the Ministry of Agriculture, Livestock and Food (MAGA) to implement a Gender Policy, utilizing inputs from the CATIE-MAGA-NORWAY Project and participated in strategic spaces such as the National Bureau of Restoration of the Forest Landscape (MRNPF) and the Guatemalan System of Climate Change Science (SGCCC).

Capacity building

- More than 1300 farmer field schools (FFSs) given
- More than 15 000 people (families, technical personnel, researchers, administrators and extension workers) trained in topics such as
    - quality and sanitary and phytosanitary measures
    - ecosystem services
    - mitigation and adaptation to climate change
    - development planning
    - land-use planning
    - local extension systems
    - equity and gender
    - agroecology
    - governance
    - forest management

Panamá

In this country, CATIE contributed to actions in sustainable forest management and forest governance; provided technical assistance in strategic planning to the newly created Forestry Office of the Ministry of Environment; strengthened the capacities of 15 organizations that work on projects related to forests, provided technical assistance to the National Commission for Rural Territorial Development (in coordination with FAO and IICA); supported development of the climate change plan (with Miambiente, IICA and FAO); and attended the livestock union (National Association of Livestock Producers-ANAGAN) to identify good production practices that reduce greenhouse gas (GHG) emissions.

CATIE's National Office in Panama had an impact on five national policies on rural development, climate change, water resources, forest management and decentralization of environmental management.

Capacity building

- 900 producers and 375 professionals trained in topics such as:
    - climate change
    - soil management
    - smart agriculture
    - water footprint in livestock
    - watershed restoration

Honduras

The National Office in Honduras worked on a strategy for adaptation to climate change and management of disaster risks; held eight local and national events on issues such as the National REDD+ Strategy, climate smart territories (CST), adaptation to climate change, environment, sustainable forest development and agroforestry systems with cocoa.

Promoted the CST approach in five pilot sites; contributed to the National Strategy for Adaptation to Climate Change for the sector; held several fairs and congresses and disseminated technical information in the platforms Global Water Partnership-GWP, National Federation of Farmers and Cattle Producers of Honduras (FENAGH), Honduran Network of Water and Sanitation (RASHON) and the cacao chain.

Capacity building

- More than 450 training events
- 600 families graduated in FFSs
- 2303 people acquired new knowledge through 162 short courses (34% of them were women)

El Salvador

During 2015 and 2016 the work of CATIE in El Salvador was developed according to the needs and priorities of our main strategic partners, academia, the private sector, non-governmental organizations, municipalities and civil society.

As a member of the Round Table on International Cooperation for Agriculture, CATIE participated in various coordination meetings and two national strategic forums. CATIE helped develop the Plan for Sustainable Local Development for the Bahia de Jiquilisco Biosphere Reserve. It also developed the Management Plan for the Microwatershed of the San José River in Metapán, and signed a contract with the Ministry of Environment and Natural Resources (MARN) to provide technical assistance in the formulation of the National REDD+ Strategy. In addition, as support to the Ministry of Agriculture and Livestock (MAG), we reviewed the Strategy for Climate Change and Climate Change Policy.

Capacity building

- Technical staff of MAG on use of the “Adaptive Capacity to Climate Change” methodology (through MAP).
- Personnel of local governments in La Paz, San Vicente and Usulután trained on assessment and analysis of the legal framework for the area of environmental management and land-use planning (through the Water- Clima-LAC).
- 60 technicians and staff of local organizations and the public sector trained in environment and sustainable agriculture issues.
- 120 families trained in diversifying production, capacity building and governance support.

Nicaragua

In Nicaragua, CATIE signed an agreement with the Peñas Blancas Platform, continued working with the coordination round table for technical and financial cooperation and contributed to the proposal for environmental management planning with the mayor of Rancho Grande and the municipality of El Tuma, La Dalia, in Matagalpa.

Capacity building

- Increased productive yield for families that manage the technology of the half-orange kiln to produce charcoal
- 35 new farmer field school facilitators in Matagalpa, Jinotega and the North Caribbean Coast Autonomous Region
- 5000 persons through forums, courses, workshops and field schools with producer families.
- 1600 families are applying practices for the use and diversification of their patios, their farming and livestock-raising activities a product of what they have learned in farmer field schools.
- 1800 families applying methodologies and technologies for business plans, home garden Production, sanitary management of major and minor livestock, agroecological management of pests and diseases of cocoa, coffee and basic grains.

Mexico

CATIE in Mexico, through the institutional liaison figure, strengthened the coordination at a governmental level with the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food, (SAGARPA), the Secretariat of the Environment and Natural Resources (SEMARNAT), the National Commission for the Knowledge and Use of Biodiversity (CONABIO), Autonomous University of Chiapas (UNACH), theAutonomous University of Yucatan (UADY), FAO, Rainforest Alliance, GIZ and Ecoagriculture Partners and secured funding from donor friends of CATIE, such as GEF, ICI/BMU and the World Bank.

The high-productivity cacao clones tolerant to frosty pod rot (moniliasis disease) developed by CATIE, together with diverse partners, were put at the disposition of Mexican producers at the end of 2016, in collaboration with the National Institute of Forestry, Agriculture and Livestock Research (INIFAP), Nestlé and the ECOM Agroindustrial Corporation.

CATIE also contributed to landscape restoration in Mexico in support of the 20x20 Initiative, assisting the National Forestry Commission (CONAFOR), Reforestamos México, the International Union for Conservation of Nature (IUCN) and Pronatura-Yucatan Peninsula.

New proposals

- CATIE and Reforestamos México: training of decision makers at the national level and in the southern states of Mexico, of the Wildlife Without Borders-México Program (WWB-MEX) of the Fish and Wildlife Service of the United States.
- CATIE and IICA: introduction, multiplication and distribution of F1 coffee hybrids in five Mexican states, including technical assistance and training of extension services.
- CATIE, IICA, CONABIO and SAGARPA: new project in Chiapas, Yucatan Peninsula and Jalisco to promote agrosilvopastoral systems, climate-smart territories in livestock-producing landscapes

New agreements

- CATIE-Coffee Institute of Chiapas (INCAFECH): assistance of CATIE in setting up the institute and training personnel.
- CATIE-Autonomous University Chiapas (UNACH): academic collaboration, CATIE assistance and training.

Colombia

CATIE worked with Colombian entities (UN Refugee Agency-UNHCR, International Center for Tropical Agriculture-CIAT, Natura Foundation, government of Risaralda, government of Chocó and universities) to create Research and education proposals, focused especially on post-conflict topics and REDD+ for peace, as well as others that respond to the 20x20 Initiative.

Capacity building

- Courses in the University of Amazonia, University of Applied and Environmental Sciences, University of Ibagué and University of Tolima.
- In partnership with Louis Berger Colombia SAS, a proposal was prepared to develop a National Climate Change Plan, a competitive process promoted by USAID. With the business INTEGRATION, another proposal was prepared for technical assistance to the Multi-Annual Indicative Program for Colombia.

Bolivia

CATIE and FAO delivered the first National Program for Productive Strengthening of the Cacao Sector in Bolivia 2016–2020 to the Ministry of Rural Development and Lands (MDR&T).

CATIE also presented a study on adaption to climate change for the Yucumo-San Borja and San Borja-San Ignacio highway project, which aims to Research and learn about the dynamics of the flooding phenomenon in the plains of the Department of Beni, considering the hydrological and hydrometeorological seasonality under different scenarios of climate variation.

The Ministry of Rural Development and Lands (MDR&T) united efforts with CATIE, FAO and IICA to “support the strengthening and development of sustainable agri-food and production systems in the Bolivian Amazon.

Capacity building

- Course on modern cacao farming, in alliance with the municipality of San Carlos and the association of cocoa producers APROCAB.

New agreements

- CATIE-GIZ/PROAGRO: applied research activity and training in international courses and

FINANCE

CATIE's new administration, which took office in March 2016, faced great challenges, including a financial and administrative review of the institution. Management has been focused on maintaining the levels of income and expenses within the approved budgets, having greater control and proper financial discipline, and adapting the operational and cost structure to current economic capabilities.

	Unit	2015	2016	Variation
Operational surplus	in USD thousands	(187)	474	353%
Net surplus	in USD thousands	(530)	39	107%
Total assets	in USD thousands	18,418	16,385	(11%)
Total liabilities	in USD thousands	2,870	2,388	(17%)
Net assets - unrestricted	in USD thousands	7,637	7 675	-
Net assets - restricted	in USD thousands	7,911	6,322	(20%)
Institutional liquidity ratio	times	3.4	3.3	-
Indebtedness	%	2	1	(50%)
Recovery of membership quotas	%	29	29	-
Internal financing	in USD thousands	1,761	1,532	(13%)
Cost coverage of basic functions	%	64	73	14%
Contribution of productive activities	in USD thousands	478	553	16%

The financial results achieved a net surplus of almost USD 39,000—with reductions in income projected in the unrestricted core fund by almost USD 426,000 and the increase in costs of non-financial items (depreciations and others) by almost USD 12,000.

Behavior of revenues and expenses

In comparison with the year 2015, the income for the different accounting funds fell 15% while operational expenses declined 17%. Nevertheless, in 2016, the operational results went from a deficit of USD 187,000 to an operating surplus of USD 474,000. The accounting losses due to adjustments in the fair value of assets reduced that surplus to USD 39,000.

CATIE reduced its portfolio of external agreements (from USD 18 million in 2015 to USD 14.5 million in 2016 (-19%), therefore reducing its net restricted assets (-20%) and total assets (-11%). The principal reason for the reduction in total assets was a decline in the availability of cash and cash equivalents (USD 1.4 million) and in accounts receivable from member countries (USD 0.5 million).

The level of indebtedness in 2016 declined 50% with respect to 2015 and now is minimal in comparison with total assets. The measures adopted to reduce costs, increase operational efficiency and improve market conditions brought about a USD 35 000 increase in financial contributions to the unrestricted core fund from productive activities and institutional services.

Although the indicators of financial liquidity reflect positive results at the institutional level, they are a challenge for CATIE in the short-term. The low percentage achieved in cancelling membership quotas (29%) and the high level of delinquency (USD 3.5 million), as well as well as the granting of almost USD 1.5 million in internal financing with delays in its recovery, reflect that the uncommitted financial liquidity (excluding funds from external agreements) is unsatisfactory.

The measures and efforts of the new CATIE administration to reduce costs (promoting greater austerity and optimizing the use of institutional resources) allowed maintenance of administrative efficiency indicators (5%) and improvement in coverage of costs for basic functions (increase of 14%) with respect to 2015.