

**PROJECT DOCUMENT**  
**ECUADOR – CHILE (multipaís)**

**Project Title:** Reducing climate vulnerability and flood risk in coastal urban and semi urban areas in cities in Latin America

**Project Number:** 00121247 (DIM)

**Implementing Partner:** Programa de las Naciones Unidas para el Desarrollo

**Start Date:** 04/07/2019

**End Date:** 01/2025

**PAC Meeting date:** 16/10/2019

### Brief Description

Latin America is one of the most affected regions by hydro-meteorological hazards in the world due to a recurrent El Niño Southern Oscillation that produces an extreme rainfall and floods in the Pacific coast and central part of South America and a rain deficit and severe drought in Colombia, Venezuela, the Bolivian Andes, the Caribbean and northeast Brazil. The 1997 – 1998 El Niño, one of the strongest in record, produced USD 7.5 billion in losses in five Andean countries<sup>1</sup> (CAF, 2000a; CAF, 2000b; OPS, 2000). The most affected countries, at that time, were Ecuador (14.6 % of GDP), Bolivia (7% of GDP) and Peru (4.5% of GDP).

Coastal areas are more exposed and vulnerable to the negative effects of climate change and the impacts of weather-related disasters. Future sea level rise could severely impact coastal populations by inundation, flooding, coastal erosion and saltwater intrusion (Neumann et al., 2015). Hallegatte et al., (2013) estimated that flood-related losses in the world's 136 largest coastal cities could increase from ca., USD 6 billion / year in 2005 to USD 52 billion / year by 2050 with projected socio-economic change alone. Climate change could further increase losses to about one trillion per year.

LAC coastal cities are exposed to the impacts of climate change. Reguero et al., (2015) estimated that, without adaptation, more than four million people will be exposed to flooding from relative sea-level rise by the end of this century, and that El Niño increases the threat on the Pacific-coast countries.

Adaptation measures are crucial to reduce the risk of severe human and property losses in the coastal areas. However, in LAC the adaptation capacity is quite diverse. Thirteen out of 33 countries (39%) have very low and low adaptation capacity. Also, the population of coastal cities tend to be more vulnerable to climate change. Three of the four largest coastal cities of LAC have very high vulnerability index<sup>2</sup>, and the other has a high vulnerability index<sup>3</sup> (CAF, 2014). But the same occurs in smaller cities like Cartagena (1.48 vulnerability index = very high), Panama (2.7 vulnerability index = high) and Montevideo (2.91 vulnerability index = high).

The purpose of this regional project is to generate lessons on increasing adaptive capacity to be useful in coastal cities of Latin America and the Caribbean. The governments of Chile and Ecuador have agreed to collaborate and jointly implement an action learning approach to address the issues of climate change adaptation in coastal cities.

For this, the governments of Chile and Ecuador have decided to develop practical actions in three small coastal cities (less than 500,000 inhabitants): Antofagasta and Taltal in Chile, and Esmeraldas in Ecuador.

The project will facilitate interaction among practitioners and stakeholders of the three cities to learn from each other, and to develop common knowledge on how to adapt to climate change and to reduce the associated disaster risk. For this purpose, thematic communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger et al., 2002) will be established to allow the development of collective learning on specific topics among the three cities. An electronic platform will facilitate collaboration among project participants, and to share lessons in LAC. It is envisioned that the electronic platform will motivate interest and involvement on risk-based adaptation in coastal cities in the region.

<sup>1</sup> i.e., Bolivia, Colombia, Ecuador, Peru, and Venezuela.


<sup>2</sup> This index takes into consideration human factors like poverty, education level, access to health services, enforcement of land-use regulations, and displacement. See CAF (2014).

<sup>3</sup> Lima has a 1.65 vulnerability index (very high), Rio de Janeiro has 2.12, Sao Paulo has 2.3, and Buenos Aires has 2.55 (high).

**Contributing Outcome (UNDAF/UNDP SP):**  
 UNDAF Effect 4: "By 2018, it has helped to strengthen the institutional and citizen capacities to promote the rights of nature, for the creation of conditions for a sustainable development, and to improve resilience and management of risks in the face of the effects of climate change and disaster of natural and anthropic origin.  
 UNDP SP: Outcome 5. National capacities to reduce conflict livelihoods and reduce natural risks, including those arising for climate change.  
**Indicative Output (s) with gender marker:** 4.1.1. Management and budget strategies, plans and tools are prepared and implemented, focused on groups identified as priority and with special emphasis on gender inequality for the: (...) sustainable management of natural resources, ecosystemic goods and services, climate change, resilience promotion, (...). GEN 1.

<b>Total resources required:</b>	5.250.590 (U.S. Dollars)	
<b>Total resources allocated:</b>	<b>UNDP TRAC:</b>	0
	<b>CAF (AF):</b>	5.250.590
	<b>Donor:</b>	
	<b>Government:</b>	
<b>In-Kind:</b>		
<b>Unfunded:</b>		

Agreed by (signature)

<b>PNUD</b>

Matilde Mordt Resident Representative
Date: 22-01-2020

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## I. DEVELOPMENT CHALLENGE

Weather-related disasters have a major impact worldwide. Between 1995 and 2015, 90% of disasters were weather-related and claimed 606,000 lives and affected about 4.1 billion people (UNISDR, 2015). Over the past 20-year period, floods and storms, respectively, accounted for 47% and 40% of all weather-related disasters (UNISDR, 2015).

In Latin America, the most obvious risk factor is El Niño Southern Oscillation (ENSO), a recurrent planetary climate phenomenon. El Niño (ENSO's warm phase) produces an extreme increase in rain and floods in the Pacific coast and central part of South America (i.e., Argentina, Bolivia, south Brazil, Ecuador, Paraguay, Peru, and Uruguay), and a rain deficit and severe drought in Colombia, Venezuela, the Bolivian Andes, the Caribbean and northeast Brazil. The 1997 – 1998 El Niño, one of the strongest in record, produced USD 7.5 billion in losses in five Andean countries (CAF, 2000a; CAF, 2000b; OPS, 2000). The most affected countries, at that time, were Ecuador (14.6 % of GDP), Bolivia (7% of GDP) and Peru (4.5% of GDP).

Latin America and the Caribbean (LAC) is a very vulnerable area. Out of 33 countries, 10 are extremely vulnerable (30%) and eight are highly vulnerable (24%) to the impacts of climate change (CAF, 2014).

Coastal areas are more exposed and vulnerable to the negative effects of climate change and the impacts of weather-related disasters. Future sea level rise could severely impact coastal populations by inundation, flooding, coastal erosion and saltwater intrusion (Neumann et al., 2015). Hallegatte et al., (2013) estimated that flood-related losses in the world's 136 largest coastal cities could increase from ca., USD 6 billion / year in 2005 to USD 52 billion / year by 2050 with projected socio-economic change alone. Climate change could further increase losses to about one trillion per year. In addition, it is anticipated that climate change will produce stronger and more frequent coastal storms and ENSO events (Cai et al., 2014; Cai et al., 2015).

LAC is the most urbanized region of the world, about 80% of the population live in cities (Escamilla et al., 2008; Hayes-Mitchell & Godfrey, 2008; UN-HABITAT, 2012). Half of the urban population live in cities with less than 500,000 inhabitants, and 14% live in megacities (UN-HABITAT, 2012). A major portion of the population live in coastal areas. About 42% of the population live within a maximum distance of 100 km from the coast (UN-HABITAT, 2012). However, there are extreme cases in the Caribbean, where countries like Montserrat and Aruba have, respectively, 100% and 99.1% of its population living along five kilometres of the seafront (CEPAL, 2012). Four of the eight largest cities of south America (> 5 million people) are coastal, and together house about 55 million people.

LAC coastal cities (e.g., Buenos Aires, Guayaquil, Lima, Montevideo, Panama, Rio de Janeiro, San Juan, Sao Paulo and Tijuana) are exposed to the impacts of climate change. Reguero et al., (2015) estimated that, without adaptation, more than four million people will be exposed to flooding from relative sea-level rise by the end of this century, and that El Niño increases the threat on the Pacific-coast countries. Sepulveda & Petley (2015) identified that ENSO is a key factor in the initiation of landslides in LAC.

Adaptation measures are crucial to reduce the risk of severe human and property losses in the coastal areas. However, in LAC the adaptation capacity is quite diverse (Figure 1). Thirteen out of 33 countries (39%) have very low and low adaptation capacity. Also, the population of coastal cities tend to be more vulnerable to climate change. Three of the four largest coastal cities of LAC have very high vulnerability index, and the other has a high vulnerability index (CAF, 2014). But the same occurs in smaller cities like Cartagena (1.48 vulnerability index = very high), Panama (2.7 vulnerability index = high) and Montevideo (2.91 vulnerability index = high).

The present project focus on the impacts of climate-related risk in coastal cities of LAC and identified adaptive capacity at local level as well as creating a regional platform in LAC for sharing good practice and lessons learned as core elements in dealing with the present development challenge.

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## II. STRATEGY

The purpose of this regional project is to generate lessons on increasing adaptive capacity to be useful in coastal cities of Latin America and the Caribbean. The governments of Chile and Ecuador have agreed to collaborate and jointly implement an action learning approach to address the issues of climate change adaptation in coastal cities.

For this, the governments of Chile and Ecuador have decided to develop practical actions in three small coastal cities (less than 500,000 inhabitants): Antofagasta and Taltal in Chile, and Esmeraldas in Ecuador.

These cities were chosen because they:

- a) reflect different conditions in terms of population size<sup>4</sup> and adaptive capacity (**¡Error! No se encuentra el origen de la referencia.** and **¡Error! No se encuentra el origen de la referencia.**);
- b) face climate-related disaster risks that are typical to coastal cities across Latin America and the Caribbean; and
- c) represent adaptation challenges that are common along LAC.

The project strategy is based on active learning and sharing knowledge to empower local authorities and communities and contribute to build resilient cities. The project will cultivate communities of practice among practitioners and stakeholder of both countries to foster the development of collective learning. The main elements of the strategy are:

- a. Develop experience on how to build better to withstand climate-related hazards. This includes (i) updating the designs of Antofagasta's stormwater plan and protection works for quebrada Bonilla, and Esmeraldas' construction works to stabilize cerro Gatazo, and (ii) building the public works in quebrada Bonilla and cerro Gatazo. These actions will facilitate learning on incorporating the climate variable into protection works. In addition, a green infrastructure plan will be prepared for Esmeraldas, and a first element will be implemented in cerro Gatazo to complement grey infrastructure.
- b. Enhance disaster preparedness by (i) using a weather radar in Esmeraldas, a storm detection system in Antofagasta, and an increased number of meteorological stations to anticipate risk situations and gain time to alert the local population, and (ii) strengthen involvement of local groups, including installing sirens to alert of danger, publicize evacuation maps, and establish public emergency drills to promote rapid and effective response to floods and mudflows.
- c. Prepare an on-line regional training course on risk-based adaptation for municipal officers of coastal cities. This will contribute to strengthen local capabilities and empower municipal officers to mainstream DRR at the local level.
- d. Increase awareness and empower local communities through public communication and education strategies and develop a narrators' initiative to strengthen cultural memory for climate-related DRR.
- e. Share lessons by systematically document, exchange and disseminate experience and learning within each country, between both countries and with other coastal cities of LAC.

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### III. RESULTS AND PARTNERSHIPS

#### *Expected Results*

The project objective is to reduce vulnerability to climate-related floods, mudflows and landslides in three coastal cities by mainstreaming a risk-based approach to adaptation, building collaboration and networking, and developing a culture of adaptation. The project focus on the hydro-meteorological hazards of mudflows in Antofagasta and Taltal, and flooding and landslides in Esmeraldas. The expected mid-term impacts are improved enabling conditions to sustain DRR adaptation in the three cities. In the long-term, it is expected that this will result in improved adaptive capacity. It is also envisioned that the lessons of the project are useful to other countries in Latin America and the Caribbean, and other regions of the world.

The project is organised into three components:

- f. Component 1 will focus on priority actions to increase resilience in the three cities. Four outcomes will be generated by mainstreaming DRR into local planning, building infrastructure which incorporate climate-related variables, improving climate monitoring, and strengthening the existing early warning and response systems.
- g. Component 2 will focus on strengthen the capacities of local government officers and communities, as well as fortifying connections between communities and local and national government. Two outcomes will be generated by developing an online training course on risk-based adaptation for municipal and government officers and implementing communication and education strategies to

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<sup>4</sup> Antofagasta is the largest of the three cities with ca., 320 thousand inhabitants. Esmeraldas has about half of the population of Antofagasta (ca., 161 thousand people), and Taltal is a very small city of about 10 thousand people.

increase local awareness and contribute to build cultural memory. The online course will be open to professionals from other coastal cities of Latin America and the Caribbean.

- h. **Component 3** will focus on nurturing the project's communities of practice and to document and disseminate the lessons. The backbone of the regional project are the communities of practice that allow the development of collective learning on specific topics. Five communities of practice will be developed. This component includes:
- i. An electronic platform to facilitate interaction and collaboration among project participants of both countries (e.g., teleconference, webinars), and the dissemination of lessons for the benefit of other coastal cities in the region and the world. It is expected that this platform will serve to motivate further participation of other coastal cities in the region.
  - ii. Nurturing the communities of practice and facilitating networking among practitioners.
  - iii. The systematic documentation of lessons in different formats (e.g., YouTube channel, formal documents) and their world-wide dissemination through various channels (e.g., mailing list server, twitter, website).

The rationale of the regional project is to generate practical lessons on risk-based adaptation in coastal cities with different adaptive capacities and disseminate the lessons to Latin America and the Caribbean to motivate interest and involvement of other cities of the region.

### **Partnerships**

The United Nations Development Programme (UNDP) will be the executing agency. UNDP will be responsible for project execution, while ensuring collaborative and coherent regional action. Project execution includes, among other tasks, financial management, personnel contract and management, and procurement of goods and services. UNDP will execute the project in accordance with the purpose and activities agreed with the implementing agency.

In Chile, the project partners are DMC, MOP, MMA, ONEMI, the Municipality of Antofagasta, and the Municipality of Taltal.

In Ecuador, the project partners are INAMHI, MAE, the Municipality of Esmeraldas and the Provincial Government of Esmeraldas. The project partners will contribute to project execution and will ensure post-project sustainability.

### **Risks and Assumptions**

<b>Project Risks</b>			
<b>Type</b>	<b>Description</b>	<b>Mitigation measure</b>	<b>Impact &amp; Probability Level<sup>5</sup></b>
<b>Political</b>	Change of central government in Chile. New president and congress will take office in 2018 <sup>6</sup>	Present the project to new authorities in MMA	P = 5 I = 3
	Change of municipal governments in Antofagasta and Taltal. The new authorities will take office in December 2020 <sup>7</sup> .	Present the project to new municipal authorities in Antofagasta and Taltal	P = 5 I = 3
	Change of municipal and provincial governments in Esmeraldas. The new authorities will take office in 2019 <sup>8</sup> .	Present the project to new municipal authorities in Esmeraldas. Bailment agreement between CAF and GADPE <sup>9</sup>	P = 5 I = 3
<b>Institutional</b>	Support withdrawal from local counter-parts, considering the change of Governments.	Letters of endorsements by national authorities.	P = 3 I = 3

<sup>5</sup> 1 = low / 5 = high

<sup>6</sup> During the second year of project implementation.

<sup>7</sup> Before project closure.

<sup>8</sup> In the mid-term of Project execution.

<sup>9</sup> CAF will sign a bailment agreement with GADPE for the use and maintenance of the radar and meteorological stations. It is foreseen that the equipment will be transferred to GADPE on year 4, after the new provincial government ratifies the commitment to maintain and operate on the long-term the radar and meteorological stations.

Project Risks			
Type	Description	Mitigation measure	Impact & Probability Level <sup>5</sup>
	The change of Governments could eventually lead to staff re-structuration, meaning that there could possibly be a knowledge gap between the newcomers.	Online training course on risk-based adaptation measures for municipal officers of coastal cities.	P = 5 I = 3
Financial	Lower economic activity in both countries and impact of April's earthquake in Ecuador <sup>10</sup> .	Support project partners to incorporate and assign required resources in their institutional plans and budgets.	P = 5 I = 3
	Grant not being delivered and/or not being delivered on time.	CAF's cash flow would allow to respond to disbursements in case of delays.	P = 2 I = 3
	Increase in budget due to costs miscalculations, and/or due to overprices during project implementation.	Agreement signed with local counterparts to guarantee the project execution.	P = 2 I = 4
Operational	GADPE has no experience with meteorological monitoring.	Agreement between GADPE and INAMHI <sup>11</sup>	P = 5 I = 3
	Baseline studies are not up to date	Adjustment of existing designs, incorporating the climate change factor.	P = 5 I = 4
	Inaccuracy in radar and storm detection system implementation	An agreement will be signed between MOP, DMC and ONEMI (Chile), and GADPE and INAMHI (Ecuador) to ensure technical and geographical accuracy.	P = 3 I = 3
Technological	Misuse of the online platform created to share best practices between coastal cities.	In-person meetings between project partners of both countries. Four thematic visits are forecasted.	P = 3 I = 2
Social	Lack of understanding of the project, and hence opposition from the local inhabitants.	The communication strategy contemplates socialisation of the project with the local communities.	P = 3 I = 3
Environmental	Effect of El Niño / La Niña in precipitation and local weather conditions.	Monitor information and alerts in national meteorological entities, NOAA, and World Meteorological Organization.	P = 4 I = 1

## Stakeholder Engagement

### Target groups

In Chile:

The direct beneficiaries are the people living in hazard areas. This is the population that will have to be evacuated in case of emergency: (i) about 116 thousand people from Antofagasta's 17 gorges (Saavedra, 2016), and (ii) the entire population of Taltal (ca., 13,000 people). This includes people living in campamentos, which are the most vulnerable groups. The project intervention will contribute to protect the estimated 4,593 families that live in campamentos in Antofagasta (TECHO, 2016), and the estimated 400 families living in campamentos in Taltal<sup>1</sup>.

In Ecuador:

Direct beneficiaries will be the people that live in flood and landslide hazard areas (ca., 60% of the city's population). The works in Cerro Gatazo will directly benefit ca., 500 people that live in the hazard area (Barrio

<sup>10</sup> The economies of both countries have been affected by international commodities prices decline. The reduced public resources may limit the intended contributions from central and local governments.

<sup>11</sup> A pre-condition for the purchase of the radar and meteorological stations will be to have a signed agreement between GADPE and INAMHI to establish operational procedures. INAMHI will provide technical assistance and oversight of the operation.

20 de Noviembre). The direct beneficiaries of the pilot flood warning system will be ca., 700 families living in six neighbourhoods of Luis Vargas Torres island (about 28% of the families that live in the island).

### **Other Potentially Affected Groups**

The project implementation will avoid any adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, displaced people, refugees and people living with disabilities.

The project has a highly participatory approach and incorporates specific actions to involve marginalized and vulnerable groups. In the project design phase, a beneficiary analysis was conducted to map their respective socioeconomic conditions in Antofagasta, Taltal and Esmeraldas. The study allowed identification of the most vulnerable groups, living in (i) slums (campamentos) located in hazard areas in Antofagata and Taltal, and (ii) informal settlements in Esmeraldas. In various degrees, these people have poor-quality housing, limited access to basic services and low-income. Unidentified Sub-projects (USPs) will be screened in a complete manner during implementation project.

In carrying out infrastructure construction work in Cerro Gatazo - Ecuador, it potentially involves temporary physical displacement in the community, Esmeraldas – 20 Noviembre Neighbours in Ecuador. To avoid or minimize the need for involuntary resettlement of community, the operational contractor has to:

- Be aware that the project funded by the Fund shall be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement.
- Develop a Procedure plan for Possible Resettlements in agreement with the GAD of Esmeraldas.
- Design a technically, economically and socially feasible resettlement option.
- Provide fair and adequate compensation as an alternative for housing.
- Fully communicate and consult the Procedure Plan for Possible Resettlements with the beneficiaries and possible affected community for the implementation of the works developed in Cerro Gatazo.

### ***South-South and Triangular Cooperation (SSC/TrC)***

- The regional approach will facilitate South-South cooperation and the foreseeable future application of learnings in other coastal cities of the region. The backbone of the project is the exchange of know-how, experience and lessons among local and national authorities and stakeholders in both countries. The main tool will be communities of practice to facilitate horizontal collaboration.
- Some examples of the benefits of a regional approach are:
  - Exchange of experience and learnings on:
    - the use of meteorological radar and the storm detection system between INAMHI, GADPE, DMC, and MOP,
    - early warning systems among ONEMI, DMC, INAMHI, SGR and the three municipalities, and
    - mainstreaming risk-based adaptation in coastal cities between MMA and MAE.
  - Expanding the narrators' concept that was first applied in Chile to be useful in a new cultural setting in Esmeraldas, and the possibility to applying it in other coastal cities of the region.
- The regional approach also opens the opportunity to make available experience and lessons to a wider community of interested groups in Latin America and the Caribbean.
- UNDP will be a catalyst of this process by facilitating access to worldwide experiences and encouraging partnerships among the project participants in close coordination with CAF.

### ***Knowledge***

Component 3 of the project focus on learning and knowledge management. It comprises one outcome (i.e., outcome 7) and two outputs (i.e., outputs 7.1 and 7.2).

The backbone is the regional platform that will facilitate communication and collaboration among project partners and dissemination of information and lessons.



The main tool will be communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger et al., 2002) among practitioners and key stakeholders. The communities of practice will facilitate common learning and the development of social capital. It is envisioned to have five communities of practice:

1. Introducing the climate-variable in the design and construction of adaptation infrastructure.
2. Climate monitoring to strengthen early warning systems.
3. Early warning and response systems.
4. Raising public awareness and engagement.
5. Narrators as a tool to cultivate cultural memory.

The main instruments will be: Project blogs, YouTube channel, Learning experience documents, Technical documents, Memories of exchange visits, Mid-term review report, terminal evaluation report, Project memoirs.

## ***Sustainability and Scaling Up***

### Social sustainability

The project includes a participatory and inclusive approach and emphasizes the involvement of key stakeholders. Four key elements that have been incorporated in the project design to ensure social sustainability are:

- i. Establish and cultivate communities of practice to facilitate that practitioners collaborate to address common problems and develop relationships based on trust. These communities of practice will include gender and social inclusion as cross-cutting issues.
- j. Implement inclusive public communication strategies to empower and engage local communities.
- k. Foster local initiatives to build cultural memory through various means.

The public communication strategies and narrators' initiative will contribute to develop the basis to sustain risk-based adaptation after project closure. It is intended that local groups and stakeholders internalise the importance and need to implement adaptation measures and introduce it into the social agenda of the three cities.

### Institutional sustainability

The project is anchored in the pertinent national and local authorities responsible for climate change adaptation and DRR.

In Chile, the project is grounded in the Ministry of Environment. MMA has the mandate to promote climate change adaptation and has the capacity to work at the national and local levels. MMA will be able to sustain and capitalise project results.

MOP has the mandate to implement protection works, including the management of stormwater. Also, it has enough capacity to sustain and capitalise project results. MOP (through DGA) has agreed to operate and maintain the meteorological stations to be installed in the area.

DMC -- part of the General Directorate of Civil Aviation -- is the national meteorological authority and the meteorological service provider for civil aviation. DMC has agreed to operate and maintain the storm detection system to be installed in the area.

ONEMI has the mandate to coordinate the early warning and response systems. It has agreed to capitalise on the project to advance the work on DRR.

The municipalities of Antofagasta and Taltal head the COE in case of emergency. They have agreed to execute the public communication and education strategies and to mainstream climate change adaptation into their programmes.

In Ecuador, the project is grounded in the Ministry of Environment. MAE has the mandate to promote climate change adaptation and the capacity to work at national and local levels.

INAMHI is responsible for weather and climate monitoring and has long experience managing the national meteorological network and feeding information to the early warning systems. It will provide advice and technical support to GADPE to develop local capacities for weather monitoring. GADPE is willing to develop a provincial meteorological network that support early warning. During project implementation, GADPE will develop its capacities to operate and maintain the weather radar and meteorological stations on the long term. The municipality of Esmeraldas has technical and operational capacities to contribute to execute project activities and to sustain them after project end.



### Financial sustainability

Project partners have agreed to sustain the elements they will manage. For example, DMC and GADPE will, respectively operate and maintain the weather radar and the storm detection system as part of their routine operation. The post-project sustainability of actions is ensured by integration into institutional budgets of the project partners.

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## **IV. PROJECT MANAGEMENT**

### ***Cost Efficiency and Effectiveness***

- i) The project will benefit about 557 thousand people in the three cities which are highly vulnerable to climate-related disasters. The project will contribute to strengthen the adaptive capacity in these cities, reducing the level of future impacts.
- ii) The project will also serve as a catalyst to the planned investment of ca., USD 84,5 million to build infrastructure to protect from mudflows the cities of Antofagasta, Taltal and Tocopilla (DOH, 2015; Saavedra, 2016) by providing practical guidelines to incorporate the climate variable in new construction works.
- iii) At the moment, the municipality of Esmeraldas has financial limitations. Therefore, this project will make possible to execute actions that could not be financed in the short-term. The public works in Cerro Gatazo is a long-awaited initiative that has not been possible to finance before.
- iv) The project will ensure the cost-effectiveness of resources by allocating AF funds to activities and products with high catalytic potential, such as:
  - a. Participatory learning process based in communities of practice to generate lessons and best practice on disaster-risk adaptation.
  - b. Systematic documentation and dissemination of lessons.
  - c. Design and implement a communication strategy focused on specific interests and channels of key stakeholders.
  - d. Use of an electronic platform to: (i) disseminate lessons learned and outcomes of the project, and (ii) facilitate communication and articulation among stakeholders and interest groups.
  - e. Support the development of lessons and best practice that are highly replicable worldwide.

### ***Project Management***

UNDP will act as an executing entity. In this case, all the contracts will be hired under UNDP regulations. UNDP as a United Nations entity follow strictly core labour conventions, avoiding child labour and any kind of discrimination. UNDP will hire all the contracts required by the project under the UNDP "Programme and Operations Policies and Procedures" (POPP). All the staff of the project unit will be hired under services contracts following strictly the UNDP regulations. (UN Status Basic Rights and Duties of no UN Sec. Officials and Experts (ST/SGB/2002/9) for this type of contracts.

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## **V. RESULTS FRAMEWORK**

**Intended Outcome as stated in the UNDAF/UNDP SP Programme Results and Resource Framework:**

UNDAF Effect 4: "By 2018, it has helped to strengthen the institutional and citizen capacities to promote the rights of nature, for the creation of conditions for a sustainable development, and to improve resilience and management of risks in the face of the effects of climate change and disaster of natural and anthropic origin.

**Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets:**

**Indicator:** Extent to which integral measures, plans, strategies, policies, programs and budgets, are being implemented to achieve sustainable development goals, low on emissions and climate resilient.

**Baseline: 2, Target: 3**

**Applicable Output(s) from the UNDP Strategic Plan:** Outcome 5. National capacities to reduce conflict livelihoods and reduce natural risks, including those arising for climate change.

Signature solution 3: Enhance national prevention and recovery capacities for resilient societies / Signature solution 4: Promote nature-based solutions for a sustainable planet.

**Project title: Reducing climate vulnerability and flood risk in coastal urban and semi urban areas in cities in Latin America**

**Atlas Project Number: 121247**

EXPECTED OUTPUTS	OUTPUT INDICATORS	DATA SOURCE	BASELINE		TARGETS	DATA COLLECTION METHODS & RISKS
			Value	Year	Mid-Term & Final	
<b>Output 1</b> Enhanced plans and green infrastructure reduce vulnerability to floods, landslides and mudflows in three coastal cities	<b>1.1</b> Number of plans that incorporate provisions for adaptation to climate change with gender perspective.	Stormwater management plan	Antofagasta = 0	2017	Mid-term: 1  End of project: 2	<ul style="list-style-type: none"> <li>▪ Antofagasta's stormwater management plan</li> <li>▪ Esmeraldas' green infrastructure plan</li> <li>▪ Legal instruments adopting the plans</li> </ul>
		Green infrastructure plan	Esmeraldas = 0			
<b>Output 2</b> Reduced vulnerability to floods, landslides and mudflows in two coastal cities	<b>2.1</b> Number of physical assets constructed to withstand conditions resulting from climate variability and change.	DRR infrastructure	Antofagasta = 0	2017	Mid-term: 1  End of project: 2	<ul style="list-style-type: none"> <li>▪ Designs and construction report of mudflow control infrastructure for Bonilla gorge (Antofagasta)</li> <li>▪ Designs and construction report of landslide control infrastructure in Cerro Gatazo (Esmeraldas)</li> </ul>
			Esmeraldas = 0			
	<b>2.2</b> Number of men and women protected by improved infrastructure to withstand climate change and variability-induced stress.	<i>Number of people benefited by DRR infrastructure</i>	Antofagasta = 0 Esmeraldas = 0		End of project: 12,840 Antofagasta= (ca., 50% women) Esmeraldas= 500 (ca., 50% women)	<ul style="list-style-type: none"> <li>▪ Survey report of people living in areas protected by improved infrastructure (Bonilla gorge and Cerro Gatazo)</li> <li>▪ Percentage of women in Antofagasta and Esmeraldas from national statistics.</li> </ul>

<b>Output 3</b> Improved climate monitoring and means to alert the local population	<b>3.1</b> Number of weather radar in Esmeraldas and Storm detection system in Antofagasta to monitor precipitation, linked to gender-sensitive early warning systems.	Number of weather radar	Antofagasta = 0 Esmeraldas = 0	2017	Mid-term Antofagasta = 1 Esmeraldas = 1	<ul style="list-style-type: none"> <li>▪ Radar/storm system siting analysis reports.</li> <li>▪ Radar/storm system installation reports.</li> <li>▪ Quarterly radar/storm system operation reports.</li> <li>▪ Agreements to ensure flow of radar/storm system information to early warning systems.</li> <li>▪ Long-term agreements for operation and maintenance.</li> <li>▪ Bailment agreements</li> </ul>
	<b>3.2.</b> Number of meteorological stations to monitor precipitation which affect the cities, linked to gender-sensitive early warning systems.	Number of meteorological stations	Antofagasta = 4 Taltal = 1 Esmeraldas = 5		Mid-term Antofagasta = 6 Taltal = 2 Esmeraldas = 7	<ul style="list-style-type: none"> <li>▪ Installation reports.</li> <li>▪ Quarterly operation reports.</li> <li>▪ Agreements to ensure flow of information to early warning systems.</li> <li>▪ Long-term agreements for operation and maintenance.</li> <li>▪ Bailment agreements</li> </ul>
<b>Output 4</b> Improved means to respond to floods, landslides and mudflows	<b>4.1</b> Number of men and women covered by alert and evacuation route signs to respond to floods (Esmeraldas), landslides (Esmeraldas) and mudflows (Antofagasta and Taltal)  The early warning systems in Antofagasta, Taltal, cerro Gatazo and Isla Luis Vargas Torres are gender and culturally sensitive and consider the special needs of persons with disabilities.	Number of men and women covered by alert and evacuation route signs	Number of people Antofagasta = 0 Taltal = 0 Esmeraldas (floods) = 0 Esmeraldas (landslides) = 0 Number of early warning systems Antofagasta = 0 Taltal = 0 Cerro Gatazo = 0 Isla Luis Vargas Torres = 0		Antofagasta = 380,000 people (ca., 50% women) Taltal = 10,000 people (ca., 50% women) Esmeraldas (floods) = 161,000 people (ca., 50% women) Esmeraldas (landslides) = 161,000 people (ca., 50% women)  Four early warning systems are gender and culturally sensitive and consider the special needs of persons with disabilities.	<ul style="list-style-type: none"> <li>▪ Reports on installation of sirens and evacuation route signs.</li> <li>▪ Evacuation maps are easily accessible.</li> <li>▪ Evacuation route signs installed.</li> <li>▪ Citizen evacuation procedures and guides are easily accessible.</li> <li>▪ Early warning system designs (four)</li> </ul>

<p><b>Output 5.</b> Local governments with improved capacity to design and implement adaptation measures</p>	<p><b>5.1.</b> Number of staff (men and women) of local governments and pertinent entities trained on risk-based adaptation with a gender perspective in coastal cities.</p>	<p>Number of staff (men and women) of local governments and pertinent entities</p>	<p>Antofagasta = 0 Taltal = 0 Esmeraldas = 0</p>		<p>End of project: Antofagasta = <math>\geq 50</math> Taltal = <math>\geq 10</math> Esmeraldas = <math>\geq 20</math> Other coastal cities Chile = <math>\geq 10</math> Other coastal cities Ecuador = <math>\geq 10</math> About 40% will be women</p>	<ul style="list-style-type: none"> <li>▪ Course plan and training materials on risk-based adaptation in coastal cities.</li> <li>▪ Report of training of trainers.</li> </ul> <p>Report of each training event (including list of participants).</p>
<p><b>Output 6.</b> Local population and government personnel with increased awareness of climate-related risks (floods, landslides, mudflows)</p>	<p><b>6.1</b> Number of men and women who have participated in awareness activities and events.</p>		<p>Antofagasta = 0 Taltal = 0 Esmeraldas = 0</p>		<p>End of project: Antofagasta = <math>\geq 30,000</math> (ca., 50% women) Taltal = <math>\geq 1,000</math> (ca., 50% women) Esmeraldas = <math>\geq 16,000</math> (ca., 50% women)</p>	<ul style="list-style-type: none"> <li>▪ Public communication and education strategies for Antofagasta, Taltal and Esmeraldas.</li> <li>▪ Report of each awareness activity and event (including list of participants).</li> </ul> <p>Quarterly progress reports of implementation of each communication and education strategy.</p>
	<p><b>6.2</b> Number of narrators (men and women) trained to maintain cultural memory of climate-related disaster and risks.</p>		<p>Antofagasta = 0 Taltal = 0 Esmeraldas = 0</p>		<p>End of project: Antofagasta = 10 (ca., 50% women) Taltal = 5 (ca., 50% women) Esmeraldas = 10 (ca., 50% women)</p>	<ul style="list-style-type: none"> <li>▪ Training materials.</li> <li>▪ Long-term signed agreements to sustain narrators' initiative in the three cities.</li> </ul> <p>Quarterly progress reports of implementation of the narrators' initiative</p>
<p><b>Output 7.</b> Lessons and best practice on reducing vulnerability to climate related flooding, landslides and mudflows in coastal cities have been shared in the region.</p>	<p><b>7.1</b> Number of men and women (by nationality) who have participated in events for dissemination of lessons and best practice (e.g., workshops, exchange visits, seminars)</p>		<p>0</p>		<p>Mid-term: &gt;100 people, <math>\geq 50\%</math> women End of project: &gt;200 people <math>\geq 40\%</math> women</p>	<ul style="list-style-type: none"> <li>▪ Memoirs / reports of virtual and in-person events (including list of participants)</li> </ul>
	<p><b>7.2</b> Number of visitors per month (annual average) recorded in the network of electronic channels of the regional on-line platform used to disseminate project' learnings and best practice</p>		<p>Visits 0 Unique visits 0</p>		<p>Mid-term: Visits <math>\geq 2000</math> Unique visits <math>\geq 1600</math> End of project: Visits <math>\geq 4000</math> Unique visits <math>\geq 3200</math></p>	<ul style="list-style-type: none"> <li>▪ Monthly reports from electronic platform administrator</li> </ul>

## VI. MONITORING AND EVALUATION

In accordance with UNDP's programming policies and procedures and the agreement signed with CAF. The project will be monitored following the specificities ask by CAF, and translated in UNDP programmatic matrix:

Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)	Cost (if any)
<b>Inception Workshop and Report</b>	A project inception workshop will be held after the project document has been signed by all relevant parties	Once	The Project Manager will prepare the inception report no later than fifteen days after the inception workshop	CAF	20.000
<b>Track results progress</b>	Progress data against the results indicators in the RRF will be collected and analysed to assess the progress of the project in achieving the agreed outputs.	Quarterly, or in the frequency required for each indicator.	Slower than expected progress will be addressed by project management.	Project management, responsible entities, CAF	No
<b>Quarterly and Annual Reports (Project Performance Report - PPR)</b>	The PPR requires reporting on several areas including, financial, procurement, risk, implementation progress, and progress toward outputs and outcomes, and against the identified milestones.	PPR submitted every year (no later than two months after the end of the reporting year).	First PPR must be submitted one year after the start of project implementation (date of inception workshop). The last PPR shall be submitted no later than two months after the end of the reporting year.	Project manager, responsible entities, CAF	No
<b>Monitor and Manage Risk</b>	Identify specific risks that may threaten achievement of intended results. Identify and monitor risk management actions using a risk log. This includes monitoring measures and plans that may have been required as per UNDP's Social and Environmental Standards. Audits will be conducted in accordance with UNDP's audit policy to manage financial risk.	Quarterly	Risks are identified by project management and actions are taken to manage risk. The risk log is actively maintained to keep track of identified risks and actions taken.		
<b>Learn</b>	Knowledge, good practices and lessons will be captured regularly, as well as actively sourced from other projects and partners and integrated back into the project.	At least annually	Relevant lessons are captured by the project team and used to inform management decisions.		
<b>Annual Project Quality Assurance</b>	The quality of the project will be assessed against UNDP's quality standards to identify project strengths and weaknesses and to inform management decision making to improve the project.	Annually	Areas of strength and weakness will be reviewed by project management and used to inform decisions to improve project performance.		
<b>Review and Make Course Corrections</b>	Internal review of data and evidence from all monitoring actions to inform decision making.	At least annually	Performance data, risks, lessons and quality will be discussed by the project board and used to make course corrections.		
<b>Project Report</b>	A progress report will be presented to the Project Board and key stakeholders, consisting of progress data showing the results achieved against pre-defined annual targets at the output level, the annual project quality rating summary, an updated risk log with mitigation measures, and any evaluation or review reports prepared over the period.	Annually, and at the end of the project (final report)			
<b>Project Review (Project Board)</b>	The project's governance mechanism (i.e., project board) will hold regular project reviews	Specify frequency	Any quality concerns or slower than expected progress should be	CAF	20.000 (project board)

	to assess the performance of the project and review the Multi-Year Work Plan to ensure realistic budgeting over the life of the project. In the project's final year, the Project Board shall hold an end-of project review to capture lessons learned and discuss opportunities for scaling up and to socialize project results and lessons learned with relevant audiences.	(i.e., at least annually)	discussed by the project board and management actions agreed to address the issues identified.		closure meeting)
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## Evaluation Plan

Evaluation Title	Partners (if joint)	Related Strategic Plan Output	UNDAF/CPD Outcome	Planned Completion Date	Key Evaluation Stakeholders	Cost and Source of Funding
Mid-Term Evaluation	CAF, UNDP project team			Year 3		33.000 (includes translation)
Terminal Evaluation	CAF, UNDP project team			Year 5. Three months before project closure		43.000 (includes translation)

## VII. MULTIYEAR WORKPLAN

EXPECTED OUTPUTS	Planned Budget by Year					RESPONSIBLE PARTY	PLANNED BUDGET			Budget Note	
	Y1	Y2	Y3	Y4	Y5		Funding Source	Budget Description	Amount		
<b>Output 1.1</b> Storm water management plans for Antofagasta <i>Gen 1</i>	350.000					UNDP CHI	CAF-AF	72100, Services company	350.000	1	
	10.000	5.080						71600, Travel	15.080	2	
		10.000						71400, Individual Services	10.000	3	
		20.000						75700, Workshops	20.000	4	
		3.000						74200, Audio-visual & print costs	3.000	5	
		2.769	2.769	2.769	2.769	UNDP ECU		71300, Local Consultants	13.846	6	
		1.309	1.309	1.309	1.309	UNDP ECU		71300, Local Consultants	6.545	7	
<b>Output 1.2</b> Green infrastructure plan for Esmeraldas <i>Gen 1</i>	18.000					UNDP ECU	CAF-AF	72100, Services company	18.000	8	
	60.000							72100, Services company	60.000	9	
		50.000						72100, Services company	50.000	10	
		20.000						75700, Workshops	20.000	11	
		5.000						74200, Audio-visual & print costs	5.000	12	
		70.000	50.000	30.000		UNDP ECU		72100, Services company	150.000	13	
	2.769	2.769	2.769	2.769	2.769	UNDP ECU		71300, Local Consultants	13.846	6	
	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local Consultants	6.545	14	
									<b>741.864</b>		
<b>Output 2.1</b> Mudflow control infrastructure in Antofagasta <i>Gen 1</i>		200.000				UNDP CHI (MOP)	CAF-AF	72100, Contractual services company	200.000	15	
			4.333200					72100, Contractual services company	4.333.200	16	
		30.000						72100, Contractual services company	30.000	17	
		10.000	30.000					74500, Miscellaneous expenses	40.000	18	
	14.000					UNDP ECU		72200, Equipment and furniture	14.000	19	
	2.769	2.769	2.769	2.769	2.769	UNDP ECU		71300, Local consultants	13.846	6	
	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local consultants	6.545	7	
<b>Output 2.2</b> Landslide mitigation works in Esmeraldas <i>Gen 1</i>		50.000	150.000			UNDP ECU		CAF-AF	72100, Services company	200.000	20
			2.200000						72100, Contractual services company	2.200.000	21
			20.000				74500, Miscellaneous expenses		20.000	22	
	2.769	2.769	2.769	2.769	2.769		UNDP ECU		71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309		UNDP ECU		71300, Local consultants	6.545	14
							<b>7.077.984</b>				



<b>Output 3.1.</b> Weather radar in Esmeraldas and a storm detection system in Antofagasta Gen 1	30.000					UNDP CHI	CAF-AF	72100, Contractual services company	30.000	23
		500.000				UNDP CHI		72200, Equipment and furniture	500.000	24
	30.000					UNDP ECU		72100, Contractual services company	30.000	25
		500.000				UNDP ECU		72200, Equipment and furniture	500.000	26
		20.000	10.000	10.000	10.000	UNDP ECU		74500, Miscellaneous expenses	50.000	27
	2.769	2.769	2.769	2.769	2.769	UNDP ECU		71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local consultants	6.545	14
	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local consultants	6.545	7
<b>Output 3.2.</b> Increased number of meteorological stations in Antofagasta, Taltal and Esmeraldas Gen 1	70.000					UNDP CHI		72200, Equipment and furniture	70.000	28
	70.000					UNDP ECU		72200, Equipment and furniture	70.000	29
	2.769	2.769	2.769	2.769	2.769	UNDP ECU		71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local consultants	6.545	14
	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local consultants	6.545	7
										<b>1.303.874</b>
<b>Output 4.1.</b> Enhanced public warning system in Antofagasta and Taltal Gen 1		230.000				UNDP CHI	CAF-AF	72200, Equipment and furniture	230.000	30
	2.769	2.769	2.769	2.769	2.769	UNDP ECU		71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309	UNDP ECU			6.545	7
<b>Output 4.2.</b> Pilot flood warning system in Esmeraldas Gen 1	10.000					UNDP ECU	CAF-AF	72100, Contractual services company	10.000	31
	10.000	50.000						72200, Equipment and furniture	60.000	32
	2.000	6.600	2.000					75700, Workshops	10.600	33
		5.000	5.000	5.000	5.000			74500, Miscellaneous expenses	20.000	34
	2.769	2.769	2.769	2.769	2.769	UNDP ECU		71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local consultants	6.545	14
<b>Output 4.3.</b> Evacuation route maps and signals in Antofagasta, Taltal and Esmeraldas Gen 1	10.000					UNDP CHI	CAF-AF	72100, Contractual services company	10.000	35
		3.000						74200, Audio-visual & print costs	3.000	36
		40.000						74200, Audio-visual & print costs	40.000	37
		6.000	6.000	6.000	6.000			74500, Miscellaneous expenses	24.000	38
	10.000					UNDP ECU		72100, Contractual services company	10.000	39
		3.000						74200, Audio-visual & print costs	3.000	40
		20.000						74200, Audio-visual & print costs	20.000	41
	2.769	2.769	2.769	2.769	2.769			71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	14
	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local consultants	6.545	7
										<b>508.321</b>
	25.000	50.000	25.000			APC	CAF-AF	71300, Local consultants	100.000	42

<b>Output 5.1.</b> Course on risk-based adaptation in coastal cities <i>Gen 1</i>	8.000							75700, Workshops	8.000	43
		30.000						72600, Grant	30.000	44
		20.000						75700, Workshops	20.000	45
			15.000	15.000	15.000			72600, Grant	45.000	46
	2.769	2.769	2.769	2.769	2.769			71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	14
	1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	7
								<b>229.937</b>		
<b>Output 6.1.</b> Public communication and education strategies for Antofagasta, Taltal and Esmeraldas <i>Gen 1</i>	15.000							72100 Contractual services company	15.000	47
	12.000	12.000	12.000	12.000	12.000	MdA		71300, Local consultants	60.000	48
		40.000	30.000	20.000				74500, Miscellaneous expenses	90.000	49
		3.400						72200, Equipment and furniture	3.400	50
	15.000							72100, Contractual services company	15.000	51
	10.800	10.800	10.800	10.800	10.800			71300, Local consultants	54.000	52
		20.000	15.000	10.000				74500, Miscellaneous expenses	45.000	53
		3.400				MdT		72200, Equipment and furniture	3.400	54
	15.000							72100, Contractual services company	15.000	55
	12.000	12.000	12.000	12.000	12.000			71300, Local consultants	60.000	56
		20.000	15.000	10.000				74500, Miscellaneous expenses	45.000	57
		3.400						72200, Equipment and furniture	3.400	58
	2.769	2.769	2.769	2.769	2.769		UNDP Ecuador (GADE)	71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	14
1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	7	
<b>Output 6.2.</b> Narrators' initiative initiated <i>Gen 2</i>	12.000	12.000	12.000	12.000	12.000	UNDP CHI		71300, Local consultants	60.000	59
	10.800	10.800	10.800	10.800	10.800	UNDP CHI		71300, Local consultants	54.000	60
	8.000					UNDP CHI		75700, Workshops	8.000	61
		25.000	15.000	10.000			UNDP CHI	72100, Services company	50.000	62
		50.000	60.000	50.000	40.000		UNDP CHI	72600, Grant	200.000	63
			6.000				UNDP CHI	71300, Local consultants	6.000	64
	10.800	21.600	21.600	21.600	10.800		UNDP ECU	71300, Local consultants	86.400	65
		10.000	10.000	5.000			UNDP ECU	72100, Services company	25.000	66
		15.000	25.000	15.000	10.000		UNDP ECU	72600, Grant	65.000	67
			4.600				UNDP ECU	71300, Local consultants	4.600	68
	2.769	2.769	2.769	2.769	2.769		UNDP ECU	71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309		UNDP ECU	71300, Local consultants	6.545	14

	1.309	1.309	1.309	1.309	1.309	UNDP ECU		71300, Local consultants	6.545	7
									<b>1.022.074</b>	
Output 7.1. Electronic platform to facilitate communication among stakeholders and dissemination of lessons and best practice Gen 1	28.000					UNDP ECU	CAF-AF	72200, Equipment and furniture	28.000	69
	8.600	8.600	8.600	8.600	8.600			72100, Services company	43.000	70
	22.800	22.800	22.800	22.800	22.800			71300, Local consultants	114.000	71
	24.000	24.000	24.000	24.000	24.000			71300, Local consultants	120.000	72
	1.800	1.800	1.800	1.800	1.800			72800, Supplies	9.000	73
	10.000	10.000	10.000	10.000	10.000			74200, Audio-visual & print costs	50.000	74
	10.000	10.000	10.000	10.000	10.000			71600, Travel	50.000	75
	2.769	2.769	2.769	2.769	2.769			71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	14
	1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	7
Output 7.2. Lessons and best practice documented and disseminated Gen 1	24.000	24.000	24.000	24.000	24.000	UNDP-Regional	CAF-AF	71300, Local consultants	120.000	76
	13.000	15.000	15.000	15.000	15.000			Miscellaneous expenses	73.000	77
	20.000							75700, Workshops	20.000	78
	5.000							75700, Workshops	5.000	79
	5.000							75700, Workshops	5.000	80
		20.000	20.000	20.000	20.000			71600, Travel	80.000	81
			10.000	10.000	10.000			71600, Travel	30.000	82
			30.000		40.000			71200 International consultants	70.000	83
					30.000			74200, Audio-visual & print costs	30.000	84
					50.000			74200, Audio-visual & print costs	50.000	85
					20.000			75700, Workshops	20.000	86
					25.000			75700, Workshops	25.000	87
					10.000			75700, Workshops	10.000	88
					25.000			75700, Workshops	25.000	89
	2.769	2.769	2.769	2.769	2.769			71300, Local consultants	13.846	6
	1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	14
	1.309	1.309	1.309	1.309	1.309			71300, Local consultants	6.545	7
							<b>1030.874</b>			
Other costs	5.800	1.300	1.300	1.300	1.300			74500, Miscellaneous expenses	11.000	90, 91
									<b>11.000</b>	
								<b>Subtotal all outputs</b>	<b>11.925.926</b>	
GMS 8%	87.518	194.492	588.086	38.422	45.558			75100, Administration fee	954.074	92
								<b>TOTAL</b>	<b>12.880.000</b>	



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## VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

CAF will be the implementing entity following the denomination of Adaptation Fund. CAF will designate an officer from the Environment and Climate Change Directorate to be the focal point for project monitoring.

The Republic of Chile and the Republic of Ecuador will be the beneficiaries of the project following the Adaptation Fund denomination. The responsible entities in Chile and Ecuador will be, respectively, Ministry of Environment of Chile (MMA) and Ministry of Environment of Ecuador (MAE). The responsible entities will be accountable for the implementation of agreed national activities. This includes the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of AF resources.

The United Nations Development Programme (UNDP) will be the executing entity. UNDP will be responsible for project execution, while ensuring collaborative and coherent regional action. Project execution includes, among other tasks, financial management, personnel contract and management, and procurement of goods and services. UNDP will execute the project in accordance with the Agreement signed between CAF. The project will be implemented as DIM (direct implementation modality), meaning the technical and administrative capacity to assume the responsibility for mobilizing and effectively applying the required inputs in order to reach the expected outputs. UNDP assumes overall management responsibility and accountability for project implementation. According UNDP must follow all policies and procedures established for its own operations. The responsibility for the execution of the DIM projects rests with UNDP.

UNDP Ecuador CO will receive all the semi-annual disbursements delivered by CAF following the UNDP standard procedures to receive funds. After completion of the process UNDP Ecuador CO will proceed to transfer the respective amount to UNDP Chile CO. Each country will be fully accountable of their respective activities and both on the regional activities planned. In ATLAS system, two projects will be open; one in each country, both linked as “related project” option, mechanism used for multi-country project.

In Chile, the project partners are DMC, MOP, MMA, ONEMI, the Municipality of Antofagasta, and the Municipality of Taltal. In Ecuador, the project partners are INAMHI, MAE, the Municipality of Esmeraldas and the Provincial Government of Esmeraldas. The project partners will contribute to project execution and will ensure post-project sustainability.

The project organisation structure has a Project Board and a Project Unit. The Project Board is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendation for approval of project plans and revisions. In order to ensure CAF's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results. As per UNDP's Financial Regulations and Rules, the following general principles must be given due consideration; best value for money, fairness, integrity, transparency and effective international competition and the interest of UNDP. In case a consensus cannot be reached within the Board, final decision shall rest with CAF's Climate Change focal point. The Project Board is comprised of the following individuals: Undersecretary of Environment (MMA, Chile), Undersecretary of Climate Change (MAE, Ecuador), CAF's Climate Change focal point and UNDP focal point in charge for the project.

The project assurance role will be provided by CAF's Principal Environment Executives in Chile and Ecuador. Project assurance will provide objective and independent oversight of the project and monitoring. The project assurance team will review and analyse project reports and the draft annual work plan and budget before they are submitted to the Project Board and will make recommendations to optimize project performance.

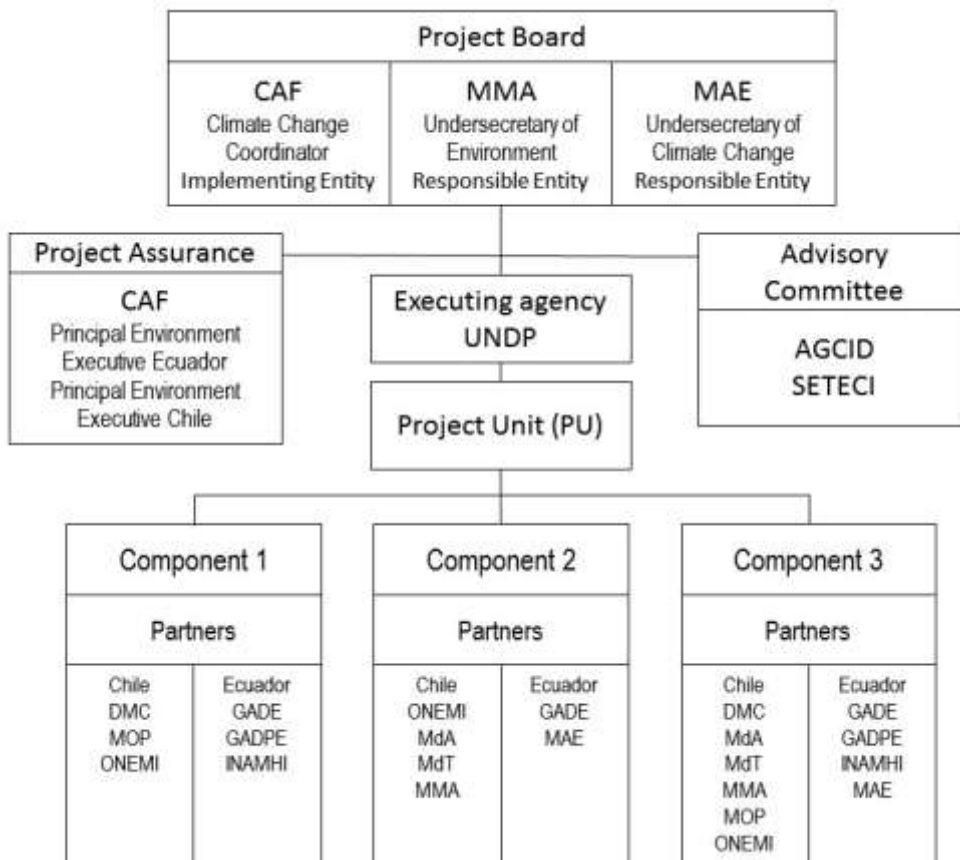
On each country, there will be a National Coordinator. These will be high ranking officers. National coordinators will monitor the execution of national activities of the project and will sustain close coordination among the project partners, the Project Manager, UNDP and CAF. To ensure regional coordination, National Coordinators will maintain permanent communication and will have quarterly virtual meetings. These meetings will include the Project Manager and CAF's focal point.

The Project Unit is headed by a Project Manager and includes eight specialists. These personnel will be contracted by UNDP. The Project Manager will run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down in the annual workplan. The Project Manager function will end when the terminal evaluation report, and other documentation required by CAF, has been completed and submitted to CAF (including operational closure of the project). The Project Manager will promote coordination among project partners.

The project will be directly implemented by UNDP and shall be subject exclusively to UNDP internal and external audit policies and procedures provided for in the financial regulations, rules, policies and procedures of UNDP. The audit of directly implemented projects may be conducted by UNDP Office of Audit and Investigations (OAI) or by an audit firm engaged by and working on behalf of OAI.

If CAF becomes aware of factors that would indicate a need for closer scrutiny, it is agreed that CAF will promptly bring these factors to the attention of UNDP's Chief Financial Officer in accordance with UNDP's accountability framework. The implementation of UNDP's accountability framework may include, without limitations, an intervention by OAI or, where considered appropriate, the commissioning by OAI of a private audit firm to carry out an audit on its behalf and under its supervision. The costs of such intervention shall be charged to the project. Upon request, the Director of OAI shall provide written periodic progress reports at least every three months regarding the results of the implementation of such intervention, and, as applicable, will provide the final audit report at its conclusion.

**Project organization structure**



Project Unit



## IX. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Ecuador and UNDP, signed on 19<sup>th</sup> January 2005. All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

This project will be implemented by UNDP (“Implementing Partner”) in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

## X. RISK MANAGEMENT

1. UNDP as the Implementing Partner shall comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS)
2. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the project funds are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via [http://www.un.org/sc/committees/1267/aq\\_sanctions\\_list.shtml](http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml). This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.
3. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (<http://www.undp.org/ses>) and related Accountability Mechanism (<http://www.undp.org/secu-srm>).
4. UNDP as the Implementing Partner will: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
5. In the implementation of the activities under this Project Document, UNDP as the Implementing Partner will handle any sexual exploitation and abuse (“SEA”) and sexual harassment (“SH”) allegations in accordance with its regulations, rules, policies and procedures.
6. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.



7. UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor and sub-recipient:

- a. Consistent with the Article III of the SBAA, the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible parties, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
  - i. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
  - ii. assume all risks and liabilities related to such responsible parties, subcontractor's and sub-recipient's security, and the full implementation of the security plan.
- b. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the responsible parties, subcontractor's and sub-recipient's obligations under this Project Document.
- c. In the performance of the activities under this Project, UNDP as the Implementing Partner shall ensure, with respect to the activities of any of its responsible parties, sub-recipients and other entities engaged under the Project, either as contractors or subcontractors, their personnel and any individuals performing services for them, that those entities have in place adequate and proper procedures, processes and policies to prevent and/or address SEA and SH.
- d. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.
- e. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at [www.undp.org](http://www.undp.org).
- f. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.
- g. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

- h. Each responsible party, subcontractor or sub-recipient agrees that, where applicable, donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities which are the subject of the Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Where such funds have not been refunded to UNDP, the responsible party, subcontractor or sub-recipient agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Note: The term “Project Document” as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

- i. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.
- j. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.
- k. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled “Risk Management” are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled “Risk Management Standard Clauses” are adequately reflected, mutatis mutandis, in all its sub-contracts or sub-agreements entered into further to this Project Document.

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## XI. ANNEXES

1. The **Project approved by the Adaptation Fund** to CAF can be consulted in the following AF webpage link: <https://www.adaptation-fund.org/project/chile-ecuador-reducing-climate-vulnerability-flood-risk-coastal-urban-semi-urban-areas-cities-latin-america/>
2. **Social and Environmental Screening**, including additional Social and Environmental Assessments of Management Plans as relevant.
3. **Risk Analysis**. Use the standard [Risk Log template](#). Please refer to the [Deliverable Description of the Risk Log](#) for instructions.
4. Project Board **Terms of Reference** and TORs of key management positions.