

2.0 Costa Rica

CATHALAC Centro del Agua del Trópico Humedo para America Latina y el Caribe (Water Center for the Humid Tropics of

Latin America and the Caribbean)

CATIE Centro Agronómico Tropical de Investigación y Enseñanza (Tropical Agriculture Research and Higher

Education Centre) (Spain)

CCAD Comisión Centroamericana de Ambiente y Desarrollo (Central American Commission for Environment and

Development)

CIAT International Center for Tropical Agriculture
CIFOR Center for International Forestry Research

ENCC Estrategia Nacional de Cambio Climático (National Climate Change Strategy)

IADB Inter-American Development Bank

INIA Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (National Institute for Research and

Technology in Agriculture and Food) (Spain)

MINAET Ministerio de Ambiente, Energia, y Telecomunicaciones (Ministry for Environment, Energy and

Telecommunications)

RIOCC Red Iberoamericana de Oficinas de Cambio Climático (Ibero-American Network of Climate Change Offices)

SICA Sistema de la Integración Centroamericana (Central American Integration System)

SIECA Sistema de Integración Económica Centroamericana (Central American Economic Integration System)

UNDP United Nations Development Programme

UNFCCC United Nations Framework Convention on Climate Change

USDS United States Department of State

Widely known for its rich biodiversity—and efforts to conserve this biodiversity by placing more than 26 per cent of its land under protection—Costa Rica has developed a diverse economy that includes tourism, the export of agricultural products (principally bananas, pineapples and coffee), and light manufacturing (including the micro-processors and pharmaceuticals). Costa Ricans have the highest standard of living within Central America, with per capita income averaging about US\$10,570 (USDS, 2011).



A. Adaptation Needs and Priorities

Costa Rica's currently experiences climate hazards mainly in the form of storms and hurricanes. These typically occur in context of El Niño and La Niña events, which tend to change precipitation distributions and can therefore lead to abnormally dry or wet conditions. Few changes in the frequency, intensity and duration of these events have been observed so far, and future trends are uncertain. Climate change is expected to increase temperatures by 2° to 3°C in much of country by the end of the century; however, in some areas daily maxima might increase by as much as 8°C. Rainfall is expected to decrease by up to 50 per cent in some areas and increase by around the same percentage elsewhere. In most parts of Costa Rica, changes will be within the plus or minus 20 per cent range (MINAET 2009).

In light of these projections, Costa Rica's "National Climate Change Strategy" (ENCC; MINAET 2007) identifies seven sectors as being particularly vulnerable to climate change: water; energy; agriculture; fisheries and coasts; human health; infrastructure; and biodiversity. It and the two National Communications Costa Rica has so far submitted to the United Nations Framework Convention on Climate Change (UNFCCC) also identify some general and more specific adaptation measures for these sectors. Costa Rica has not yet prioritized these possible adaptation measures.

B. National Level Policies and Strategic Documents

The government of Costa Rica has long been involved in climate change discussions at the international and national levels. Its current "National Development Plan" for 2006 to 2010 acknowledges the importance of climate change and recommends the elaboration of a national program on the issue. In lieu of a program, the Ministry for Environment, Energy and Telecommunications (MINAET) established a "National Climate Change Strategy" that recommends the mainstreaming of adaptation and climate change in general into sectoral programs and prioritizes the previously identified seven sectors for adaptation. Costa Rica is presently elaborating an action plan to support implementation of the "National Climate Change Strategy." This action plan is expected to be implemented by mid-2012.⁵⁵

In addition, Costa Rica presently has detailed propositions available at the sub-national level. For instance, there is an adaptation strategy for the water sector of the Northwestern Zone of the Greater Metropolitan Area around the capital San José. For the Huetar Norte region, a climate change strategy that covers both adaptation and mitigation has been created. In addition, a recent study was conducted on the implications of climate change (both mitigation and adaptation) for protected marine areas, but there is no evidence of a formalized strategy addressing this issue to-date.

⁵⁵ Personal communication, representative of the Adaptation Partnership, October 2011.



MINAET, through the Climate Change Office, is the focal point for climate change issues in Costa Rica. As such, the Ministry, through the National Meteorological Institute, has elaborated the country's National Communications as well as the various national and subnational strategic documents. It has received support from the United Nations Development Programme (UNDP) and Global Environment Facility (GEF), among others, to accomplish these goals.

Costa Rica is also a member of Central American Integration System (SICA), the institutional framework for the integration of Central American states, and of the Central American Commission for Environment and Development (CCAD), a committee which brings together environmental ministries of SICA member states. Under the auspices of SICA and CCAD, a regional climate change strategy has recently been developed (CCAD and SICA, 2010). The strategy summarizes climate information and sectoral vulnerabilities. It also proposes six strategic areas for action, of which one is themed "Vulnerability and adaptation to climate variability and change, and risk management". Nine strategic objectives with over 150 measures relating to disaster risk reduction, agriculture and food security, forest ecosystems and biodiversity, water, human health, coastal-marine systems, tourism, indigenous people and public infrastructure are mentioned under this theme. Other strategic areas are: mitigation; capacity building; education, awareness raising, communication and participation; technology transfer; and international negotiations and management. MINAET explicitly refers to the CCAD in its 2009 "National Climate Change Strategy."

Table 1: Key Government Policies and Reports reflecting Adaptation Needs, Priorities and Planned Actions

Naı	ne of Policy Action	Government Division Responsible	Status	Sector(s) of Focus	Summary description
1.	First National Communication to the UNFCCC	Ministry of Environment and Energy	Released in 2000	Multi-sectoral	Identifies the potential impact of climate change on water, coasts and agriculture. A few general recommendations on adaptation are included, but no specific measures are proposed or prioritized.
2.	Second National Communication to the UNFCCC	Ministry of Environment, Energy and Telecommunication	Released in 2009	Multi-sectoral	Identifies climate scenarios for different regions for the country. Presents the results of a detailed study on the vulnerability of the Valle Central region, with a focus on water resources as a cross-sectoral issue and a detailed list of adaptation measures for different sectors (forests, agriculture, livestock, public services, health, housing, organization and infrastructure). Furthermore, impacts, vulnerability and some adaptation measures are presented for the biodiversity and health sectors.
3.	National Development Plan	Ministry for National	Released in	Multi-sectoral	Presents challenges, vision, goals and strategic actions for five



Na	me of Policy Action	Government Division Responsible	Status	Sector(s) of Focus	Summary description
	2006–2010	Planning and Economic Policy	2007		sectors (social policy; productive policy; environment, energy and telecommunications; institutional reform; and foreign policy). The "National Climate Change Plan" is mentioned under the sectoral targets and strategic actions of the environment, energy and telecommunications section, and under foreign policy.
4.	National Climate Change Strategy	Ministry of Environment, Energy and Telecommunication	Released in 2009	Multi-sectoral	The "National Climate Change Strategy" is meant to implement the respective stipulations of the "National Development Plan 2006–2010." It also refers to the "Regional Climate Change Strategy for Central America." The strategy is divided into an international and a national agenda. Adaptation is one of five chapters of the national agenda. Seven sectors (water, energy, agriculture, fisheries and coasts, health, infrastructure and biodiversity) are prioritized. For each of them, a short summary on vulnerability and adaptation is presented. Implementation of the strategy is to be led by the Ministry for Environment, Energy and Telecommunication in collaboration with all affected sectors.
5.	National Development Plan 2011- 2014	Ministerio de Planificación Nacional y Política Económica (Ministry of Planning and Political Economy)	Released in 2010	Multi-sectoral	A vision in the plan is securing economic growth through sustainable practices. Within this pillar is "Environment and the Land-Use Planning," which promotes renewable energy, rational use of resources, land-use practices that incorporates environmental changes, and the protection of ecosystems and freshwater supply, among others.
6.	Climate Change Strategy: Huetar Norte Region	Ministry for Environment and Energy	Released in 2007	Multi-sectoral	Presents a regional strategy for Huetar Norte on both mitigation and adaptation. The adaptation section presents vulnerabilities and adaptation measures for several sectors.
7.	Climate Change Adaptation Strategy for the Water System in the Northwestern Zone of the Greater Metropolitan Area	Ministry for Environment and Energy	Released in 2007	Multi-sectoral	Elaboration of this strategy was part of the project "Enhancing National Capacities for Climate Vulnerability and Adaptation Assessments of Water Systems in Costa Rica." The project has a focus on water resources. However due to the cross-cutting nature of water, the impacts of climate change on a range of sectors were estimated and a number of prioritized adaptation measures are presented in the form of an action plan.
8.	Action Plan on Climate Change	Ministry of Agriculture	In	Agriculture	This strategy aims to promote efforts in mitigation and adaptation on



Name of Policy Action	Government Division Responsible	Status	Sector(s) of Focus	Summary description
and the Agro-environmental management in Costa Rica 2011- 2014 (Plan de acción para el cambio climático y la gestión agroambiental en Costa Rica 2011-2014)	and Livestock	development		climate change and to establish an agro-environmental strategy for the agriculture production process. Within these objectives it seeks to: address variability and climatic change by reducing emissions and using adaptive measures to reduce vulnerability to extreme climatic events; conduct research in climate-resilient crops and livestock; promote sustainable agriculture practices in order to lessen and prevent environmental pollution; and implement appropriate and sustainable land-use strategies that meet the different needs and demands of the population.

C. Current Adaptation Action

There is a high amount of adaptation programming occurring in Costa Rica relative to other countries in the Central American region. A number of adaptation projects in Costa Rica have already been executed and several are in the course of implementation. Most projects still relate to capacity building and/or vulnerability assessments, and many of them concentrate on the water sector as a cross-cutting issue. A limited number of projects involving the implementation of concrete adaptation measures have been identified so far.

Table 2: Current Adaptation Action in Costa Rica

Na	ne	Objectives	` '	-	Type of project		-	Geographic focus (if any)			
				Agency(s)	project		Sector(s)	locus (II ally)			
Na	National Actions										
1.	Adaptive Natural Resources	To help inhabitants to increase their	World Bank	Ixacavaa	Community-	2008–2010	Agriculture	Bajo Chirripó			
	Management will bolster	capacity to adapt to climate change through			based						
	Cabécar Communities ⁵⁶	the adaptive management of natural	Budget: US\$		adaptation						
		resources and the reduction of vulnerability	195 000								
		to external events using a combination of									
		ancient knowledge and modern technology.									
		Expectations are that (1) more than 50 per									
		cent of families will participate in the									
		ancient knowledge rescue process, (2) at									
		least three products or services will be									

⁵⁶ World Bank, http://wbi.worldbank.org/developmentmarketplace/idea/adaptive-natural-resources-management-will-bolster-cab%C3%A9car-communities



Nar	me	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		made suitable for their integration into the market, and (3) zones at high risk of flooding will be identified and mapped in 50 per cent of the indigenous territory.						
2.	Assessments of Water	Enhance human and institutional capacity to implement, coordinate and monitoring actions required to promote resilience of the water sector to climate change, and strengthen institutional and national capacity to generate and implement climate change adaptation policies and strategies.	Budget: \$398,850	National Meteorological Institute	Capacity building; Policy formation and integration	2008 - Ongoing	Freshwater supply; Government	Whole territory of Costa Rica
Par	ticipation in Regional and Glo	bal Actions			T		1	
3.	Preparedness for Climate Change ⁵⁷	The aim of this program was for the Red Cross and Red Crescent National Societies in countries particularly vulnerable to climate change to gain a better understanding of climate change and its impacts to identify country-specific adaptation measures in line with risks. Activities could include organizing a workshop on risks, assessment of risks through preparation of a	Red Cross/Red Crescent Climate Centre	National Red Cross/Red Crescent Societies	Capacity building; Policy formation and integration	Phase 1: 2006–2009 Phase 2: ongoing	Disaster risk management	Global: 39 countries In Phase 1: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua
		background document, capacity building programs, and developing climate change resilient plans.					ted.	
4.	Effective Adaptation Strategies and Risk Reduction towards Economic and Climatic Shocks: Lessons	This project looks at how farmers are responding to these threats, in order to develop strategies and tools for vulnerable coffee growers facing the effects of global change. A range of methods, including	Inter- American Institute for Global Change Research	Universidad del Valle de Guatemala	Research	2006–2011	Agriculture	Regional: Costa Rica, Guatemala, Honduras, and Mexico

⁵⁷ IFRC, http://www.climatecentre.org/site/preparedness-for-climate-change-programme



Nan	ne	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	from the coffee crisis in Meso-America ⁵⁸	participatory tools, are applied to gather data.	Budget: US\$579,987					
			In Costa Rica: F	enínsula de Nico	ya and Los Sant	os		
5.	Health Vulnerability and Climate Change Adaptation Assessments ⁵⁹	To provide national level evidence of the linkages between climate and health; improve understanding of local and specific health risks and vulnerabilities; provide the opportunity for capacity building; and serve as a baseline analysis to monitor how health risks may be influenced by a changing climate over time.		National Ministries	Assessment; Capacity building	2008–2010	Human health	Global: 15 countries including Bolivia, Brazil, Cambodia, Costa Rica, Ghana, India, Kyrgyzstan, Mongolia and Tunisia
			In Costa Rica: V	ulnerability asse	ssment complet	ted and short	summary availa	ble. ⁶⁰
6.	The Economics of Climate Change in Central America - Phase II ⁶¹	In the second phase of this project an economic evaluation of the impacts of climate change in central America will be undertaken. The aims of the project are to foster a dialogue on different national actions and policy options in order that Central America can meet the climate change challenge. In addition, this project includes a component focused on the impact of climate change in coastal areas—C3A (Cambio Climatico en las Coastas de	IADB, UK, Denmark, Spain, EU, Germany In Costa Rica: A	ECLAC, CCAD, SIECA	Policy formation and integration; Knowledge communicatio n		Government; Coastal zone management	Regional: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama

⁵⁸ IAI, http://iaibr1.iai.int/cgi-bin/SCI Projects Dynamic Pages/CRN2/Factsheets/CRN2 60.pdf and http://www.iai.int/index.php?option=com content&view=article&id=54&Itemid=68

⁵⁹ WHO, http://www.who.int/globalchange/mediacentre/events/2010/costa-rica-consultation-200710/en/index.html

⁶⁰ This report is available at: http://www.who.int/globalchange/mediacentre/events/2010/costa_rica_consultation_200710/SUMMARY_COSTARICA_VA.pdf

⁶¹ ECLAC, http://www.eclac.org/mexico/cambioclimatico/index.html



Nar	ne	Objectives	, ,	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
7.	Capacity Development for Policy Makers: Addressing climate change in key sectors ⁶²	The project is a targeted capacity development initiative that supports two goals: 1. To increase national capacity to coordinate Ministerial views for more effective participation in the UNFCCC process; and 2. To assess investment and financial flows to address climate change for selected key sectors. As a result of this project, both the technical understanding of key climate change issues and their economic and policy implications within the	US\$6,953,413	UNDP	Capacity building; Policy formation and integration; Knowledge communicatio n	2008–2010	Government	Global: 19 countries ⁶³ including Costa Rica, Honduras, Nicaragua
		context of the Convention will be enhanced.	in Costa Rica: 1	he analysis focus			• '	
8.	Climate Policy 2012: Extension of the global project "Capacity Development for Policy Makers to Address Climate Change" The UNDP Regional Bureau for Latin America and the Caribbean has expanded on the global project, "Capacity Development for Policy Makers to Address Climate Change" in the LAC region to provide technical support to national policy makers and its Country Offices and strengthen capacity on budgetary issues related to the post-2012 climate regime.	Spain, UNDP Budget: US\$3.6 million	UNDP	Capacity building; Policy formation and integration	2009–2011	Government	LAC Region ⁶⁶ : Including Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama	
		Activities include technical backstopping for countries that begin to consider adaptation to climate change in their National Development Plans.		ee above descrip	•	•	ry Development	for Policy

⁶² UNDP, http://www.undp.org/climatechange/capacity-development.html

⁶³ These countries are Algeria, Bangladesh, Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, Gambia, Honduras, Liberia, Namibia, Nepal, Nicaragua, Niger, Paraguay, Peru, Saint Lucia, Togo, Turkmenistan and Uruguay.

⁶⁴ UNDP, http://www.undpcc.org/content/costa_rica-en.aspx

⁶⁵ UNDP, http://www.undpcc.org/content/act_latin-en.aspx and http://www.undp.org/climatechange/docs/EEG_Flyer_EN.pdf

⁶⁶ Countries include Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela



Nar	ne	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
9.	Climate Change Vulnerability Evaluation of Coastal and Marine Areas ⁶⁷	This project is part of the "Ibero-American Programme on the Evaluation of Impacts, Vulnerability and Adaptation to Climate Change" (PIACC) and aims to determine the impacts of climate change on the coasts of any country in Spanish and Portuguese speaking countries of Latin America and the		ECLAC, University of Cantabria, national counterparts urther informati	Capacity building; Assessment; Knowledge communicatio n	2009–2011	Coastal zone management	Most RIOCC countries, ⁶⁹ including all in Central America
		Caribbean. It has a particular focus on the dynamics of beaches, estuaries, lagoons, deltas, cliffs and dunes, coastal erosion, flood risks and coastal infrastructure. This initiative is linked to the project "Economics of Climate Change in Central America - Phase II" funded by IADB, UK, Denmark, Spain, EU and Germany.			·			
10.	Mitigation and Adaptation to Climate Change in Sustainable Forest Management in Ibero- America ⁷⁰	Part of PIACC, this project aims to generate new information and knowledge and strengthen the capacity of research institutions in the forestry sector on linking sustainable forest management with adaptation and mitigation to climate	Spain	INIA, CIFOR, CATIE, Polytechnical University of Madrid (UPM)	Capacity building; Research; Knowledge communicatio n	2009–2011	Forestry	RIOCC countries
		change. This includes strengthening specific research activities, developing and disseminating methodologies and case studies, strengthening human resources and fostering the representation of the forest sector in the regional and international dialogue.	In Costa Rica: F	urther informati	on required.		1	'

⁶⁷ RIOCC, http://www.lariocc.net/riocc principal/es/proyectos iniciativas/proy marc piacc.htm

⁶⁸ See ECLAC, http://www.eclac.org/mexico/cambioclimatico/index.html

⁶⁹ The 21 member countries of RIOCC are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Portugal, Spain, Uruguay and Venezuela. Paraguay and Uruguay are not involved in this initiative.

⁷⁰ Proyecto MIA, http://www.proyectomia.com/



Nar	ne	Objectives	7 7	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
11.	Coffee Under Pressure: Climate change and adaptation in Mesoamerica ⁷¹	Evaluating the impact of climate change on coffee in Central America and identifying viable adaptation options for rural communities	Green Mountain Coffee Roasters	CIAT	Assessment	2009–2014	Agriculture	Regional: Costa Rica, El Salvador, Guatemala, Mexico, Nicaragua
				nalysis of climat entification of ac	• .		e locations for co	ffee
12.	Peace Corps Renewable Energy and Climate Change Initiative ⁷²	Across the Americas the Peace Corps will, among other things, increase municipal, school and communities' awareness and knowledge of climate change (including adaptation) and support community-led projects, including on adaptation.	United States Department of State (USDS)	U.S. Peace Corps, USDS	Community- based adaptation; Knowledge communicatio n	Ongoing	Energy	LAC Region: Costa Rica, Dominican Republic, El Salvador, Guatemala, Guyana, Honduras, Nicaragua, Panama, Paraguay, Peru, Suriname
			 In Costa Rica: Three month project completed in 2008. Implementing agency: Women's Association of Guatuso Monte Alegre. Budget: US\$3,333 				Nonte Alegre.	
13.	Integrating Climate Change Adaptation into National Development Processes in Latin America and the	Build climate resilience of vulnerable human and ecological systems in the region by integrating adaptation options into national planning processes and building the		United Nations Environment Programme	Capacity building; Policy formation and	2010–2013	Government; Agriculture; Freshwater supply	LAC Region: Phase 1: 19 RIOCC countries ⁷³

⁷¹ CIAT, http://dapa.ciat.cgiar.org/cup-coffee-under-pression-adaptacion-del-cafe-al-cambio-climatico-en-centroamerica

⁷²ECPA, http://www.ecpamericas.org/initiatives/default.aspx?id=35

⁷³ The 19 RIOCC countries are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.



Name	Objectives	 	Type of project	_	Geographic focus (if any)
Caribbean	associated capacity of key regional and national institutions. The project will: undertake impact and vulnerability assessments; identify good practices and gaps in integrating adaptation into policy and plans; and support adaptation planning and its integration into national development processes. It will focus on the most vulnerable sectors and ecosystems, especially water and agriculture.	urther informatio	integration on required.		Phase 2: 3-5 countries (Dominican Republic 1st country selected)

D. Proposed Adaptation Action

Costa Rica is anticipated to benefit from participation in two regional programs announced by the United States Agency for International Development (USAID).

Table 3: Proposed Adaptation Actions as described in the National Strategy and Action Plan on Environment and Climate Change

Na	me	Objectives	Type of project	Priority Sector(s)	Geographic focus (if any)		
1.	Food Security Program	USAID will support food security programs that focus on ways to protect areas of agricultural production likely to be impacted by climate change. The program will work to reduce disaster risks and	Capacity building; Knowledge communication	Agriculture; Disaster risk management	Central America		
		information and as Forth absorbation data LICAID will halp build the	Notes: From USAID Fast start finance notes; US\$300,000 for the whole of Central America.				
2.	Coastal zone adaptation	USAID will invest an additional US\$1 million in adaptation projects in the coastal zones of Central America.	Capacity building	Coastal zone management	Central America		
			Notes: USAID program for Central America; budget of US\$1 million for the whole of Central America.				



E. Assessment

Costa Rica's comparatively advanced stage of development and its history of active engagement in international climate change discussions are reflected in its relatively well developed set of policy documents on climate change adaptation. This progress includes two submitted National Communications to the UNFCCC, recognition of the importance of climate change in the current "National Development Plan," a "National Climate Change Strategy" and sub-national adaptation plans. A relatively high number of adaptation projects are currently being implemented that address key sectors such as agriculture, freshwater supply and coastal zone management.

However, actual implementation of adaptation measures such as specific sectoral policies or physical adaptation actions does not appear to be very advanced. On the policy level, even though sectors have been prioritized and certain adaptation measures identified, no detailed implementation plans or national-level sectoral policies are available. On the project level, most activities have related to capacity building and research, but not to implementation of adaptation measures per se.

References:

Comisión Centroamericana de Ambiente y Desarrollo [CCAD] and Sistema de la Integración Centroamericana [SICA] (2010). Estrategia Regional de Cambio Climático. Documento Ejecutivo.

Ministerio de Ambiente, Energía y Telecomunicaciones [MINAET] (2009). Segunda Comunicación Nacional a la Convención Marco de las Naciones Unidas sobre Cambio Climático. Retrieved from http://unfccc.int/essential_background/library/items/3599.php?rec=j&priref=7031#beg

Ministerio de Ambiente, Energía y Telecomunicaciones [MINAET] (2007). Estrategia Nacional de Cambio Climático.

United States Department for State [USDS] (2011). Background Note: Costa Rica. Last updated 10 February 2011. Retrieved from http://www.state.gov/r/pa/ei/bgn/2019.htm