



Adaptation to Climate Change Impacts on the Coastal Wetlands in the Gulf of Mexico (P100438)

LATIN AMERICA AND CARIBBEAN | Mexico | Environment & Natural Resources Global Practice |
Global Environment Project | Specific Investment Loan | FY 2011 | Seq No: 10 | ARCHIVED on 15-Nov-2016 | ISR25687 |

Implementing Agencies: Instituto Nacional de Ecología y Cambio Climático (INECC), Mexican Institute of Water Technology (IMTA)

Key Dates

Key Project Dates

Bank Approval Date:23-Nov-2010

Effectiveness Date:07-Oct-2011

Planned Mid Term Review Date:10-Jul-2013

Actual Mid-Term Review Date:28-May-2013

Original Closing Date:31-Oct-2015

Revised Closing Date:31-Oct-2016

Global Development Objectives

Global Environmental Objective (from Project Appraisal Document)

The objective of the project is to promote adaptation to the consequences of climate impacts in the coastal wetlands of the Gulf of Mexico, through the implementation of pilot measures that would provide information on the costs and benefits of alternative approaches to reduce their vulnerability. The project also seeks to assess the overall impacts of climate change on national water resource planning, including the identification of potential response options, with a focus on coastal wetlands and associated watersheds. The experience from the project pilots is intended to inform the government's future adaptation strategy and development programs in the Gulf region.

Has the Global Environmental Objective been changed since Board Approval of the Project Objective?

No

Components

Name

Design of Selected Adaptation Measures and Technical Coordination:(Cost \$0.74 M)

Implementation of Pilot Adaptation Measures in Highly Vulnerable Wetlands:(Cost \$2.96 M)

Assessment of the Impacts of Climate Change on Water Resources Planning at a National Level and in Coastal Wetlands including the Id:(Cost \$0.50 M)

Project Management:(Cost \$0.30 M)

Overall Ratings

Name	Previous Rating	Current Rating
Progress towards achievement of PDO	● Moderately Satisfactory	● Moderately Satisfactory
Overall Implementation Progress (IP)	● Moderately Satisfactory	● Moderately Satisfactory



Overall Risk Rating

● Moderate

● Moderate

Implementation Status and Key Decisions

The Project is closing with significant progress and achievements in all components since the last review period with disbursements reaching over 85%. This improvement has been the result of a continued engagement with the key counterparts, and through strengthening the teams at INECC and IMTA to address the different technical and administrative requirements. The administrative bottlenecks that have delayed implementation of the project between INECC, IMTA and NAFIN were addressed during the last phase of implementation, reducing substantially the overall contracting time. A closing mission in June 2016 and the launching of an International Workshop on Adaptation Based Ecosystems served to demonstrate the impact the project has had in the three pilot sites and in the attainment of the Project's Development Objectives. The commitment of the main counterparts (INECC, IMTA, NAFIN, SHCP) has been a key element in ensuring a positive project implementation.

Risks

Systematic Operations Risk-rating Tool

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	--	● Moderate	● Moderate
Macroeconomic	--	● Low	● Low
Sector Strategies and Policies	--	● Low	● Low
Technical Design of Project or Program	--	● Moderate	● Moderate
Institutional Capacity for Implementation and Sustainability	--	● Substantial	● Substantial
Fiduciary	--	● Moderate	● Moderate
Environment and Social	--	● Moderate	● Moderate
Stakeholders	--	● Moderate	● Moderate
Other	--	--	--
Overall	--	● Moderate	● Moderate



Results

Global Environmental Objective Indicators

- Design documents for pilot adaptation measures that facilitate prompt implementation and include sustainability strategy as well as monitoring provisions(Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	3.00	3.00
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

- Two land use plans and a revised protected area management program, incorporating climate change adaptation activities, discussed with stakeholders, and at least one land use planning program submitte(Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Limited availability of WMP (exception Sian Kaan); existing ones do not consider CC information or expected impacts	<p>(i) The land use planning of Alvarado Lagoon has been submitted for approval to deciding authorities (the process is 80% complete);</p> <p>(ii) Land use planning of Tabasco has been updated incorporating CC impacts as well as adaptation and conservation measures;</p> <p>(iii) one management plan for Wildlife Conservation, Management, and Sustainable Utilization Units (UMA) in mangrove ecosystems established in Papaloapan and one in Tabasco.</p>	<p>i) Alvarado Lagoon under Land Use Planning Program (LUPP) incorporating CC impacts as well as adaptation and conservation measures (identification of risk/vulnerable areas to floods, evacuation procedures and routes, construction protocols etc) – it is under consultation with state and municipal authorities;</p> <p>ii) Tabasco Land Use Planning Program (LUPP) revamped incorporating CC impacts as well as adaptation and conservation measures (identifying construction protocols, vulnerable /risk</p>	Two land use plans and a revised protected area mgt. program incorporating climate change adaptation activities, discussed with stakeholders and at least one land use planning program submitted for approval to authorities and supported by local and state institutions



			prone areas to floods, etc.) – only the state approval is pending	
			iii) Protected Area Mgt. Program in Sian Ka'an revised to include climate change considerations such as zoning, conservation, and economic activities among others.	
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

► More than 50 ha of mangrove ecosystem and riparian zones reforested, more than 70 ha of water fluxes rehabilitated in Veracruz and Tabasco, and at least six areas in the Sian Ka'an Biosphere Reserve w(Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No adaptation measures in pilot sites	<p>(i) Reforestation of mangrove ecosystem completed (25 ha) and riparian zones reforested (5 ha) in Veracruz for a target of at least 30 ha.</p> <p>(ii) Reforestation of 25 ha of mangrove ecosystem and more than 5ha of riparian zones reforested in Tabasco for a target of at least 20 ha.</p> <p>(iii) A target of repopulating genetically diverse temperature-resistant coral genotypes in six areas of the Sian Ka'an Reserve is underway (70% completed) ;</p> <p>(iv) Rehabilitation of water fluxes of El Playón mangrove ecosystem in sian Kaanm, and in Papaloapan under implementation (about 75% completed).</p>	<p>(i) Reforestation of mangrove ecosystem completed (25 ha) and riparian zones reforested (5 ha) in Veracruz for a target of at least 30 ha.</p> <p>(ii) Reforestation of 25 ha of mangrove ecosystem and more than 5ha of riparian zones reforested in Tabasco for a target of at least 20 ha.</p> <p>(iii) A target of repopulating genetically diverse temperature-resistant coral genotypes in six areas of the Sian Ka'an Reserve is 100% completed;</p> <p>(iv) Rehabilitation of water fluxes of</p>	More than 50 ha of mangrove ecosystem and riparian zones reforested, more than 70 ha of water fluxes rehabilitated in Sian Kaan and Tabasco, and at least six areas in Sian Kaan Reserve with repopulated temperature-resistant coral genotypes.



			El Playón mangrove ecosystem in sian Kaanm, and in Papaloapan is 100% completed).	
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

► Climate change impact scenarios developed for selected basins and for coastal wetlands supporting knowledge base required to mainstream CC into water resources and wetland management and planning.(Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No response options defined yet on cc impacts in national water resources management	Activity is 100% completed. IMTA developed a response to the IPCC fifth assessment report and at least one national water resources management response option identified that considers CC impact scenarios developed. on CC impact scenarios for the selected wetlands.	Activity is 100% completed. IMTA developed a response to the Intergovernmental Panel on Climate Change (IPCC) fifth assessment report and at least one national water resources management response option identified that considers CC impact scenarios developed. on CC impact scenarios for the selected wetlands. Among the impact scenarios in natural water resource mgt developed the following aspects were included: a) an assessment under three different scenarios of Climate Change over the surface runoff nationwide. In addition, IMTA through a model has analyzed the implementation of an adaptation measure to Climate Change	At least one national water resources management response option identified that considers CC impact scenarios



related to water availability in the area of the lagoon of Alvaro;

b) all the results obtained along this component have provided input to the elaboration of the 5th assessment report for the IPCC.

c) the knowledge based at IMTA was strengthened in technical capacities for hydrological modeling;

d) technical articles were presented and proposed for national and international forums (many of them delivered); the last two articles that have been accepted and will be presented in November. A publication of book on the impact of climate change on surface runoff in watersheds of wetlands of the Laguna de Alvarado, Carmen Pajonal Tomboy and Punta Allen is ready for publishing.

e) A model of the hydrological flows were developed for the three project pilots (Tabasco, Veracruz and Quintana Roo).



Date	23-Nov-2010	29-Dec-2015	29-Dec-2015	31-Oct-2016
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► Production and dissemination of practical guidance document on cost and benefits of adaptation measures in coastal wetlands as a basis for replication efforts.(Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	There are no cost-benefit analysis existing on adaptation measures for the Gulf of Mexico wetlands	--	A cost-benefit analysis of the mangrove reforestation activities in 2 pilot sites of Tabasco and Veracruz was conducted to determine the potential benefits and social costs of adaptation measures to Climate Change. The results of this analysis showed that the benefits are higher than the associated costs for measures implementation. These results have been presented to the Bank, NAFIN, IMTA, INECC, and SEMARNAT.	Cost and benefits of adaptation approaches in wetlands and are compiled in a guidance document Document is being disseminated and serves as basis for replication efforts
Date	23-Nov-2010	--	31-Oct-2017	31-Oct-2016

Overall Comments

Intermediate Results Indicators



► Component 1: At least 3 pilot adaptation measures with sound technical design documents including analysis of financial, economic, social and environmental aspects are ready for implementation (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0	<p>(i) The pilot adaptation measure in Sian Ka'an (corales and water flux) are under development 70% completed;</p> <p>(ii) the pilot measures in Veracruz are over 80% completed;</p> <p>(iii) The pilot measures in Tabasco are 75% completed.</p>	<p>(i) The pilot adaptation measure in Sian Ka'an (coral reefs and water flux) are 100% completed: More than 50 ha of mangrove ecosystem and riparian zones have been reforested, more than 70 ha of water fluxes allowing mangrove regeneration have been rehabilitated in Sian Kaan, and at least six key areas of the coral reef have repopulated with temperature-resistant coral genotypes in the Sian Kaan Reserve.</p> <p>(ii) the pilot measures in Veracruz are over 100% completed: (a) Mangrove reforestation of more than 26 ha, riparian vegetation reforested (5ha), (b) reforestation of native vegetation (fruit and wood species) used as natural fences, & (c) de-silting, cleaning and rehabilitation of more than 3kms of channels has been undertaken;</p> <p>(iii) The pilot measures in Tabasco are 100% completed: (a) Mangrove reforestation (25 ha); (b) reforestation of riparian vegetation (5 ha); (c) de-silting, cleaning and rehabilitation of more than 3kms of channels; (d) construction of palafitte (pile dwelling system to protect communities from floods); (e) installation of a rain water caption system and water treatment plant.</p>	<p>Implemented measures provide results on adaptation approaches in wetlands.</p> <p>The contemplated activities are: (i) to design adaptation measures for Tabasco and Veracruz, (ii) to replant corals resistant to high temperatures and rehabilitate water flow in Sian Ka'an, (iii) to reforest mangrove and dredge canals in Tabasco and Veracruz, and (iv) to enable ecotecnias for Tabasco.</p>



Date	23-Nov-2010	29-Dec-2015	31-Dec-2015	31-Oct-2016
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► Component 3: Modeling, generation of data, analysis, and access to information and long-term remote sensing (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Limited monitoring of pilot wetlands, limited monitoring of CC data in pilot site areas	<p>This activity is 100% completed. IMTA has:</p> <p>(i) established an SPOT-SEMAR agreement for obtaining images and data (ii) a GIS manual has been developed; and (iii) the 5CN scenarios have been updated</p>	<p>This activity is 100% completed. IMTA has:</p> <p>(i) established an SPOT-SEMAR agreement for obtaining images and data (ii) a GIS manual has been developed; (iii) the 5CN scenarios have been updated; (iv) three hydrological climate change impact scenarios for national water resource management that include response options have been completed; (v) Hydraulic models of data with climate variables and scenarios for each of the pilot watersheds have been developed; (vi) Reports on lost temporal and spatial data in the pilot watersheds have been undertaken; (vii) key data on climate change impacts to the hydrological cycle of the key pilot sites has been updated; (viii) Geographic database of georeferenced information containing climate change scenarios (ix) analysis on potential options to minimize the</p>	Modeling, generation of data, analysis, and access to information and long-term remote sensing (through the ALOS satellite)



			long term impacts to climate change in key pilot sites have been developed (x) Assessment of Climate Change over the surface runoff nationwide.	
Date	23-Nov-2010	29-Dec-2015	29-Dec-2015	31-Oct-2016

► Component 1. Pilot adaptation measures will include a Sustainability Strategy (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No adaptation pilots	80% completed. Sustainability strategy in pilot adaptation measures is currently under development	<p>Sustainability strategy in the design of pilot adaptation sites completed 100%: These include an environmental action plan and strategies for continuation of key activities:</p> <ol style="list-style-type: none"> 1) design and repopulation of coral reefs in Sian Ka'an; 2) design of adaptation measures in Tabasco; 3) design de adaptation measures in Veracruz; 4) Rehabilitation of hydraulic flow in El Playón (Quintana Roo); 5) Reforestation and de-silting in Veracruz; 6) design of palafittes in Tabasco; 7) reforestation and de-silting in Tabasco; and 8) design of rain water caption system and water treatment plan. <p>While early to measure, some communities have expressed commitment to continue implementation of project activities.</p>	Pilot adaptation measures will include a sustainability strategy.
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016



► Component 1: Two mgt Plans for wildlife conservation, and sustainable utilization units (UMAs) in mangrove ecosystems developed (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	2.00	2.00	2.00
Date	23-Nov-2010	29-Dec-2015	29-Dec-2015	31-Oct-2016

▲ Papaloapan - One management plan for Wildlife Conservation, Management, and Sustainable Utilization Units (UMA) in mangrove ecosystems. (Number, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	--	1.00	1.00

► Component 2. Papaloapan: • Alvarado Municipality under land use planning incorporating CC impacts as well as adaptation and conservation measures. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Conservation management plans do not take CC impacts into consideration and unsustainable land use practices in the buffer zone prevail	80% completed.	Two land use plans and a revised protected area mgt. program that addresses climate change adaptation measures has been developed. Thus, 100 completed. The adaptation measures include construction protocols, evacuation routes in case of floods, protocols for the continuing cleaning and de-silting of key water flows. These have been presented and discussed to key stakeholders and at least one land use planning program submitted for approval to authorities and supported by local and state institutions.	Land use planning of Alvarado Lagoon submitted for approval to deciding authorities
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016



▲ Component 2: • Papaloapan - Reforestation of mangrove ecosystem and riparian zones for a target of at least 30 ha. (Text, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	a decline in the mangrove and riparian vegetation and no plans for reforestation	100% completed. 25 Ha of mangroved reforestation concluded, and 5 ha of riparian zones restored.	100% completed. 25 Ha of mangrove reforestation concluded, and 5 ha of riparian zones restored in Papaloapan,	A target of 30 ha of reforested mangrove and riparian forest

► Papaloapan: • Infrastructure and equipment (cleaning, desilting and rehabilitation of at least 3 km of water fluxes; and one tide gauge and meteorological instruments) to reduce vulnerability to CC. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Lack of adaptation infrastructure or equipment against CC vulnerability.	100% completion of infrastructure for cleaning waterflux (3kms); Mareographer and meteorological stations purchased and in processed to be installed (65% completed)	100% completion of infrastructure for cleaning waterflux (3kms); Mareographer and meteorological stations installed and operation (100% completed)	Infrastructure and equipment installed and operating.
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016



► Papaloapan: Strengthening capacities for adaptation to CC in at least one location. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Lack of local capacity to address adaptation issues in pilot sites.	80% completed. Field visits, and a number of workshops undertaken. Working groups have been established between the federal, state and local levels, and support from the local population has been developed.	Field visits, and a number of workshops undertaken including a workshop on diagnosis, a presentation on the adaptation measures and workshops on the results and vulnerability of social emergency plans. Working groups have been established between the federal, state and local levels, and support from the local population has been developed.	One awareness raising capacity building workshop concluded Climate Risk workshop developed by INECC Follow-up workshops
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

► Tabasco: Land use planning updated incorporating CC impacts as well as adaptation and conservatino measures. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Deforestation and land conversion are frequent. Lack of CC or adaptation considerations in land use planning.	Activity 100% completed. The local land zoning plan (OET) has been updated with CC and adaptation measures.	Activity 100% completed. The local land use planning (OET) has been updated with CC and adaptation measures which include flooding risk areas, evacuation routes, and areas where specific adaptation measures (reforestation, rehabilitation of hydrological flows, etc.) should be implemented. State approval pending.	Land use planning of Tabasco updated with CC considerations, and methodology available.
Date	30-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016



▲ Tabasco: Reforestation of mangrove ecosystem and riparian zones for a target of at least 20 ha. (Text, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	High deforestation rates in mangrove ecosystems and riparian zones damaged. Fragmentation between natural vegetation in key areas.	100% completed. 25 ha of mangroves reforested in Tabasco, and 5 ha of riparian zones restored.	100% completed. 25 ha of mangroves reforested in Tabasco, and 5 ha of riparian zones restored.	Reforestation of at least 20 ha reforested and/or riparian zones restored.

► Tabasco: • Infrastructure and equipment (cleaning, desilting and rehabilitation of at least 3 km of water fluxes; one tide gauge and meteorological instruments; and at least two stilt houses and one r (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Lack of infrastructure and equipment to adapt to CC.	Development of a system for capturing rainwater concluded (100%). Currently installing a fence and protection for the equipment. The mareographic equipment has been purchased and is in process to be installed. The radio and communication equipments, antenas for an early warning system are pending SHCP approval (65% completion).	a) Development of a system for capturing rainwater concluded (100%). b) Water treatment plant 100% concluded (which includes a fence and protection for the equipment). c) Cleaning, de-silting and rehabilitation of at least 3 kms of water fluxes 100% completed d) The mareographic equipment has been e) Mareographer and metereological stations installed and operating (100% completed) f) two stilt (palafittes) houses and one rainwater harvesting system constructed (100% completed) g) The radio and communication equipment, antenthas for an early warning system installed and operating in 3 communities (100% completion).	Equipment and infrastructure installed and operational
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016



► Tabasco: One mgt plan for wildlife conservation and sustainable utilization unit (UMA) in mangrove ecosystem. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	There are no mgt plans for wildlife conservation and sustainable utilization unit (UMA) in mangrove ecosystem in the pilot area.	Activity 100% completed.	The management plan for Wildlife Conservation, Management, and Sustainable Utilization Units (UMA) for the mangrove ecosystems in Tabasco has been completed. However, the registry of the UMA is pending due to a lack of registration certificate of the ejido assembly. This activity is therefore 50% completed.	At least one UMA established
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

► Tabasco: Strengthening capacities for adaptation to CC in at least one location. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Lack of capacity for adaptation in local communities.	80% completed. Field visits, workshops, working groups linking the state, federal and local level established, and local population supporting adaptation measures.	Field visits, and a number of workshops undertaken including a workshop on diagnosis, a presentation on the adaptation measures and workshops on the results and vulnerability of social emergency plans. Working groups have been established between the federal, state and local levels, and support from the local population has been developed. This activity is 100% completed.	Capacities for adaptation to CC strengthened in at least two locations through follow-up workshops
Date	23-Nov-2010	29-Dec-2015	29-Dec-2015	31-Oct-2016



► Sian Ka'an: Protected Area Monitoring System Strengthened to include CC parameters. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	The Protected Area Monitoring System does not include CC parameters.	65% completed. The monitoring protocol has been developed and is waiting for the equipments (mareographic and metereological) to be installed.	The monitoring protocol has been developed. The equipment: mareographic and metereological instruments are installed and operating. The oceanographic equipment is already acquired and only the donation to CONAMP is pending. This activity is 100% concluded.	Monitoring systems with CC parameters developed for Sian Ka'an
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

► Sian Ka'an: Protected Area Management Program revised to include CC considerations. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	The SK mgt plan does not have any CC considerations.	Activity 100% completed.	Protected Area Management Program for the Natural Reserve of Sian Ka'an has been revised to include CC considerations and adaptation measures. These include identification of vulnerable areas to CC, strategies to minimize the impacts in key ecosystems, economic activities that could be developed in the area considering the climate change implications among others. Activity 100% completed.	Protected area management program revised to include climate change considerations
Date	23-Nov-2010	29-Dec-2015	29-Dec-2015	31-Oct-2016



► Sian Ka'an: Repopulating genetically diverse temperature-resistant coral genotypes in six areas. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Coral reef system in SK degraded and damaged due to CC and human activity.	65% completion. The program of selecting and installing the corals is underway.	Six locations of the Sian Kaán Reserve (comprising at least 3,500 m2) have been repopulated with temperature resistant coral genotypes.	A target of genetically diverse temperature-resistant coral patches established in 6 locations achieved
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

► Sian Ka'an: Rehabilitation of water fluxes of El Playón mangrove ecosystem for a target of at least 70 ha. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	The mangrove ecosystem of El Playon is degraded and requires rehabilitation of water system.	55% completion. Rehabilitation of the waterfluxes is underway.	Rehabilitation of the water-fluxes (100 ha) and 6 unclogging sewers that will allow for the hydrological flow in the mangrove area of el Playon has been concluded (100%).	Rehabilitation of water fluxes and restoration of El Playón mangrove ecosystem in at least 70 ha.
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

► Sian Ka'an: Infrastructure and equipment to reduce CC vulnerability installed (one tide gauge, and meteorological and oceanographic instruments). (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	the SK reserve is lacking equipment and infrastructure for CC adaptation.	60% completed. The mareographic and meteorological equipment has been purchased and is waiting installation. The purchase of oceanographic equipment is pending SHCP/SFP approval.	The mareographic and meteorological equipment are already operating. The donation of the oceanographic equipment from INECC to CONANP is pending.	infrastructure in place and equipment installed and operational
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016



► Sian Ka'an: Strengthening local capacities for adaptation to CC in at least one location. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Local communities lack capacity on how to address adaptation issues to CC	60% completed. Field visits, workshops, working groups have been established linking state, federal and local levels, the local population supports the adaptation measures in the reserve.	Field visits, and a number of workshops undertaken including a workshop on diagnosis, a presentation on the adaptation measures and workshops on the results and vulnerability of social emergency plans. Working groups have been established between the federal, state and local levels, and support from the local population has been developed. This activity is 100% completed.	Capacities for adaptation to CC strengthened in at least two locations through follow-up workshops
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

► Component 3: Climate change impact scenarios developed for national water resources and for coastal wetlands including identification of response options (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	National policies do not yet incorporate cc impacts on water availability	100% completed. IMTA has developed the climate change impact scenarios. These will then be translated into hydrology impacts and could be considered for OETs	This activity is 100% completed. IMTA has: (i) established an SPOT-SEMAR agreement for obtaining images and data (ii) a GIS manual has been developed; (iii) the 5CN scenarios have been updated; (iv) three hydrological climate change impact scenarios for national water resource management that include response options have been completed; (v) Hydraulic models of data with climate variables and scenarios for each of the pilot watersheds have been developed; (vi) Reports on lost temporal and spatial	Climate change impact scenarios for national water resources and for coastal wetlands Including identification of response options, developed



data in the pilot watersheds have been undertaken;
 (vii) key data on climate change impacts to the hydrological cycle of the key pilot sites has been updated;
 (vii) Geographic database of georeferenced information containing climate change scenarios
 (ix) analysis on potential options to minimize the long term impacts to climate change in key pilot sites have been developed
 (x) Assessment of Climate Change over the surface runoff nationwide.

Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	30-Oct-2015
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► Component 4: Established process for articulation and coordination among the agencies involved. (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Lack of articulation among agencies involved leading to administrative bottlenecks.	Project management has improved during the last review period as reflected by the level of disbursements, committed resources and progress in implementation of key activities.	Project management has improved during the last period as reflected by the level of activities developed, increased disbursements, committed resources and progress in implementation of key activities.	Final evaluation finds the project management satisfactory.
Date	23-Nov-2010	29-Dec-2015	31-Oct-2016	31-Oct-2016

▲ Component 4: Reduced time in issuing contracts and administrative processes. (Text, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Contracts take up to 9 months to be approved.	75% completed. Agreements and protocols have been established among all stakeholders to reduce time in	All the stakeholders involved in processing contracts have significantly increased their management and action capacity, which can be seen in the	Final evaluation finds the project management satisfactory




processing contracts.

number of implemented activities.

Overall Comments

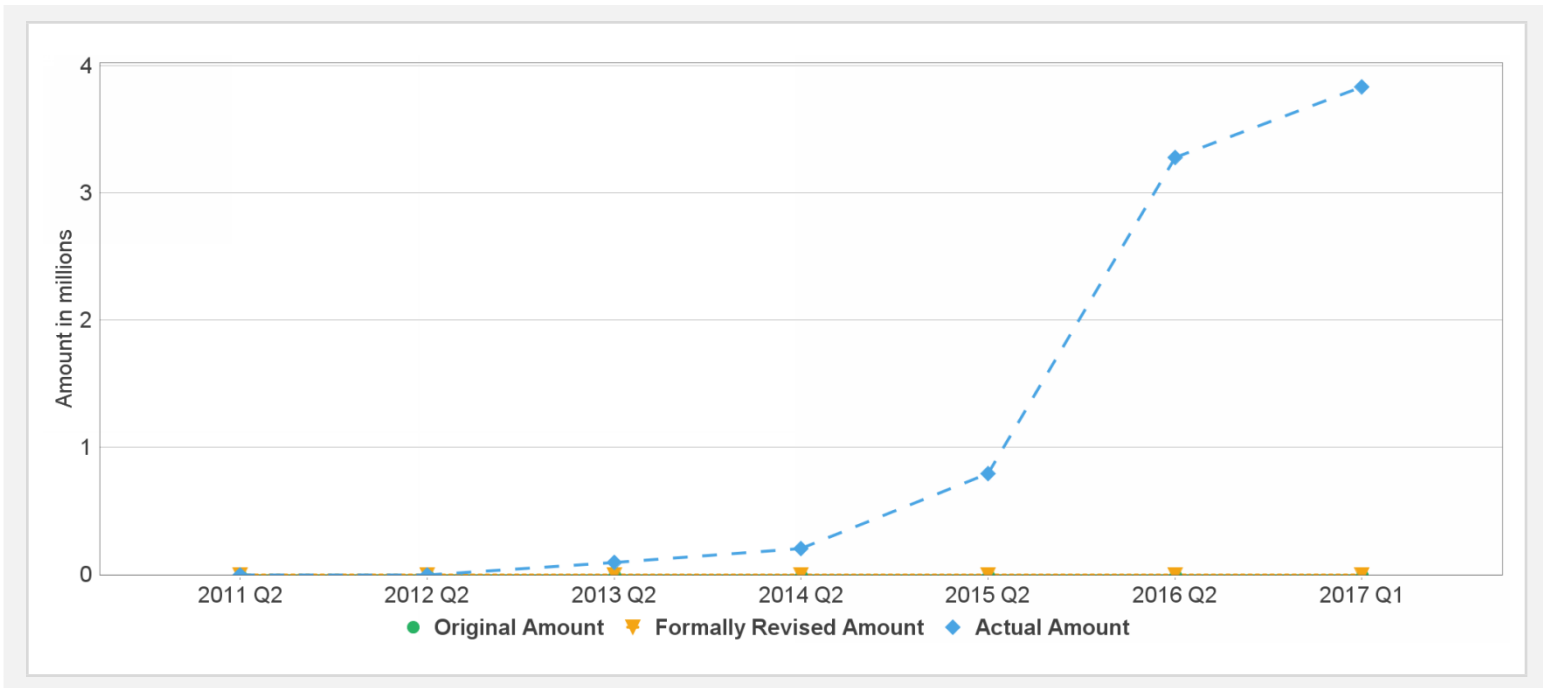
Data on Financial Performance**Disbursements (by loan)**

Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	Disbursed
P100438	TF-96681	Closed	USD	4.50	4.50	0.00	3.83	0.67	 85%

Key Dates (by loan)

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P100438	TF-96681	Closed	10-May-2011	11-May-2011	07-Oct-2011	31-Oct-2015	31-Oct-2016

Cumulative Disbursements



Restructuring History

Level 2 Approved on 14-Oct-2015

Related Project(s)

There are no related projects.