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Document Title	Republica de Guatemala Plan de Acción Nacional de Cambio Climático - PANCC
Year of NAP submission to the UNFCCC	2019
Version	2
Last updated on	2025-03-24
Notes	This was translated using DeepL, so there may be minor grammatical and translation issues. This extraction does not include mitigation sectors and actions.

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1	Objectives			
		The General Objective of the PANCC is to define, in a clear and orderly manner, the main actions and guidelines that government institutions and other State sectors should follow in order to effectively contribute to the reduction of the vulnerability of the majority of the national population, to increase the country's adaptive capacity and to reduce greenhouse gas emissions in the face of the threat of the effects of climate change and climate variability.		17
2	Specific Objectives			
	Specific Objective 1	Implement the LMCC, the PNCC and other national and international instruments related to the topic		17
	Specific Objective 2	Guide public institutions and other sectors of the State related to the topic, with respect to actions to be implemented in the short, medium and long term.		17
	Specific Objective 3	Guide the development of institutional strategic plans, defining priorities in sectoral, territorial and institutional planning.		17
	Specific Objective 4	Define criteria for prioritizing public investment linked to the implementation of actions to reduce vulnerability and promote adaptation to the effects of climate change.		17
	Specific Objective 5	Define priorities for international cooperation.		17
3	Adaptation Sectors			
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4	Objectives			
	Objective 3.1	Develop capacities to address the displacement of people due to the impacts of climate change.	Cross-cutting Sector 3	63
	Objective 4.1	To increase the health system's capacity for care and prevention in the face of climate variability and change.	Adaptation Sector 4	72
	Objective 5.1	To conserve, restore and manage in an integral and sustainable manner the resources of the country's Marine Coastal Zones, through the implementation of actions to reduce the vulnerability and adaptation of the population to the effects of climate change	Adaptation Sector 5	81
	Objective 6.1	Increase food production (animal and vegetable) through the implementation of adaptation actions that will reduce the vulnerability of families affected by the effects of climate change and guarantee their food and nutritional security	Adaptation Sector 6	103
	Objective 7.1	Conserve, protect, restore and make sustainable use of Guatemala's forest resources and biodiversity for climate change adaptation.	Adaptation Sector 7	117
	Objective 8.1	Improve and build socio-vital infrastructure (sanitation systems, water, roads, bridges, hospitals, etc.) considering climate variability, vulnerability and land use plans in the design.	Adaptation Sector 8	133
	Objective 9.1	To sustainably manage the country's water resources to ensure the conservation of river basins, hydrographic, the access" of the Guatemalan population to water, to sustain the economic uses of the same, control pollution and reduce its vulnerability to the effects of climate variability and change.	Adaptation Sector 9	141
4	Key Results			
	Key Result 1.1	National Meteorological monitoring to evaluate trends and climate variability in order to identify adaptation strategies for meteorological and climatic conditions and climate change.	Cross-cutting Sector 1	47
	Key Result 1.2	Generate studies and research related to meteorology, climatology, hydrology, variability and climate change to identify adaptation strategies	Cross-cutting Sector 1	48
	Key Result 1.3	Have systematized meteorological and hydrological information at the national level	Cross-cutting Sector 1	49
	Key Result 3.1	The impacts of the climate change phenomenon on the displacement of people in Guatemala have been evidenced	Cross-cutting Sector 3	63
	Key Result 4.1	Coverage for health care and prevention in the face of climate variability and change has been improved and increased.	Adaptation Sector 4	72
	Key Result 5.1	The conservation, restoration, and management of ecosystems in Guatemala's marine-coastal zones have contributed to reducing vulnerability and helping populations adapt to the threats posed by climate change.	Adaptation Sector 5	85
	Key Result 5.2	Losses and damage to human life, productive infrastructure, and basic services located in marine and coastal areas have been reduced by the implementation of prevention, preparedness, and response actions.	Adaptation Sector 5	95

	Key Result 6.1	Food production (staple grains, traditional and non-traditional crops, livestock and livestock) has increased.	Adaptation Sector 6	103
	Key Result 6.2	Losses and damages caused by extreme weather events in the agricultural sector have been reduced.	Adaptation Sector 6	108
	Key Result 6.3	The percentage of national territory managed with a sustainable agroecological approach and adapted to climate variability has increased.	Adaptation Sector 6	110
	Key Result 7.1	Economic and environmental goods have been generated for the population, contributing to reducing vulnerability to climate change-induced threats	Adaptation Sector 7	117
	Key Result 8.1	Socio-vital infrastructure has been built and improved considering climate change adaptation construction standards.	Adaptation Sector 8	133
	Key Result 9.1	Water resources are managed sustainably through the implementation of integrated practices	Adaptation Sector 9	141
5	Actions			
	Action 1	Inform the population about the weather conditions in the next 24 hours.	Key Result 1.1	47
	Action 2	To alert the productive sectors and the population in general about hydrometeorological phenomena that will affect the country.	Key Result 1.1	47
	Action 3	Inform the population about the weather conditions in the next 120 hours.	Key Result 1.1	47
	Action 4	To provide information on weather conditions and phenomena for the planning of the different sectors	Key Result 1.1	47
	Action 5	To provide information on climatic conditions and phenomena for the planning of the different sectors.	Key Result 1.1	47
	Action 6	Inform farmers about weather conditions for corn and bean crops.	Key Result 1.1	47
	Action 7	Update the national climate atlas for decision making.	Key Result 1.2	48
	Action 8	Elaborate studies on the climatic variability of Guatemala for the evaluation of changes in the climatic standards.	Key Result 1.2	48
	Action 9	Elaborate a document with the climate change indexes	Key Result 1.2	48
	Action 10	To quantify annually the potential availability of water resources by river basin.	Key Result 1.2	48
	Action 11	Generate climate change scenarios through numerical modeling.	Key Result 1.2	48
	Action 12	Develop research related to meteorology, climatology, hydrology, variability and climate change.	Key Result 1.2	48
	Action 13	Identify institutions and organizations, both private and public, that have meteorological stations, and ask them to link their records to the INSIVUMEH network of stations, using the base format already generated by INSIVUMEH.	Key Result 1.3	49
	Action 14	Install new meteorological stations at sites with the greatest void of meteorological information or reactivate weather stations that have been abandoned.	Key Result 1.3	49
	Action 15	Strengthen the network for monitoring water flow and water quality parameters in the country's water bodies.	Key Result 1.3	49
	Action 16	Create a groundwater monitoring network, starting with the metropolitan region of Guatemala and the area of influence.	Key Result 1.3	49
	Action 17	Develop a statistical system The report also includes a report on climate displacement that takes into account the types of displacement resulting from climate change (forced movement, migration, etc.), planned relocation).	Key Result 3.1	63
	Action 18	Develop and implement a training and awareness-raising program on impacts of climate change in the movement of people	Key Result 3.1	63
	Action 19	Promote joint work among State institutions to incorporate aspects of displaced people due to climate change and their respective protection, through policies on this issue	Key Result 3.1	63
	Action 20	Enlarge y improve the care infrastructure in first, second and third-year third level in areas vulnerable to climate change	Key Result 4.1	72
	Action 21	Timely supply of equipment and supplies to the different levels of health care, including traditional health systems, and the Traditional Medicine Program of the Public Health System, prioritizing municipalities vulnerable to climate change	Key Result 4.1	72
	Action 22	Create mechanisms for risk transfer (insurance, reinsurance, bonds and payment for damages) that allow for financial availability to rehabilitate health infrastructure	Key Result 4.1	73
	Action 23	Identify mechanisms that to strengthen the emergency fund to mitigate damages caused by natural phenomena. (Governmental Agreement 105-2012)	Key Result 4.1	73
	Action 24	Training of personnel institutional considering cultural relevance in municipalities vulnerable to climate change in response and early warning systems, taking into account the knowledge of indigenous peoples and local communities	Key Result 4.1	73
	Action 25	Documenting care provided to people affected by illnesses caused by adverse weather events.	Key Result 4.1	73
	Action 26	Coordinate actions between the institutions and the private sector to provide timely response to people affected by adverse events.	Key Result 4.1	74
	Action 27	Strengthen the program on traditional medicine, including prevention and care.	Key Result 4.1	74
	Action 28	Protect, conserve and strengthen the ancestral health system through the transfer of knowledge for the care of diseases linked to the	Key Result 4.1	74
	Action 29	Develop methodologies and implement assessments of the functioning of health care systems during adverse weather events (including sexual and reproductive health protocols).	Key Result 4.1	74
	Action 30	Strengthening the Alert System Early (epidemiological surveillance) to forecast the behavior of climate-related diseases in order to respond in a timely manner	Key Result 4.1	74
	Action 31	Develop and implement a training and sensitization program for health personnel and civil society focused on climate change and human health. (taking into account traditional knowledge)	Key Result 4.1	75
	Action 32	Increase the number of health care personnel in areas susceptible to climate change, taking into account cultural relevance.	Key Result 4.1	75
	Action 33	To develop and implement a research program in the climate change and human health using culturally appropriate methodologies (also taking into consideration the issue of diseases).	Key Result 4.1	75
	Action 34	Prioritize and develop national actions to for implementation of the 2005-2014 Regional Agro-environmental and Health Strategy for Central America	Key Result 4.1	75
	Action 35	Update epidemiological surveillance protocols focused on climate change and human health	Key Result 4.1	76
	Action 36	Design and implement culturally adapted methodologies for the capture, measurement and analysis of human health vulnerabilities for the construction of adaptation and vulnerability indexes through the SNICC.	Key Result 4.1	76
	Action 37	Develop mechanisms and protocols to systematize health investor information for the implementation of climate change adaptation measures	Key Result 4.1	76
	Action 38	Design and implement programs for the implementation of safe water management, household hygiene and sanitation practices at the family and community level with a focus on climate change and human health.	Key Result 4.1	76
	Action 39	Establish surveillance measures to ensure better attention to diseases related to climate change as well as monitoring the quality of water for human consumption	Key Result 4.1	77

	Action 40	Coordinate the interventions of the first and second level health care system with the Development Council System (CONUSAN, CONRED, others).	Key Result 4.1	77
	Action 41	To include the issue of adaptation to climate change in current public policies related to human health.	Key Result 4.1	77
	Action 42	Socialize the Marine Coastal Zone Policy, the Framework Law on Climate Change, the Climate Change Policy, the PANK, the CBD Policy and Strategy and the National Strategy on the mangrove ecosystem and turtle conservation and other policy tools to civil society and institutional technical personnel located in the MCZs, with cultural relevance	Key Result 5.1	85
	Action 43	Elaborate a diagnosis and a plan for the reduction of vulnerability to climate change for the Caribbean coastal marine zone.	Key Result 5.1	85
	Action 44	Implement the Plan to reduce vulnerability to climate change for the Caribbean coastal marine zone.	Key Result 5.1	85
	Action 45	Implement the actions, follow-up and monitoring of the Plan for the reduction of vulnerability to climate change in the MCZs of the Pacific Coast in systems prioritized for conservation (after environmental impact assessment, when appropriate).	Key Result 5.1	86
	Action 46	Develop a program to rescue and value local traditional and ancestral knowledge in order to implement actions to adapt to climate change (livelihoods, natural medicine, family gardens, cultivation of cynegetic species, etc.).	Key Result 5.1	86
	Action 47	Develop a culturally relevant knowledge management program (local practices and technology transfer) for the implementation of conservation, restoration, management and sustainable use measures for the ecosystem resources of the MCZ zones.	Key Result 5.1	86
	Action 48	Design, standardize and implement methodologies for measurement, data capture and vulnerability analysis of coastal marine ecosystems for the construction of vulnerability indices and adaptation plans, through the SNICC	Key Result 5.1	86
	Action 49	Design and establish a system for Monitoring, Reporting and Verification (MRV) of climate change behavior and its effects on actions for the protection, conservation and restoration of the MCZ ecosystems	Key Result 5.1	86
	Action 50	Harmonize, design and/or implement strategic conservation plans for the reduction of vulnerability and adaptation to climate change of CMZ ecosystems, considering both the watershed and landscape approaches (regional plans, watershed management plans, master plans, land management plans, etc.).	Key Result 5.1	87
	Action 51	Develop mechanisms to evaluate the effectiveness of the implementation of strategic conservation plans.	Key Result 5.1	87
	Action 52	Create and strengthen the control mechanisms, as well as the application and updating of for the conservation, protection and restoration of CMZ ecosystems	Key Result 5.1	87
	Action 53	Develop a program to strengthen governance, awareness and environmental education (communities, local and key stakeholders of the territory), for the management of management, conservation and land use plans in the zHc	Key Result 5.1	87
	Action 54	Develop a program for capacity building in climate change adaptation in coastal marine areas targeting communities, spheres, key civil society organizations and institutional technical staff.	Key Result 5.1	87
	Action 55	Analyze and evaluate the establishment of watershed committees related to marine coastal zones to strengthen the integrated watershed management approach	Key Result 5.1	88
	Action 56	Establish technical guidelines to carry out the cadastral process, including the georeferenced real estate base, considering the declaration of zones in cadastral process in the MCZs.	Key Result 5.1	88
	Action 57	Encourage and develop climate-smart and locally appropriate production practices, with technical assistance and support.	Key Result 5.1	88
	Action 58	Develop a program of alternative economic activities (diversification) for the adaptation of the vulnerable population to climate change.	Key Result 5.1	88
	Action 59	Promote mechanisms of ecological compensation in favor of the maintenance of ecosystem goods and services of coastal marine areas, involving companies extensive crop producers (banana, sugar cane, oil palm)	Key Result 5.1	88
	Action 60	At the basin level, implement climate change on the basin adaptive technology (living barriers, green and gray infrastructure, dugouts, containment barriers, etc.) to reduce the impact of climate	Key Result 5.1	89
	Action 61	Develop a research program in the areas of biological importance identified with predominant mangrove cover, including associated ecosystems to maintain their functionality and propose mechanisms for ecological restoration of the ecosystem.	Key Result 5.1	89
	Action 62	Develop the technical studies and the procedures to access forestry incentives or other conservation mechanisms in the prioritized areas that promote the protection of the cover, sustainable management and revegetation/restoration as a measure to increase adaptive capacity. Ensure that in the process to access forestry incentives there is a minimum participation of 3 or 96 of women	Key Result 5.1	89
	Action 63	Strengthen INAB, municipalities and local men's and women's organizations to access, implement and monitor incentives for conservation and restoration of mangrove, sea forest and gallery forests (Probosque) in the MCZs.	Key Result 5.1	89
	Action 64	Promote the preservation and restoration of tular carrizal wetland areas near the coastline in the ZMC.	Key Result 5.1	90
	Action 65	Elaborate, approve and implement municipal land use plans with an ecosystem, watershed and local coastal marine management approach to climate change.	Key Result 5.1	90
	Action 66	Elaborate rules and regulations for the implementation of land management plans in mangrove ecosystems, wetlands and beach areas of MCZs.	Key Result 5.1	90
	Action 67	Implement strategic actions for the use, conservation, recovery and ecological restoration of mangrove areas and associated ecosystems in the zones marine-coastal, established in the POTs or in other plans.	Key Result 5.1	90
	Action 68	Develop a research and monitoring program in the beach areas of the MCZs to prioritize beaches at high risk due to sea level rise in order to develop contingency plans	Key Result 5.1	90
	Action 69	Maintain and strengthen the research program in the reefs of the MCZs (inventory of sites and species, impacts of degradation, recovery mechanisms and measures, among others).	Key Result 5.1	91
	Action 70	Create and apply rules and regulations to promote sustainable activities: fishing, tourism, navigation or maritime transit, among others, that promote the conservation of reef areas in MCZs	Key Result 5.1	91
	Action 71	Develop strategic actions for the conservation and protection of reefs in MCZs (programs and projects, others).	Key Result 5.1	91
	Action 72	Strengthen the management of marine ecosystems, such as mangroves and reefs, to maintain the food chains that sustain fisheries and other marine hydrobiological product extraction activities.	Key Result 5.1	91

Action 73	Validate and implement a climate and fisheries information and analysis system for the Pacific Coast and the Caribbean Sea that includes data capture and analysis of the relationship between fishing production activities, climate events and their effects on the oceans.	Key Result 5.1	91
Action 74	Establish the necessary conditions for the organization and improvement of fishery and hydrobiological resource value chains, related to the sustainable use of resources.marine-industry. It will include the participation of at least 30 women from the design and information gathering stages to the stages of establishing the value chains, mainly related to marketing and cold chains.	Key Result 5.1	92
Action 75	Develop participatory proposals for the sustainable use of fishery resources that include norms, regulations and economic alternatives, with technical criteria, and based on analysis of reproductive cycles, including the proposal of closed seasons for prioritized groups.	Key Result 5.1	92
Action 76	Strengthen DIPESCA and local institutions to establish governance processes and promote the ecosystem approach in the development of fishing regulations and processes.	Key Result 5.1	92
Action 77	Implement the regulations and monitor their effectiveness for the development of fisheries management with a systemic approach	Key Result 5.1	92
Action 78	Evaluate and monitor the presence of residual pesticides in marine fauna present at the mouths of priority watersheds	Key Result 5.1	93
Action 79	Design and implement fishery management plans, including the figure of fishery refuges as production and reserve zones for local fisheries, considering technical and scientific information and local governance mechanisms for their implementation	Key Result 5.1	93
Action 80	Innovate and develop new fishing practices for underutilized fishery resources, which will make it possible toredistribute the fishing effort and generate new sources of employment and favor food and nutritional security.	Key Result 5.1	93
Action 81	Develop and implement Regional Plans for the development of works and infrastructure (canals, ports and harbors), urbanization (housing occupation) and investments, in the face of climate change.	Key Result 5.1	93
Action 82	Conduct studies on dynamics, behavior and characterization of the mouths, in order to identify the possible degradation points, as well as the main aspects to develop and implement preventive and contingency plans	Key Result 5.1	93
Action 83	Implement a program of incentives and regulations for the reduction of the use of plastic bags, disposable bags and other non-food pollutants biodegradables, on IOS Sites. The main tourist attractions of the coastal marine areas, mainly the beaches during the high tourist season.	Key Result 5.1	94
Action 84	Readapt for the MCZs, the existing guidelines for the adequate management of waste and solid waste, in compliance with the stipulations of the National Policy on Waste and Solid Waste.	Key Result 5.1	94
Action 85	Develop plans for the proper management and monitoring of municipal and industrial liquid wastes to reduce land-based sources of contamination of river and marine aquatic environments.	Key Result 5.1	94
Action 86	Develop and implement Guatemalan regulations for the reception of solid and liquid wastes from ships and vessels docked on the coast in compliance with the NARPOL Convention.	Key Result 5.1	94
Action 87	Develop a program of contingency, based on science, which considers a) Vulnerability baseline in productive infrastructure, goods and services, livelihoods and basic services of the population b)R'std history by type of event to identify vulnerable areas, in the MCZs	Key Result 5.2	95
Action 88	Strengthen the implementation of instruments and mechanisms for better control and enforcement of rules and regulations regarding the use and development of productive and investment activities (public and private) in MCZ ecosystems.	Key Result 5.1	95
Action 89	Create and strengthen the system of disaster risk reduction coordinators at the local and municipal level, to prepare the population located in MCZs for the effects of events.	Key Result 5.1	95
Action 90	Design and strengthen Early Warning Systems (EWS), with cultural relevance, for the timely evacuation of the vulnerable population of the MCZs, in the presence of adverse events.	Key Result 5.1	95
Action 91	Develop and strengthen early warning systems, specifically oriented to artisanal and small scale fishermen and reduce the risk of human losses in the face of extreme weather events	Key Result 5.1	95
Action 92	Consolidate and maintain the monitoring network of meteorological variables to feed the climate models available for the pals, as well as the communication and dissemination of the information	Key Result 6.1	103
Action 93	Design and implement methodologies for measuring, capturing and analyzing information for the construction of indices of adaptive capacity and vulnerability to climate change, to employ strategies and prioritize vulnerable areas.	Key Result 6.1	103
Action 94	To regulate the participation and strengthen the Early Warning Systems for extreme weather events, food and nutritional insecurity, crop forecasting and for vulnerable agricultural areas, considering ancestral knowledge.	Key Result 6.1	103
Action 95	Conduct adaptation studies of the main crops (permanent and others), underutilized (traditional) crops, as well as those with adaptation potential, according to the local consumption culture, considering simulation models and climate scenarios available for the country, particularly those that generate jobs such as coffee.	Key Result 6.1	104
Action 96	Strengthen the organizational capacity of producers to prepare for and respond to agricultural emergencies in areas vulnerable to climate change	Key Result 6.1	104
Action 97	Provide technical assistance to agricultural and livestock producers for the implementation of adaptation practices, sustainable agriculture adapted to climate and water and soil conservation	Key Result 6.1	104
Action 98	Provide technical assistance to agricultural and livestock producers for the implementation of phytosanitary and zoosanitary adaptation measures that consider traditional and ancestral knowledge practices in the face of climate change.	Key Result 6.1	104
Action 99	Strengthen the National Rural Extension System -SNER- in coordination with the System of Development Councils	Key Result 6.1	105
Action 100	Implement crop production programs, research and technology transfer in the use of indigenous, ancestral or other productive practices, native plants, food and medicinal plants tolerant to extreme conditions.	Key Result 6.1	105
Action 101	Encourage the use of native seeds and improved seeds for degraded soils and evaluate synergies	Key Result 6.1	105
Action 102	Implement community seed banks (corn, beans, others).	Key Result 6.1	105
Action 103	Design and implement programs for the production of native and improved agricultural and livestock species tolerant to the effects of climate change with high nutritional value to be incorporated into the diet of families	Key Result 6.1	105

	Action 104	Develop agricultural and livestock management plans based on climatic and territorial dynamics aligned with existing land use planning processes, taking into account national models and scenarios.	Key Result 6.1	106
	Action 105	Promote the establishment of agroforestry systems, mainly in areas recurrently affected by the effects of climate change.	Key Result 6.1	106
	Action 106	Develop efficient irrigation projects with solar and wind energy in areas with edaphic potential	Key Result 6.1	106
	Action 107	Conduct and update soil taxonomy and land use capacity studies.	Key Result 6.1	106
	Action 108	Create and establish mechanisms to ensure agricultural production. Create and establish mechanisms to ensure agricultural production, as well as investment programs for agricultural production and access to financing.	Key Result 6.1	106
	Action 109	Promote actions for access to land and its regularization for subsistence and subsistence farmers	Key Result 6.1	106
	Action 110	Establish incentive programs for soil conservation and protection and promote existing forestry programs (PIMPEP, PROBOSQUE)	Key Result 6.1	107
	Action 111	Establish sustainable artisanal fishing programs through the training and registration of pescadores	Key Result 6.1	107
	Action 112	Implement climate-adapted, sustainable agricultural and manufacturing practices in agricultural production.	Key Result 6.1	107
	Action 113	Implement good practices for pre- and post-harvest management (basic grains)	Key Result 6.2	108
	Action 114	Identification and implementation of agricultural value chains that will enable the transition from subsistence agriculture to sustainable agriculture in traditional and non-traditional products	Key Result 6.2	108
	Action 115	Strengthen the information monitoring system to capture and analyze losses and damages by type of hazard.	Key Result 6.2	108
	Action 116	Promote agricultural diversification adapted to climate change and agroecological zones	Key Result 6.2	108
	Action 117	Implement reforestation programs with native species mainly in the upper parts of watersheds and in water recharge areas, for soil and water restoration and conservation	Key Result 6.2	109
	Action 118	Implement adaptive technology related to water resources in response to climate change (rainwater harvesting, drainage systems in flood zones, etc.).	Key Result 6.2	109
	Action 119	Plant and/or recover gallery forests to reduce sedimentation, erosion and for flood prevention and protection in areas with agricultural or livestock potential.	Key Result 6.2	109
	Action 120	Develop contingency and prevention plans to minimize agricultural losses due to climate variability.	Key Result 6.2	109
	Action 121	Promote culturally relevant actions to prevent and solve the food crisis during emergencies caused by events	Key Result 6.2	109
	Action 122	Research, promote and encourage the establishment of sustainable agricultural production systems adapted to the climate, in traditional and non-traditional products that generate income for the Nation (coffee, rubber, cocoa, spices).	Key Result 6.3	110
	Action 123	To build the baseline of agroecological production areas.	Key Result 6.3	110
	Action 124	Promote and establish the certification of productive agro-ecological farms	Key Result 6.3	110
	Action 125	Create efficient inter-institutional coordination mechanisms, as well as improve and strengthen institutional capacities for the administration of forest resources	Key Result 7.1	117
	Action 126	Strengthen the financial capacities of the institutions responsible for the administration of the country's forest resources, biodiversity and protected areas in accordance with related national goals	Key Result 7.1	117
	Action 127	Create platforms to address gaps in national legislation on forestry, biodiversity and protected areas that involve efficient inter-institutional and inter-sectoral coordination mechanisms. In coordination with local organizations, networks and indigenous peoples.	Key Result 7.1	117
	Action 128	Design and implement a capture and analysis of forest information for the construction of adaptation and vulnerability indexes.	Key Result 7.1	118
	Action 129	Implement a measurement, monitoring, reporting and verification system for forest resources, biological diversity including the main causes of deforestation and degradation (illegal logging, land use change, and reduction of forest fires, among others)	Key Result 7.1	118
	Action 130	Sustainable management of forest ecosystems to reduce vulnerability to climate change and improve carbon sequestration capacity. Taking into account the traditional governance system, i.e., own systems of management and administration of territories based on the traditional practices and ancestral knowledge of indigenous peoples and local communities.	Key Result 7.1	118
	Action 131	Strengthen community forest concessions and promote the organization and participation of local communities and indigenous peoples in sustainable forest management activities	Key Result 7.1	118
	Action 132	Strengthen and implement forest ashing schemes.	Key Result 7.1	119
	Action 133	Strengthen and implement incentive schemes aimed at the conservation, protection, restoration and management of forest resources and biodiversity.	Key Result 7.1	119
	Action 134	Implement mechanisms for the strategic valuation of biodiversity.	Key Result 7.1	119
	Action 135	Elaborate and implement efficient mechanisms for local governance.	Key Result 7.1	119
	Action 136	Develop lines of research with reference to priorities established in planning instruments related to the topic, for example: National Forestry Research Program; National Biological Diversity Policy and Strategy; Institutional Agenda for the Reduction of Forest Deforestation and Forest Degradation; National Forestry Policy and Strategy; National Forestry Policy and Strategy for Biological Diversity; National Forestry Policy and Strategy for the Reduction of Forest Deforestation and Forest Degradation; National Forestry Policy and Strategy for the Reduction of Forest Degradation; National Forestry Policy and Strategy for the Reduction of Forest Degradation. vulnerability, adaptation and MthdCIOR of climate change 2016-2020; National Development Plan (CONADUR, 2014) Second National Communication on Climate Change - (MERN,	Key Result 7.1	119
	Action 137	Implement forest landscape restoration projects considering forest management guidelines, land use capacity, social, economic and financial aspects, the national strategy for forest landscape restoration, the national biodiversity policy and strategy, among others	Key Result 7.1	120
	Action 138	Promote restoration through forest plantations for production purposes, prioritizing lands with this use capacity. Considering the environmental and social risks	Key Result 7.1	120
	Action 139	Implement forestry incentive projects for the establishment of plantations for production purposes, involving organized groups at the community level AND indigenous peoples	Key Result 7.1	120
	Action 140	Establish forestry plantations for energy purposes in highly developed sites to increase the supply of fuelwood, according to socioeconomic aspects of the population. Considering environmental and social safeguards	Key Result 7.1	120

Action 141	Update and implement the national strategy for the management and conservation of natural resources on land.	Key Result 7.1	120
Action 142	Strengthen the processes related to the legal certainty of communal lands.	Key Result 7.1	121
Action 143	Implement mechanisms that promote, develop and intergenerationally transfer scientific and traditional collective knowledge (Mayan, Garffuna, Xinka and Mestizo peoples) associated with biological diversity.	Key Result 7.1	121
Action 144	Recognize, promote and apply customary rights and practices in the management of natural resources and biological diversity	Key Result 7.1	121
Action 145	Identify and apply ancestral knowledge of indigenous peoples in adaptation practices in the agricultural sector and conservation of ecosystems and diversity.	Key Result 7.1	121
Action 146	Promote and implement restoration and management actions with an ecosystem approach, aimed at restoring and improving ecosystem services as a means of livelihood for communities.	Key Result 7.1	121
Action 147	Create and apply mechanisms that allow research, promotion, respect and protection of traditional and ancestral knowledge of indigenous peoples related to biological diversity to improve adaptation to climate change	Key Result 7.1	122
Action 148	Strengthen and implement the Interinstitutional Strategy to Combat Illegal Logging.	Key Result 7.1	122
Action 149	Strengthen the process of updating and implementing the Guatemalan Endangered Species List.	Key Result 7.1	122
Action 150	Develop and implement lines of research on priority species to establish their conservation status, allowing decisions to be made on their management and also for the development and implementation of conservation strategies.	Key Result 7.1	122
Action 151	Ex situ conservation of fauna and flora which are vulnerable and threatened by climate change	Key Result 7.1	122
Action 152	Strengthen and implement the National Fire Management Strategy.	Key Result 7.1	123
Action 153	Strengthen financial, management and coordination capacities for the prevention and control of forest fires in Guatemala	Key Result 7.1	123
Action 154	Establish and implement an early warning system to detect and control forest fires in a timely manner, with the participation and coordination of organized groups in the communities and municipalities	Key Result 7.1	123
Action 155	Identify, promote and implement alternatives to slash-and-burn agriculture to avoid forest fires, ecosystem degradation, loss of biological diversity and deterioration of natural resources due to human activity	Key Result 7.1	123
Action 156	Define and implement the National Forest Health Strategy	Key Result 7.1	123
Action 157	Increase the extension and number of protected areas, prioritizing ecosystems scarcely represented in the SIGAP, prioritizing those ecosystems scarcely represented in the SIGAU and promote the inclusion of new management categories of 'collective management areas from the cosmovision of indigenous peoples and local communities	Key Result 7.1	124
Action 158	Implement biological corridors for the establishment of escape areas that include biodiversity conservation, restoration and management	Key Result 7.1	124
Action 159	Carry out ecological restoration processes in forest and non-forest ecosystems, aimed at restoring and improving the provision of ecosystem goods and services, thus promoting the mitigation and adaptation of biological diversity and Guatemalan society to climate change	Key Result 7.1	124
Action 160	Increase investment (public and private) by at least 50 percent to improve the management and conservation effectiveness of protected areas	Key Result 7.1	124
Action 161	Elaborate land management plans that consider the integrated management of watersheds, the productive landscape and biological corridors, respecting customary rights, with the full and effective participation of indigenous peoples and local communities.	Key Result 7.1	125
Action 162	Participation of municipalities and indigenous authorities, where they exist, in the co-administr	Key Result 7.1	125
Action 163	Strengthen the systems of conservation of plant germplasm as an adaptation strategy and identification of promising varieties for adaptation to climate change.	Key Result 7.1	125
Action 164	Identification of indicator species vulnerable to the current/projected effects of climate change, taking into account the diversity of ecosystems present in Guatemala.	Key Result 7.1	125
Action 165	Elaborate geographic distribution baselines of populations of flora and fauna indicator species that allow monitoring of biodiversity behavior (movement of flora and fauna populations, including pests and diseases).	Key Result 7.1	125
Action 166	Establish and execute monitoring strategies and programs for the control and eradication of invasive exotic species already established in the Guatemalan territory and that are favored by climate change.	Key Result 7.1	126
Action 167	Establish and implement instruments and strategies that minimize the opportunities for the introduction and adaptation of exotic species to ecosystems.	Key Result 7.1	126
Action 168	Analyze and update management instruments in the SIGAP areas to strengthen the gaps in climate change planning.	Key Result 7.1	126
Action 169	Create spaces for training and permanent dialogue and mechanisms for participation in land management and decision making to ensure the governance of protected areas.	Key Result 7.1	126
Action 170	Updating and applying construction standards and regulations, and socio-vital and strategic infrastructure, also considering toponymies, and culturally appropriate local and local construction systems.	Key Result 8.1	133
Action 171	Develop mechanisms to verify the inclusion of strategic socio-vital infrastructure construction standards in the project cycle (pre-investment, investment, post-investment).	Key Result 8.1	133
Action 172	Revise or update Municipal Construction Regulations.	Key Result 8.1	133
Action 173	Develop methodologies and apply damage and loss assessments in the event of adverse events affecting the socio-vital and strategic infrastructure.	Key Result 8.1	133
Action 174	Implement mechanisms for verification of compliance with environmental compliance in social and vital infrastructure	Key Result 8.1	134
Action 175	Develop and implement a system of Monitoring, Reporting and Verification -MRV- of the behavior of the threats affecting the socio-vital infrastructure and strategy	Key Result 8.1	134
Action 176	Design and implement methodologies for capturing, measuring and analyzing vulnerability of socio-vital and strategic infrastructure for the construction of indicators for adaptation and vulnerability through the SNICC.	Key Result 8.1	134
Action 177	Develop inventories of social-vital and strategic infrastructure	Key Result 8.1	134
Action 178	Develop and implement contingency plans for each type of extreme event focused on the social vital infrastructure	Key Result 8.1	134
Action 179	Strengthen and expand early warning systems in areas at high risk of events hydro-meteorological extremes	Key Result 8.1	134
Action 180	Strengthening assistance programs to rural community roads after climatic events	Key Result 8.1	135

	Action 181	Development of a risk transfer mechanism for socially important and strategic infrastructure (insurance, reinsurance, bonds, and debt payments) that will make financing available to rehabilitate health infrastructure	Key Result 8.1	135
	Action 182	Mapping of high-risk areas with recurrent disasters.	Key Result 8.1	135
	Action 183	Create and strengthen national and municipal regulations for the conservation, protection and efficient and sustainable use of water resources with cultural relevance and a gender perspective.	Key Result 9.1	141
	Action 184	Develop a set of regulations and technical standards to effectively and efficiently implement the law at the national and municipal levels.	Key Result 9.1	141
	Action 185	Formulate the National Water Policy and its respective planning tools to comply with the objectives set forth in the law.	Key Result 9.1	141
	Action 186	Elaborate the National Hydrological Plan for the Agua Management and Regulation Systems, including the elements prioritized in the Policy.	Key Result 9.1	141
	Action 187	Create a governing body or institution for water resource management and administration	Key Result 9.1	142
	Action 188	Create and maintain the national water information, knowledge and valuation system;	Key Result 9.1	142
	Action 189	Establish the water inventory, the cadastre of uses and the water rights registry;	Key Result 9.1	142
	Action 190	Study on the value of water for national development, expressed in economic units, differentiating what it represents for society, the economy and the environment.	Key Result 9.1	142
	Action 191	Estimate the public investment required for regulation works of public interest.	Key Result 9.1	142
	Action 192	Estimate the cost of water management.	Key Result 9.1	142
	Action 193	Elaborate and implement the National Water Supply Works Program, giving priority to areas where natural vulnerability is combined with poverty	Key Result 9.1	143
	Action 194	Elaborate and implement sectoral plans for the use and water use (domestic, agricultural, industrial, energy, tourism, etc.).	Key Result 9.1	143
	Action 195	Determine at the national level the priority sites for the and hydrological regulation, considering the socioeconomic context of the existing population and organization.	Key Result 9.1	143
	Action 196	Establish a system for registering and controlling the use of surface and groundwater to determine the real demand and the behavior of the sources for management, use and protection standards	Key Result 9.1	143
	Action 197	Design and implement economic instruments and financial mechanisms for payment for water use and the provision of ecosystem services to finance the National Plan and watershed management plans, or landowners with forests, CONAP and INAB, for the integrated management of water resources to meet general development objectives	Key Result 9.1	143
	Action 198	Develop and update, in a participatory manner, the instruments for the integrated management of the basin approach and climate change, gender equity and cultural relevance, transparency and integrity (basin management plans for territorial planning can basin approach, municipal plans for adaptation to climate change, guidelines for the development of integrated management plans for microbasins can basin approach). a climate change adaptation and participatory management).	Key Result 9.1	144
	Action 199	Form and follow up on the interinstitutional technical roundtables for the resolution of water use conflicts at the request of society and its institutions	Key Result 9.1	144
	Action 200	Develop methodological guidelines to standardize the preparation of water quality and quantity indices, as well as a centralized database for a unified registry.	Key Result 9.1	144
	Action 201	Identification of areas most vulnerable to the occurrence of droughts (water deficit) and extension of the dry season.	Key Result 9.1	144
	Action 202	Design and implement research programs on water resources (water balance, water flow regimes, water quality indices, vulnerability index, groundwater levels, society's relationship with water , etc.).	Key Result 9.1	144
	Action 203	Design and implement a program to expand and modernize the national hydrometeorological measurement system with emphasis on vulnerability to climate change.	Key Result 9.1	145
	Action 204	Identification and feasibility analysis of actions to adapt to the problem of water scarcity caused by climate change, for example: water transfer from one basin to another, rainwater harvesting systems, water decontamination, reduction of water consumption, recharge of aquifers, reorganization of the territory.	Key Result 9.1	145
	Action 205	Promote technologies to increase the volume of water storage.	Key Result 9.1	145
	Action 206	Strengthen the network for monitoring water flow and water quality parameters in the country's water bodies.	Key Result 9.1	145
	Action 207	Create a groundwater monitoring network, starting with the metropolitan region of Guatemala and the area of influence, and then prioritize the nodes or systems of intermediate cities defined in the National Development Plan K'atun Nuestra Guatemala 2032.	Key Result 9.1	145
	Action 208	Prioritize field actions to mobilize financial resources to contribute to achieving the National River Restoration and Cuergos de Agua.	Key Result 9.1	145
	Action 209	Creating a Water Regulatory Body	Key Result 9.1	145
	Action 210	Maintain, expand and improve water infrastructure for human consumption and sanitation.	Key Result 9.1	146
	Action 211	Design and construction of water catchment works both at the subregional level and community level)	Key Result 9.1	146
	Action 212	Ensure water potabilization	Key Result 9.1	146
	Action 213	Implement education programs for the efficient use	Key Result 9.1	146
	Action 214	Establish and maintain drinking water treatment plants in the following locations	Key Result 9.1	146
	Action 215	Modify the municipal regulatory framework, so that the Municipal Code indicates that the municipalities must have a specific unit for the provision of water and sanitation services.	Key Result 9.1	146
	Action 216	Develop a specific municipal program for water regulation works, to ensure water catchment, by hydrographic units, and at the municipal, community and family levels.	Key Result 9.1	146
	Action 217	Plan and develop of in sanitation structure and wastewater treatment plants in urban and rural areas according to the biophysical and	Key Result 9.1	147
	Action 218	Treat 100 percent of wastewater from industry (especially those related to the mining, agro-industrial, chemical, food, hospital and tourism sectors, as well as those related to the African palm, coffee and sugar, textile, agricultural, chemical, food, hospital and tourism).	Key Result 9.1	147
	Action 219	Develop and implement a program of awareness, education and training in climate change adaptation measures, focused on the integrated management of the river basin resources with principles of gender equity, individual responsibility and multiculturalism.	Key Result 9.1	147

	Action 220	Incorporate at the primary, secondary and diversified levels the topics of climate change, integrated management of micro watersheds, and integrated management of waste and waste	Key Result 9.1	147
	Action 221	Improve or expand the curricula of the different university careers related to the water sector, training more students in the following areas hydrogeologists and hydraulic engineers specializing in wastewater treatment plants, for example. T fddo courses related to hydrology,hydrogeology, among others).	Key Result 9.1	147
	Action 222	Encourage the organization of the company offers integrated water resources training to professionals in various fields, through diploma courses and certifications	Key Result 9.1	148