

adapta2⁺

Adapting to Climate Change
strengthening communities



Adapta2⁺ Programme

Multidimensional Approach of the Adapta2⁺ Programme
and its Relationship to:

Costa Rica's Intended Nationally-Determined Contributions

Sustainable Development Goals

National Adaptation Plan

National Development Plan



ADAPTATION FUND



1. What is the Adaptation Fund?

The Adaptation Fund is an international fund that finances projects and programs aimed at helping vulnerable communities in developing countries to adapt to the effects of climate change. A result of the Kyoto Protocol adopted in 1997 in the United Nations Framework Convention on Climate Change, it has distributed US \$462 million in funds to build resilience among communities and individuals. The fund has helped initiatives in 73 countries, including 28 of the least developed nations and 71 islands located in developing states, directly impacting more than 5.48 million inhabitants of developing countries.



ADAPTATION FUND

2. What is Fundecooperación?



In Costa Rica, *Fundecooperación para el Desarrollo Sostenible* provides financing and technical assistance to micro, small and medium enterprises with a business focus on sustainable economic activities. Its work model seeks to build bridges between small-scale entrepreneurs and the credit sources

that best fit each individual's reality. It has also worked to make value contributions towards achieving the Sustainable Development Goals (SDGs) proposed in the 2030 Global Agenda. Thanks to its ample experience, Fundecooperación was accredited in 2012 as the National Implementing Entity for the Adaptation Fund in Costa Rica.

3. ¿What is the Programa?

To sustain Fundecooperación's lines of work, the Adaptation Fund financed its country proposal for US \$10 million to launch local adaptation actions through a program called Adapta2⁺. The goal is to reduce the vulnerability of communities to climate change and enhance resilience in critical production sectors (agriculture, water resources and coastal zones) in Costa Rica. Some of the expected specific benefits include the following: sustainable, improved agricultural and livestock production systems; implementation of good agricultural practices; repopulation of vulnerable species in reefs and highly exploited fishing areas; protection of water quality; and empowerment of women as active community members and leaders.

By its very nature, Adapta2⁺ is related and linked to the stated intentions of national and international instruments aimed at adaptation to

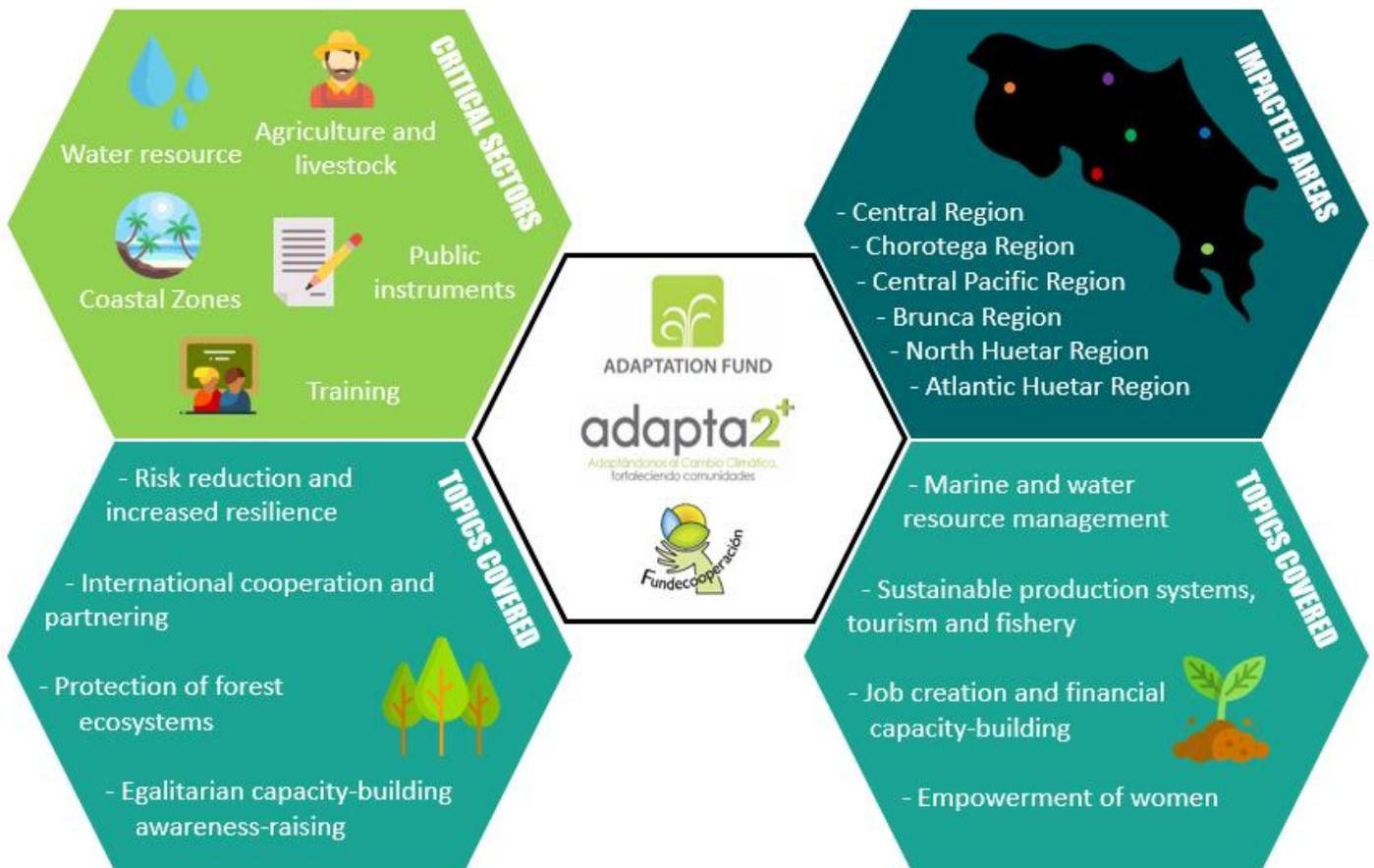


climate change. This report highlights its relationships to the following:

1. Sustainable Development Goals;
2. 2015-2018 Alberto Cañas Escalante National Development Plan;
3. Costa Rican National Policy for Adaptation to Climate Change: and

4. Costa Rica's Intended Nationally-Determined Contributions.

Appendix 1 lists the projects comprising the Adapta2+ program at this date. Appendix 2 complements this with a description of the impacts of Adapta2+ in the specific critical areas.



The 17 Sustainable Development Goals focus on areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice. Costa Rica's Intended Nationally-Determined Contributions and National Adaptation Plan (draft version) cover such topics as mitigation, adaptation, capacity-building, financing, public awareness-raising, education and cultural change. Finally, the 2015-2018 Alberto Cañas Escalante National Development Plan seeks to define sectoral strategies for building a society based on equality, knowledge, innovation, competitiveness, transparency and sustainable development.

4. Relationship of Adapta2+ to the Sustainable Development Goals

Adapta2+ relates to the Sustainable Development Goals (SDGs) in that its vision focuses on building and enhancing climate change resilience in the country's vulnerable production sectors and areas through planning, implementation and control of the 31 projects currently comprising the program. The indicators of 16 SDGs are impacted, especially SDGs 2, 6, 8, 11, 13, 14 and 15, which are more significantly related, but also SDGs 1, 3, 4, 5, 7, 9, 10, 12 and 17, where the impact is less, as shown in the figure below where the colours and icons refer to the SDGs listed to the left.

- | | |
|--|--|
|  SDG 1: No Poverty |  SDG 10: Reduced Inequalities |
|  SDG 2: Zero Hunger |  SDG 11: Sustainable Cities and Communities |
|  SDG 3: Good Health and Well-being |  SDG 12: Responsible Consumption and Production |
|  SDG 4: Quality Education |  SDG 13: Climate Action |
|  SDG 5: Gender Equality |  SDG 14: Life Below Water |
|  SDG 6: Clean Water and Sanitation |  SDG 15: Life on Land |
|  SDG 7: Affordable and Clean Energy |  SDG 16: Peace, Justice and Strong Institutions |
|  SDG 8: Decent Work and Economic Growth |  SDG 17: Partnerships for the Goals |
|  SDG 9: Industry, Innovation and Infrastructure | |



The projects in the agricultural sector are aimed at improving food security and increasing the sustainability of agricultural and livestock production systems, which primarily relates to the targets proposed for SDG 2 (Zero Hunger). The water resource initiatives seek to improve water quality, access, extraction and distribution and promote sustainable water management, which relates to SDG 6 (Clean Water and Sanitation).

Furthermore, the goal of improved economic productivity of agricultural, livestock and fishing systems – by mainstreaming innovation and progressively improving responsible resource consumption and production – refers to the indicators for SDG 8 (Decent Work and Economic Growth).

By way of complement, an environmental component is being included in land management, property appraisal and construction permits to boost sustainable urbanization and reduce the number of people affected and losses caused by disasters. The number of settlements implementing comprehensive plans and policies geared to climate

change adaptation and disaster resilience is also expected to increase. All of this relates to SDG 11 (Sustainable Cities and Communities).

Building capacity for adaptation and resilience to climate risks and natural disasters is also a component associated with all the projects, thus relating them to SDG 13 (Climate Action).

Finally, the coastal zone projects include sustainable protection and management of marine and coastal resources and ecosystems, which closely links them to the indicators of SDG 14 (Life Below Water). Additionally, a digital system is being developed as part of Adapta2+ for the efficient handling of forest fires, which impacts the indicators of SDG 15, the purpose of which is to ensure the conservation, restoration and sustainable use of land ecosystems.

The following table shows the relationship between the impacted SDGs and Adapta2+. Each number, icon and colour in the table refers to the respective SDG listed above.

- | | | | |
|--|---|--|--|
|  | 1. Foment resilience and reduce vulnerability to extreme weather phenomena. |  | 9. Develop resilient structures and increase the access of small industries to financial services. |
|  | 2. Improve food security and increase the sustainability of agricultural and livestock production systems. |  | 10. Strengthen and promote social and economic inclusion, regardless of a person's condition. |
|  | 3. Reduce the effects caused by air, water and soil pollution. |  | 11. Provide access to insurance, protect the natural heritage and reduce the negative environmental impact. |
|  | 4. Ensure access to education on climate change and sustainable development for men, women and children. |  | 12. Achieve sustainable and efficient natural resource management and ensure that people know about it. |
|  | 5. Ensure women's full and effective participation, equal leadership opportunities and empowerment. |  | 13. Build resilience and adaptation capacity to the risks associated with climate and natural disasters. |
|  | 6. Improve water quality, access, extraction and distribution and promote sustainable water resource management. |  | 14. Sustainably manage and protect marine and coastal ecosystems. |
|  | 7. Increase the percentage of renewable energy in the energy mix. |  | 15. Ensure the conservation, restoration and sustainable use of land and marine ecosystems. |
|  | 8. Improve efficient consumption and production of global resources and achieve full and productive employment. |  | 17. Encourage and promote public and private partnering. |

5. Relationship of Adapta2+ to the National Development Plan

Adapta2+ projects not only impact global sustainable development goals but also work towards implementation of the sectoral strategies defined in the 2015-2018 Alberto Cañas Escalante National Development Plan elaborated during the Solís Rivera administration.

The 29 projects included up to now in Adapta2+ relate to five of the plan's sections, as described below:

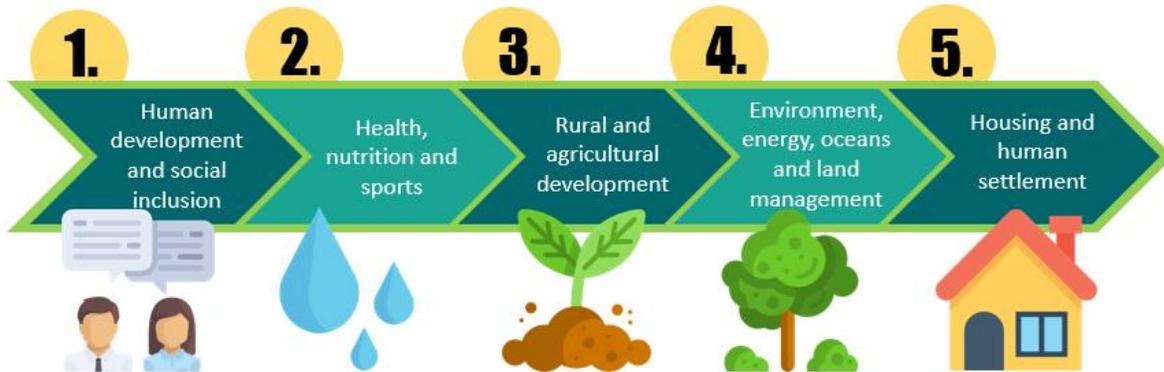
1. Human Development and Social Inclusion: The agriculture, livestock, water resource and fishery projects are aimed at not only implementing measures and practices for climate change adaptation but also building adaptation capacities and fomenting sustainable development among inhabitants and producers in vulnerable areas. It helps reinforce people's knowledge, improving their job options and making them more employable, in addition to expanding their self-employment opportunities and entrepreneurial skills. At the same time, Adapta2+ projects seek to empower women and improve the social environment of the impacted communities, providing access to

families living in poverty and the economic resources needed to enhance the sustainability of critical productive activities.

2. **Health, Nutrition and Sports:** One of the overriding purposes of Adapta2⁺ is to improve water resource management for human consumption and productive systems by strengthening Costa Rica's ASADAS (administrative associations for community aqueduct and sewer systems) and operators such as the Costa Rican Institute for Aqueducts and Sewers (A&A) and the Public Utilities Company of Heredia (ESPH). The idea in this sector is to improve the quality of the water supply and the comprehensive management of solid waste.
3. **Rural and Agricultural Development:** The projects are intended to develop technological knowledge and implement more advanced techniques to increase productivity and enhance adaptation, creating larger capacity, more sustainable, and more competitive agroenterprises. They also promote animal welfare, biological pest control, good

agricultural practices, formal fishery guidelines, and initiatives for sustainable use of marine resources.

4. **Environment, Energy, Oceans and Land Management:** The common approach of all Adapta2⁺ projects is based on reducing the impacts of climate change and enhancing adaptive capacities in order to strengthen the resilience of vulnerable sectors. To do so, they foster reduced emissions, improve access to water in critical areas, and expand opportunities for civil society participation in natural resource protection, control and monitoring.
5. **Housing and Human Settlement:** The introduction of environmental variables in land management and municipal construction permits has an impact on the housing and human settlement section of the National Development Plan, since neighbourhood and residential improvement projects receive incentives and drive regulation of human settlements, helped along by municipal governments and other institutions.



6. Relationship of Adapta2+ to the National Adaptation Plan

Adapta2+ is also in line with the objectives of the draft version of the National Adaptation Plan. Given its focus on creating and building capacities for increased resilience to climate change in vulnerable communities, Adapta2+ relates to the following commitments in the adaptation plan:

1.		Manage training in climate change effects, climate services and local and institutional capacity-building.
2.		Increase the resilience of human and natural systems to the effects of climate change through land, marine and coastal planning.
3.		Manage biodiversity, ecosystems, watersheds and marine and coastal spaces for adaptation to the effects of

		climate change.
4.		Mainstream climate change adaptation-based sustainability criteria in public infrastructure policy, laws, and guidelines.
5.		Generate the necessary conditions for promoting innovation, investment, eco-competitiveness and climate change resilience in the economy, productive systems and legislation.

7. Relationship of Adapta2+ to Costa Rica's Intended Nationally-Determined Contributions

Adapta2+ also relates to the Intended Nationally-Determined Contributions proposed by Costa Rica, since it aims at environmental health, capacity-building, reduced disaster risks, transfer of technology and financing, community- and ecosystem-based adaptation and local planning and

management for public infrastructure and land adaptation. Below is a more detailed description of the contribution to each of the commitments:

1. **Reduction of Disaster Risks:** Create sustainable technological alternatives for tackling the effects of climate change and increase the resilience of livestock, agricultural, fishery and production systems to extreme weather events.
2. **Community-based Adaptation:** Create sustainable technological alternatives for encouraging innovation and sustainable development led by local institutions and the communities themselves.
3. **Ecosystem-based Adaptation:** Market marine products sustainably and protect areas that help reduce the zones' ecological vulnerability to climate change.
4. **Local Management and Planning for Land Adaptation:** Promote zoning and marine,

coastal and land use definition, and build the capacities of local producers and technicians.

5. **Adaptation of the Public Infrastructure:** Improve the infrastructure for water resource management (sewers and aqueducts) and build community capacities for dealing with the effects of climate change.
6. **Environmental Health as an Adaptation Measure:** Implement good agricultural and livestock practices for adaptation to climate change in activities such as water management, collection, industrialization and marketing of goods.
7. **Capacity-building, Transfer of Technology and Adaptation Financing:** Promote projects that help generate sustainable technological alternatives for dealing with the effects of climate change and increasing the resilience of livestock, agricultural, fishery and dairy production systems to climate change.



Appendix 1: Adapta2+ Projects for Critical Sectors

Agricultural Sector

1.	Sustainable technological alternatives to tackle the effects of climate change and build the adaptation capacity of livestock systems in Costa Rica's central Pacific region.
2.	Implementation of good agricultural and livestock practices on cattle farms for adaptation to climate change, within the framework of the collection, industrialization and marketing of milk and milk derivatives produced by Coopepuriscal R.L. members.
3.	Fostering of climate change adaptation processes in the districts of Lepanto, Paquera and Cóbano.
4.	Building capacities in technicians and producers in the central region for implementation of a practical agroecological zoning tool and scenarios for climate change adaptation.
5.	Fostering the adaptation of coffee cultivation to climate change by building capacities and developing innovative products for the financing of initiatives and adaptation.
6.	Capacity-building and contributions to farm workers in the cantons of Hojanca, Nicoya and Nandayure for implementing climate change mitigation and adaptation technologies.
7.	Food security support for the indigenous population of the Talamanca – La Estrella Valley territory in the face of climate change effects through the fomenting of resilient family agriculture.
8.	Water harvesting and more efficient use in protected and diversified systems in the main horticultural zone in Costa Rica.
9.	Sarapiquí: C-Neutral, climate resilient.
10.	Use of fertigation for assuring food sources for dairy cattle and the dual purpose of adapting to climate change by supplying forage and other foods.
11.	Plan for strengthening the resilience of small agriculture and livestock producers in the North Huetar region to hydrometeorological phenomena produced by climate change.
12.	Technical and financial proposal for the study of effective adaptation practices of priority crops for insurance in Costa Rica.

Water Resource and Coastal Zones

1.	Marketing of sustainable marine products and development of protected areas to reduce the ecological vulnerability of the association of fishermen and women of Punta Coyote and the association of artisan fishermen and women of Bejuco.
2.	Adaptation of vulnerable coastal communities to the imminent threats of climate change in the Paquera area.
3.	Water Vigilantes: Promoters of community adaptation to climate change.
4.	Integrated management of water resources in the Abangares River basin.
5.	Integrated management of marine and coastal resources in the Paquera-Tambor district as a mechanism for reducing vulnerability and building capacity for climate change adaptation.
6.	Climate change adaptation measures: a proposal from the reality of coastal Talamanca communities.
7.	Improving water resources and strengthening the resilience of vulnerable communities to climate change in the Aranjuez River basin.

8.	Climate change adaptation in the Nimboyores and Cañas River watersheds – aqueduct and sewer systems in coastal zones of the province of Guanacaste.
9.	Building bridges towards climate change.
10.	Internalization of environmental costs for climate change adaptation of water operators in vulnerable areas.
11.	Strengthening of ASADAs located in watersheds vulnerable to extreme dry events in order to adapt them to climate change.
12.	Strengthening of ASADAs located in watersheds vulnerable to extreme rainfall events in order to adapt them to climate change.

Capacity Building

1.	Adapting property appraisals and municipal construction permits to climate change.
2.	System for forest fire incident management and handling.
3.	Implementing lessons learned: building the capacities of inhabitants of the Nicoya Peninsula to deal with the impacts of climate change on water resources.
4.	Implementation of climate change adaptation measures for water resources in Nicoya, Hojancha, Nandayure and La Cruz.
5.	Climate change and land management: Development of a tool for introducing climate change assessment and defining adaptation measures in zoning and land use definition.
6.	Together for the Ocean.
7.	Building capacities for outreach and national technicians for adapting to climate change.

Appendix 2: Adaptation Fund and its Impacts on Critical Sectors.

 Agricultural Sector	Water Resource 
<ul style="list-style-type: none"> - Installation of climate change-adapted technology on vulnerable livestock and agricultural farms. <ul style="list-style-type: none"> - Definition and implementation of sustainable alternative production processes. - Alternative energy production using biodigestors. - Adaptation of crops and livestock species to climate change. - Definition of good agricultural and livestock practices for sustainable and profitable production. - Food security support in vulnerable areas, including the indigenous population. - Construction of agroecological zoning maps of crops of interest in the central region. - Promotion of partnering for sustainable supply chains. - Insurance plans for the agricultural sector with climate change adaptation aspects. - Soil improvement using vermicomposting, proper pasture management, living fences and land rehabilitation. - Promotion of cattle welfare in the face of pests, climate change and diseases.  	<ul style="list-style-type: none"> - Support for watershed protection and management in vulnerable areas. - Recovery and reforestation of areas around rivers and springs. - Mapping and restoration of aquifer recharge zones. - Formulation and implementation of good practices for water security. - Establishment of alternative and new water supply sources. - Training for the saving and protection of water resources. - Construction of a computerized system for internal ASADA management. - Incorporation of an environmental fee to the water bill. - Formation of water vigilantes: regulators of integrated and sustainable water management. - Installation of a water quality control programme. - Installation of a network of weather, fluviographic and piezometric stations for keeping a record of the quantity and quality of water resources.  
<div data-bbox="552 934 909 976"> <h3>What is the Adaptation Fund?</h3> </div> <div data-bbox="974 913 1128 997">  <p>ADAPTATION FUND</p> </div> <div data-bbox="503 1008 1112 1134"> <p>A fund established by the UN Framework Convention on Climate Change (UNFCCC) to finance concrete adaptation projects and programmes in Kyoto Protocol countries that are particularly vulnerable to the adverse effects of climate change.</p> </div>	
<ul style="list-style-type: none"> - Formulation and implementation of good fishery and sustainable tourism practices. - Implementation of a wastewater and solid waste management program. - Awareness-raising on the local and global effects of climate change. - Promotion of the recovery, conservation and sustainable use of marine protected areas. - Diversification of productive activities based on the recovery of marine ecosystems. - International sustainable fishery certification and restructuring of the snapper market. - Rehabilitation of mangrove forests and protection of climate change-vulnerable coastlines. - Implementation of coastal reforestation programs. - Reduction of the impacts of coastal erosion and excessive sedimentation on vulnerable ecosystems (coral reefs, turtle-nesting beaches, and the intertidal zone).  	<ul style="list-style-type: none"> - Insurance plan for the agricultural sector that considers aspects of climate change adaptation. - Agroecological zoning of crops in the central region. - Strengthening of Costa Rica's hydrometeorological network. - Zoning of marine ecosystems taking climate change into consideration. - Support in the validation of protocols for tourism SMEs. - Computerized system for the handling and management of forest fires. - Incorporation of the environmental variable in land management plans. - Adaptation of property appraisals and municipal construction permits to climate change. - Inclusion of an environmental component in public water utility rates. - National Pilot Adaptation Programme for Livestock - National Pilot Adaptation Programme for Coffee  
 Coastal Zones	Public Policy Instruments 