ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Pre-Concept for a Regional Project

Countries/Region: **LAC: Argentina, Paraguay, Brazil**
Project Title: **Building multi-level resilience through better water management in a transboundary urban setting**
Thematic focal area: **Disaster risk reduction and early warning systems**
Implementing Entity: **United Nations Human Settlements Program (UN-Habitat)**
Executing Entities: **Argentina**: Leading: Ministry of Environment and Sustainable Development (Climate Change Adaptation Division), Supporting: Ministry of Interior, Public Works and Habitat, City of Puerto Iguazu,
Brazil: Leading: Ministry of Foreign Affairs (Climate Change Division), Supporting, Ministry of Environment, Ministry of Cities, City of Foz do Iguacu,
Paraguay: Leading: Ministry of Environment (Natl Office of Climate Change), Supporting: Secretaria Tecnica de Planificacion del Desarrollo Economico y Social, City of Ciudad del Este
AF Project ID: **LAC/MIE/DRR/2018/1**
IE Project ID: Requested Financing from Adaptation Fund (US Dollars): **14,000,000**
Reviewer and contact person: **Cristina Dengel** Co-reviewer(s): **Leah Bunce Karrer**
IE Contact Person(s):

Review Criteria	Questions	Comments	UN-Habitat response
Country Eligibility	1. Are all of the participating countries party to the Kyoto Protocol?	Yes	
	2. Are all of the participating countries developing countries particularly vulnerable to the adverse effects of climate change?	Not articulated clearly. While the project mentions briefly that the three cities are facing irregular and excessive risks of storm water flooding, it fails to mention in detail the impact of climate change beyond causing damage to urban areas and ecosystems. **CR1**: Please include more details about the	**CR1**: See further details on the impacts of climate change in this specific sub-region provided in the "Background section". One page text + one graph have been added.

		impacts of climate change in each country, including storm water flooding, beyond its effects on urban areas.	
Project Eligibility	1. Have the designated government authorities for the Adaptation Fund from each of the participating countries endorsed the project/programme?	Yes	
	2. Has the pre-concept provided necessary information on the problem the proposed project/programme is aiming to solve, including both the regional and the country perspective?	There is only general information on the climate change impacts to the three cities, specifically irregular and excessive risks of storm water flooding. The growing migrant population and tourist numbers are also noted of significant concern as well as outdated and non-existent drainage systems. It is unclear to what extent the real issue is a changing climate or these other concerns. **CR2**: Please provide more clarity as to the actual problem the project is aiming to solve.	**CR 2:** We have elaborated more on these aspects in the "Background section". See further details on the impacts of climate change in this specific sub-region provided in the "Background section". One page text + one graph have been added.
	3. Have the project/programme objectives, components and financing been clearly explained?	The objective sub-objectives and components are clearly articulated. More details about the financing for each component should be included at concept stage once the activities are more clearly articulated **CR3:** At concept stage, please include a breakdown of financing by activity for each	**CR 3:** more details will be provided during the concept note phase.

		component	
	4. Has the project/programme been justified in terms of how: - it supports concrete adaptation actions? - it builds added value through the regional approach? - it promotes new and innovative solutions to climate change adaptation? - it is cost-effective? - it is consistent with applicable strategies and plans? - it incorporates learning and knowledge management? - it will be developed through a consultative process with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund? - it will take into account	Concrete adaptation actions: The project emphasizes concrete actions that include planning as well as implementation. With an estimated 65% of the funds going toward infrastructure, including green infrastructure, tangible results are anticipated along with greater capacity building. These measures include ecosystem-based adaptation measures, such as reforestation of riparian areas and creating parks and parkways in these urban settings, as well as sustainable drainage systems that minimize environmental degradation. Since the project aims to increase climate resilience especially for women and vulnerable population in targeted neighbourhoods, further elaborate how these neighbourhoods and vulnerable groups are selected. Has a vulnerability assessment been conducted? Regional approach: The project sets a reference and knowledge centre for this trinational region by establishing an Observatory that will combine both the natural and built environmental facets in a single centre that could be later replicated in an urban setting. At concept stage it would be beneficial to elaborate more on the regional activities of this Observatory and ways that it will work. **CR3**: Please provide more details on the activities foreseen under this Observatory that will address the regional aspects.	A Vulnerability Assessment of the three cities has already been conducted by the University of Leeds (UK) in 2017-2018. https://triangle-city.leeds.ac.uk/wp-content/uploads/sites/29/2018/01/Vulnerability_report_ESP.pdf Although not fully comprehensive, this assessment and approach undertaken are the foundation of this proposal being done by UN-Habitat. In addition, identification of neighbourhoods and vulnerable groups originated from the University of Leeds' report, which was also discussed in May 2018 in a international meeting gathering national and local authorities from the three countries and cities. However, the next phase (concept note) will allow us to refine both the assessment of the selection of neighborhoods / vulnerable groups. **CR 3:** Further details have been included in Part II (*Project Justification*) in the subsection entitled "Project components: regional scale of the project".

	sustainability?	<u>New and innovative solutions and cost-effectiveness</u>: This tri-city project is unique and innovative in pursuing a tri-city agglomeration approach in an international setting. By working across the three neighbouring cities in 3 countries there will not only be greater efficiency and cost-effectiveness through shared resources, but also tremendous learning among the 3 cities. Because they are in 3 countries the experiences will also potentially impact the 3 national governments and be an example to other regions considering climate change adaptation measures. Management cost-effectiveness is ensured by the existing presence of UN-habitat regional and national office in this sub-region. However, overall cost-effectiveness can only be clearly assessed once additional details on the specific activities to be supported under the project are provided by the proponent. <u>Applicable strategies and plans</u>: Yes, consistency with plans and strategies at national level is documented. <u>Learning and knowledge management</u>: Learning and knowledge sharing are fundamental aspects of this project. The project lessons will even be documented and promoted through guidelines, regional and inter-municipal workshops for experience sharing and international events and publications.	Fuller description will be provided in the next phase (concept note). Comprehensive cost-effectiveness will be fully appreciated during the concept note stage.

		Consultative process: Cooperation and consultation are key aspects of the project as well, including specific discussion of engaging vulnerable stakeholders. At concept stage please provide some additional detail on gender dimension, stating clearly how they will benefit from the project interventions. Sustainability: Sustainability is attributed to existing positive dynamics and relationships between the three cities and national governments. **CR4**: Thought is given to sustainability of activities. The project pre-concept could benefit further from providing a concrete output to develop a sustainability strategy.	A gender baseline and approach will be further explained in the next phase (concept note), demonstrating that the gender aspect will be embedded into the project design and activities. Besides, new details provided for the "Observatory" in the pre-concept mentions that collect, analysis and use of "gender disaggregated information" will be part of its mandate. **CR 4:** A specific output has been added in the first project component "Assessing and Addressing Agglomeration's Resilience to climate change threats": *Shared Vision & Sustainability Strategy between the three cities and national governments*
	5. Does the pre-concept briefly explain which organizations would be involved in the proposed regional project/programme at the regional and national/sub-national level, and how coordination would be arranged? Does it explain how national institutions, and when possible,	The pre-concept emphasizes a consultative process will be undertaken with a wide range of stakeholders at community to municipal to even national levels from government, NGOs, academia and the private sector. However, the document does not specify which organization. **CR5**: Please include the names of the organizations and their role in the program implementation arrangements.	**CR 5:** A full page of details has been added in Part III 'Implementation arrangements'. NB: all partners and arrangements shall be subject to confirmation in the next phase.

	national implementing entities (NIEs) would be involved as partners in the project?		
Resource Availability	6. Is the requested project / programme funding within the funding windows of the pilot programme for regional projects/programmes ?	Yes	
	7. Are the administrative costs (Implementing Entity Management Fee and Project/ Programme Execution Costs) at or below 20 per cent of the total project/programme budget?	Yes, the administrative costs correspond to 15.83% of the total project's budget.	
Eligibility of IE	8. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes. The project has been submitted through the UN-Habitat, a multilateral implementing entity accredited by the Board	

Technical Summary	The objective of the proposed project is to strengthen urban resilience to climate change in trans border agglomerations (Argentina, Brazil and Paraguay) where plans, assets and capacities will address climate change impacts on sensitive ecosystems and informal areas and will improve multi-level governance for disaster risk reduction and early warning systems among three riparian cities at risk for

	floods and excessive rains. The initial technical review finds that while the planned activities are described relatively clearly, the justification for the real issue it is trying to address (excessive risk of storm flooding, growing migrant population and outdated or non-existent drainage systems) is a bit unclear. The following comments should be addressed: **CR1**: Please include more details about the impacts of climate change in each country, including storm water flooding, beyond its effects on urban areas. **CR2**: Please provide more clarity as to the actual problem the project is aiming to solve. **CR3**: Please provide more details on the activities foreseen under this Observatory that will address the regional aspects **CR4**: Thought is given to sustainability of activities. The project pre-concept could benefit further from providing a concrete output to develop a sustainability strategy. **CR5**: Please include the names of the organizations and their role in the program implementation arrangements
Date:	August 17, 2018

ADAPTATION FUND

PRE-CONCEPT FOR A REGIONAL PROJECT/PROGRAMME

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme:	Building multi-level resilience through better water management in a transboundary urban setting
Countries:	Argentina, Brazil, Paraguay
Thematic Focal Area:	Disaster risk reduction and early warning systems
Type of Implementing Entity:	MIE
Implementing Entity:	United Nations Human Settlements Programme (UN-Habitat)
Executing Entities:	**Argentina:** *Leading:* Ministry of Environment and Sustainable Development (Direction Adaptation to Climate Change) *Supporting:* Ministry of Interior, Public Works and Habitat, City of Puerto Iguazú **Brazil**: *Leading:* Minitry of Foreign Affairs (Climate Change Division) *Supporting:* Ministry of Environment, Ministry of Cities, City of Foz do Iguaçu **Paraguay**: *Leading:* Ministry of Environment (National Office of Climate Change) *Supporting:* Secretaría Técnica de Planificación del Desarrollo Económico y Social, City of Ciudad del Este **International stakeholders:** University of Leeds (UK), IDRC
Amount of Financing Requested:	US$ 14 million
Project duration:	4 years

Credit: United States General Services Administration's Office of Citizen Services and Innovative Technologies

Project / Programme Background and Context:

An international "triangle-city region" located at the confluence of two big rivers (Paraná and Iguazu) faces the same climate change impacts. These three cities, namely Puerto Iguazú, Argentina (POP 42,800), Foz do Iguaçu, Brazil, (POP 263,900) and Ciudad del Este, Paraguay (Metropolitan POP 500,000) are facing irregular and excessive risks of storm water flooding, causing damage to many urban areas and ecosystems, notably in waterfront informal neighbourhoods which are the most vulnerable[1]. Outdated or inexistent drainage systems in some areas cannot cope with increased rainfall and subsequent overflows caused by climate change. The level and nature of the urban planning efforts and infrastructure investments have not been adequate, and the pressure has been increasing in this specific region by erratic climatic conditions, but also by the intense flow of tourists (cf. Iguazu Falls) and new urban migrants. It is projected that Ciudad del Este, the biggest of the three cities, will be among the ten fastest growing in Latin America by 2030[2]. Due to the increasing demographic pressure in this trans-border urban agglomeration, national and local governments need to plan in advance and to strengthen capacities at all government levels to shift to a more sustainable development path and complementary governance of this unique territory.

Many studies conducted in the last years in South America on climate change effects and its future impacts show there is real danger in the Iguazu region and that there is a need to prepare accordingly. Significant trends in precipitation and temperature have been observed in South America (high confidence). In addition, changes in climate variability and in extreme events have severely affected the region (medium confidence)[3].

The meeting point of the borders between Argentina, Brazil and Paraguay is located in the southeast of the continent. In a IPCC report Magrin and al. (2014) clearly underlined the main observed trends in global environmental change drivers in the Southeastern South America sub-region: increase of temperature,

[1] *Vulnerability Assessment Report* (2017) from University of Leeds mentions (page 10) that "irregular land occupation has led to the creation of marginal neighborhoods, mainly along rivers and risk areas, which is cause for concern due to its high exposure to flooding […and drainage].

[2] *Ibid.*

[3] Magrin, G.O. et al., 2014. Central and South America In: Climate Change 2014: Impacts, Adaptation, and Vulnerability -- Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

precipitation, runoff, agriculture land use and vector range, coupled with a decrease of forest cover (see image below).

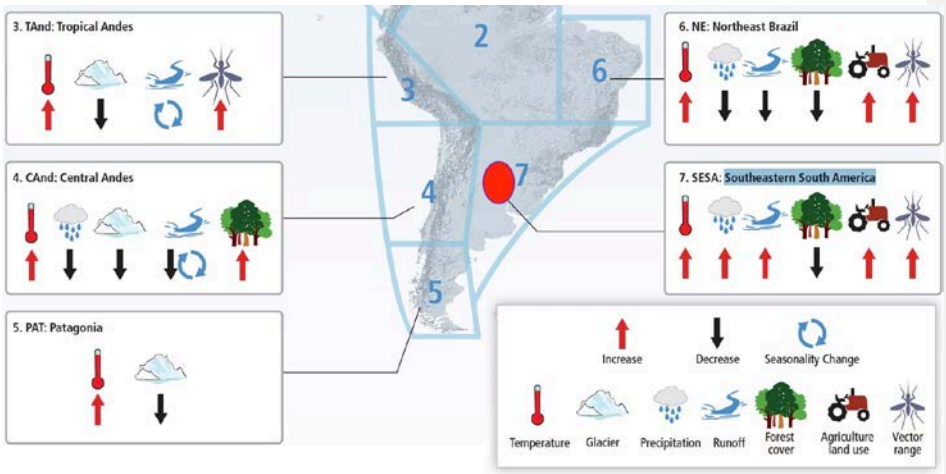


Figure 27-7 | Summary of observed changes in climate and other environmental factors in representative regions of Central and South America. The boundaries of the regions in the map are conceptual (neither geographic nor political precision). Information and references to changes provided are presented in different sections of the chapter.

Further reports indicate that increasing trends in annual rainfall in Southeastern South America is a fact (0.6 mm day–1 50 yr–1 during 1950–2008), while Dufek and al. (2008) show in their study that heavy precipitation (R95) in the Southeastern South America sub-region has increased from +45 to +135 mm over 31 years (1961-1990). Still in Southeastern South America sub-region, Marengo et al. (2011) projected that by 2100, precipitation will increase by +20% to +30%; runoff by +10% to +20% and air temperature from +2.5°C to +3.5°C.

This results in more frequent floods as precipitation increase and increased droughts in moments of low precipitations in the area. Climate change scenarios present a tendency towards more extreme precipitations, with increases in the frequency and magnitude of overflows and floods, and therefore of the social and economic adverse effects. Projections foresee a tendency to greater extreme precipitations, which could generate an increase in the overflows and floods rate and, by this, non-planned migrations and resettlements, impacts on basic services and infrastructures, internal connectivity, access to health and education services, an increase in health risks caused by vectors and contamination, impacts on primary economic activities in peri-urban areas and touristic activity among others.

More specifically in Argentina, the interactive map on climate change developed by the Ministry of Environment (http://simarcc.ambiente.gob.ar/cambio-climatico) clearly shows that most of climate change phenomenon forecast between 2015 and 2039 (temperature variation, length of heatwaves and drought periods, number of days with rainfalls higher than 20mm, etc.) will occur in northeast and northwest regions of the country, including Province of Misiones where Puerto Iguazu is located. Risk maps, also clearly show that the Province of Misiones is among the most at risk in terms of social vulnerability, households with access of drinking water, sewerage systems, etc.

In Brazil, the Index of vulnerability[4] to natural disasters published in 2017 for this country shows that the period 2011-2040 and the period 2071-2099 are those with greater vulnerability, so that there is greater spatial coverage of the higher vulnerability classes across the Brazilian territory. In the first period (2011-2040), the most vulnerable areas are scattered in the North and Northeast, but in the RCP 8.5 scenario (Representative Concentration Pathways), there is also indication of the Midwest and Southeast regions presenting medium-high vulnerability. In the period of 2071-2099 the behavior is somewhat different, where there is the predominance of the most vulnerable regions are located in the Center-West and Southeast, much of the Northeast and even in Paraná State, where is located the city Foz do Iguaçu (Mapa, p.111).

[4] Índice de vulnerabilidade aos desastres naturais relacionados às secas no contexto da mudança do clima / Ministério do Meio Ambiente, Ministério da Integração Nacional, WWF-Brasil. – Brasília, DF: MMA, 2017.

Still in Brazil, in a huge study yet to be officially published and entitled "Vulnerabilidade da população à mudança do clima"[5], the chapter on the province of Paraná where is located the city Foz de Iguaçu, indicates that this city comes out in the province amongst the municipalities relatively less prepared to adapt to the impacts of climate change.

Little or no information is available on Paraguay side (Ciudade del Este), but due to the proximity of the three cities (radial distance between the three cities is no more than 10km) and similarity of ecosystems, the same conclusion can be drawn.

In summary, the "triangle-city region" can be described as highly vulnerable to climate change and natural hazards (floods, erosion, overflows), and given the prominent role the three neighbored cities play in the sub-region (crossroad for immigrants, hub for trade exchanges and important touristic centers), their vulnerability has regional and national consequences in terms of economic and social impacts. The challenges the three cities face include:

- Vulnerability (both in terms of population and economic exposure) to flood and overflow hazards which will be further compounded by projected higher precipitations.
- This vulnerability is largely in economic and touristic areas of the cities where important vulnerable populations live. In order to put in place a sustainable growth plan for the cities, it is necessary to better know the rivers and streams and how it would interact under new hydrological conditions posed by a changing climate- that is, additional knowledge of gradual changes to local hydrology need to be monitored, filed and assessed.
- There are a number of challenges that threaten cities capacity to effectively cope with observed and anticipated effects of climate change on the frequency and magnitude of floods and overflows, namely limited resources; limited institutional capacity; the low-income status of much of the population limits their own ability to build resilience; and absence of a coordinated understanding and resulting action plan to build adaptive capacity.

The Governments of Argentina, Brazil and Paraguay, as well as the three border cities from these respective countries have manifested their interest to receive support from UN-Habitat to support the "triangle-city region" to cope with climate change challenges (mainly excessive rains and floods) and to build joint urban resilience to climate change, more specifically linked with urban water management. Vulnerable groups (low income households, single-parent families…) and informal settlements are the most likely to be affected by excessive rains and floods in this international three-city area. This project would follow one year of participatory research on climate change adaptation strategies, conducted by the University of Leeds[6], in close collaboration with national and municipal stakeholders.

There is already good mobilization and engagement from national and local governments, civil society and academic sector around the climate change and urbanization challenges. International actors such as University of Leeds (UK), IDRC (Canada), and CDKN have recently assessed the climate change impacts in this trinational area and proposed a series of solutions. These joint efforts have generated keen interest and involvement from authorities and civil society in the three countries. There is positive momentum to jump into action right away.

The proposed project aims to tackle climate change challenges in a trans-border urban area and to look for joint solutions where all three cities and countries will jointly participate. That constitutes a genuine regional initiative aiming at fostering co-operation across different scales on climate change adaptation. More specifically, it proposes to plan and implement spatial climate adaptation strategies and actions to address the challenges posed by the same climate change effects (floods, erosion, overflows, drainage…), in selected unplanned[7] neighbourhoods and/or inadequate riverbank expansion areas that lack resilient and green infrastructure. The challenges and solutions between the three cities and countries feature high levels of similarity.

The project promotes a specific focus on (1) ecosystem-based adaptation (EbA) in urban areas, (2) sustainable urban drainage, (3) proactive planning and design, and (4) increased resilience especially for women and vulnerable populations[8]. Furthermore, the transborder scope of this project will allow for replication of successful

[5] To be published by Ministério do Meio Ambiente, Fundação Oswaldo Cruz, Fundo Nacional sobre Mudança do Clima.

[6] We are referring here to "*Climate Resilient Cities Initiative in Latin America*", a joint initiative between the Climate and Development Alliance (CDKN), International Development Research Center (IDRC) and the Futuro Latinoamericano Foundation (FFLA). This global project has been financing six innovative research projects for decision-making and action in 13 small and medium-sized cities in Latin America to promote climate-resilient urban development. University of Leeds (UK) led one of the six projects in this triangle-city region. (https://cdkn.org/2018/05/feature-argentina-brazil-paraguay/?loclang=en_gb)

[7] In Ciudad del Este (Paraguay) and Puerto Iguazú (Argentina), respectively 25.7% and 22.0% of inhabitants live in informal settlements (Source: University of Leeds, *Vulnerability Assessment Report* (2018), p.120.

[8] Few data exist on the vulnerability of this specific region and collectivities. Nonetheless the Geni Coefficient (wealth distribution) appears to be quite high, respectively at 0.506 and 0.415 in Ciudad del Este and Puerto Iguazú. In the same cities only 30,4% and 21,0% have access to treated water.

climate change adaptation solutions in other riparian cities in the Southern Cone region, as well as constitute an exemplary cooperation framework for border towns around the world dealing with climate change risk reduction.

Project / Programme Objectives:
Strengthen urban resilience to climate change in transborder agglomerations (Argentina, Brazil and Paraguay), where plans, assets and capacities will address climate change impacts on sensitive ecosystems and informal areas and will improve multi-level governance for disaster risk reduction and early warning systems among three riparian cities at risk of floods and excessive rains.

The sub-objectives of the project are to:

1. Enable municipal, national and international actors to assess, respond to and monitor climate change related threats e.g. floods, erosion, overflows, drainage capacity.
2. Increase sub-national and national capacities to articulate climate change strategies and actions, and formulate relevant plans at neighbourhood, municipal and transborder levels.
3. Enhance resilience of the built environment (urban infrastructure) and ecosystems at municipal and neighbourhood level and increase cities and communities' capacities to operate and maintain these interventions.
4. Develop new methodological approaches applicable across municipal, national and international locations.

Project / Programme Components and Financing

Project/Programme Components	Expected Outcomes	Expected Outputs	Amount (US$) *(rough estimates)*
1. Assessing and Addressing Agglomeration's Resilience to climate change threats	Strengthened technical and institutional capacity of national, and sub-national actors to apprehend and monitor climate change risks and vulnerabilities to the trinational urban area.	- Trinational + Municipal platforms to assess climate change risks in urban setup and monitor actions to be conducted - Land use and risk zoning maps for targeted neighbourhoods and ecosystems, considering flood risks and drainage issues - Shared Vision & Sustainability Strategy between the three cities and national governments - Transborder Observatory on Urban Resilience - Set up early warning systems at trinational and neighbourhood levels	1,500,000
2. Agglomeration, Municipal and Neighbourhood Proactive Planning	Key stakeholders enabled to proactively plan for increasing the climate resilience of their cities, neighbourhoods and sensible ecosystems.	- Sub-national authorities, municipal staff and community members mobilised, trained and equipped to plan for disaster risk reduction - Mainstreaming climate change adaptation into existing planning and legal instruments at municipal level: - X number of neighbourhoods plans - X number of Ecosystem-based Adaptation (EbA) plans	1,783,000
3. Catalytic projects in water management & urban flood risk	Adaptation measures successfully implemented and maintained in sensitive ecosystems and precarious neighbourhoods.	- X number of sustainable drainage systems/practices implemented - X number of Ecosystem-based Adaptation (EbA) measures implemented - X Tools and X training to municipal staff and community members to manage and maintain ecosystems and infrastructure - Xx hectares of reforestation	7,500,000
4. Knowledge Management & Transboundary Cooperation	Shared experience between local, national & international institu-tions and networks on urban practices for climate adaptation and transboundary cooperation.	- Guidelines for using Ecosystem-based Adaptation (EbA) in urban flood-prone areas - Regional and inter-municipal workshops for experience sharing - International events and publications to promote transborder cooperation between cities and countries towards resilience to climate change and sustainability of cities	1,000,000
5. Total components			11,783,000

Source: University of Leeds, *Vulnerability Assessment Report* (2018).

6. Project/Programme Execution cost	1,120,000
7. Total Project/Programme Cost	12,903,000
8. Project/Programme Cycle Management Fee charged by the Implementing Entity	1,097,000
Amount of Financing Requested	**14,000,000**

All interventions will take place in Argentina, Brazil and Paraguay. 65% of the component's budget (around 7,500,000) will be earmarked for infrastructure. In order to respect the demographic weight of each of the three cities, approximatively 50% will be allocated to Paraguay, 30% to Brazil and 20% to Argentina.

PART II: PROJECT / PROGRAMME JUSTIFICATION

Project components: regional scale of the project

Focusing on transborder agglomerations: a single approach for maximizing international & inter-municipal cooperation

Having nearby towns located in different countries is rather unusual. Although the activities of this regional project will be geographically undertaken close by, successful outcomes could have a positive impact on three national governments, positively influencing their respective policies. As a parallel result, this project will allow to generate knowledge and draw lessons for cities and other national governments which worldwide also share urban area located in different countries, the same ecosystems, while facing the same climate change impacts.

Climate change shall affect urban planning. Having strategic urban planning at global (trinational) level could contribute in an original way to positively reshape the urban form of the three cities in order that they will together becoming more resilient, better complementing each other, with more efficient and fluid cooperation and exchanges between them[9].

The trinational perspective where vulnerable communities, neighbourhoods and cities are coping with shared ecosystems with the same risks will be retained not only during the assessment stage, but also during the proactive planning phase and catalytic actions (measures) to be undertaken in the three participative cities. This project will also set a reference and knowledge centre for the trinational region by establishing an Observatory that will combine both the natural and built environments facets in a single Centre, as a starting point that could later be replicated in similar transboundary urban setting.

The Transborder Observatory on Urban Resilience shall be seen as a one-stop-shop data/reference centre that will be a powerful tool for implementing efficient climate change adaptation strategies and actions in urban settings simultaneously in three countries. It will aim to assist authorities at all levels and communities to improve the collection, analysis and use of (gender disaggregated) information for formulation of more effective urban policies vis-à-vis climate change adaptation, understand the functioning of cities as economic, social and environmental systems and, evolving from this understanding, to promote sustainable actions at city and inter-city levels to deal with climate change risks and vulnerabilities.

As a regional Observatory, it will support local and national bodies in standardization of indicators (referring in particular to urban SDGs/indicators), data and information not only to enhance the local policy planning mechanism but also regional harmony (through gap analysis). A regional observatory will also promote partnership between academia and local, sub-national, national institutions from three countries, as well as with regional bodies. Regional stakeholders that could be interested by this initiative could include Mercosur, Latin American Federation of Cities and Municipalities (FLACMA), UNISDR's Regional Unit for the Americas, etc. Moreover, the International Hydro-information Center (CIH) created and funded by Itaipu Binational in Foz do Iguaçu could be a valuable partner in setting up such a regional observatory.

A set of three development strategies will be at the core of this Observatory: protecting and enhance the green areas, building complete and resilient communities and neighborhoods, and achieving a compact and sustainable trinational urban area.

The Transborder Observatory will help governments, local authorities, the private and professional sectors and civil society:

- to improve urban policies regarding climate change challenges in urban settings, based on increased capacity to collect, interpret and apply information on urban trends and conditions
- to formulate and implement national and local plans of action, based on a better understanding of how different cities from different countries work within the same ecosystems and climate change threats.
- to foster civic engagement and participatory decision-making

[9] Case studies on "twin cities" and "transborder cities" demonstrate that "despite not having a common government, economic, cultural, proximity and complementary relations produce impacts reciprocally between the cities, contributing to a specific form transformation of urban space as a whole" (cf. Urban Dynamics in Twin Cities impacted by Hydroelectric Dams, Terr@Plural, Ponta Grossa, v.11, n.2, p. 272)

This will be done by:

- providing tools for urban data collection and management, application of data in decision making, learning from best practices;
- building capacities for partnership, networking, transfer of expertise and experience;
- building networks of regional, national and local observatories, regional/national capacity-building institutions and academia, national and local policy makers, professional associations.

Promotion of new and innovative solutions

Agglomeration/City/Neighbourhood Approach, coupled with Proactive Planning & Design

The three cities have at some point to be assessed and addressed as a whole, hence the use of a agglomeration or metropolitan approach within an international (transborder) setting. This perspective is in itself can be called an innovative approach, since it will require 'coordinated governance and planning' efforts at different levels (neighbourhoods, cities, national and international). This project will contribute to create new spaces for engagement between different stakeholders. A unique and jointly defined early warning system will be set-up, which will address different territorial levels -- from neighbourhood to trinational area, encompassing the four core EWS components: risk knowledge, monitoring, response capability, and warning communication.

Community-based approach will be used at neighbourhood level when dealing with vulnerable groups and families in developing strategies, (proactive) plans and actions[10], since the catalytic projects will be identified at this lower level in order to tackle real issues for the most deprived communities / neighbourhoods and sensitive ecosystems. Adopting such approach will ensure that those affected will be better assisted, their capacity to identify and develop solutions will be strengthened, and resources will be better targeted and more effectively used.

When dealing with climate change, the necessity to engage on long-term is a must, hence proactive rather than reactive planning for adaptation will lead the research for solutions. Constant multi-level process will be promoted, where ecology, landscape, and urbanism will be closely intertwined.

Ecosystem-based Adaptation (EbA) for better water management

While mainly applied in rural and coastal settings, this new approach is more and more being used in urban areas in order to advance natural solutions for climate change adaptation in built areas. The restoration of specific ecosystems located in cities (e.g. reforestation of riparian areas, creating for instance parks and parkways) will be promoted through this initiative, while also taking into account the social, economic, and cultural co-benefits for local communities of preserving these ecosystems. Best examples in this specific trinational area are riverine landscapes and wetlands located in flood prone areas responding to increased heavy rainfall and rainfall frequency or volume. This approach will be used in all project phases, i.e. apprehending the urban/ecological systems, assessing vulnerabilities and risks, identifying options, designing and implementing, monitoring and evaluating.

Sustainable Drainage Systems / Water Sensitive Urban Design

This method will be used to deal with overflow/drainage issues. *Sustainable Drainage Systems (SUDS)* are a sequence of water management practices and facilities designed to drain surface water in a manner that will provide a more sustainable approach than the conventional practice of routing run-off through a pipe to a watercourse. *Water Sensitive Urban Design* is an Australasian term encompassing SUDS but extending to other water-related management practices (groundwater/ wastewater management/water supply), with a focus on minimizing environmental degradation.[11]

Cost-effectiveness

A regional approach such as this one has the potential to set off a cascading process that will contribute to reduce costs and gain efficiencies. It has also the capability of establishing at regional level common ground for assessing, planning and realizing complementary works. Besides the potential of sharing practices, knowledge and resources, a regional approach will avoid redundancies to increase cost-effectiveness.

Regional actions can result in efficiency gains by pooling and making more efficient use of scarce resources, allowing avoidance of duplication and rationalization of efforts. Furthermore, maximizing the benefit of this close cooperation and geographic proximity will facilitate face-to-face meetings, as well as enable economies of scale and synergies. For instance, setting up a unique Observatory for the three cities will not only save financial resources, but will also allow municipal authorities and other local stakeholders such as universities to react and interact strategically, with foresight, and make evidence and knowledge-based decisions on climate adaptation measures and urban resilience issues.

[10] Based on inter-city (agglomeration) risk analysis/impact assessment.

[11] Royal Institution of Chartered Surveyors, Sustainable Urban Drainage – Retrofitting for Improved Flood Mitigation in City Centres, Oct. 2014, p.6

The “Ecosystem-based Adaptation” approach will be used in order to capitalise on the services provided by ecosystems to mitigate the impacts of climate change. Furthermore, restoring or preserving specific ecosystems in the cities (reforestation and creation of parks) will increase their cost-effectiveness by also providing important social and psychological benefits (well-being) to citizens, as well as to contribute to the sustainability of the cities.

The use of “proactive” urban/resilience planning can be the most cost-effective way to create resilience to climate change by tackling urban development and disaster risk reduction, since it is significantly less costly to apply a forward-looking approach rather than to react after natural hazards and informal human settlements development have occurred.

Furthermore, management cost-effectiveness will be ensured by the existing presence of UN-Habitat regional and national office in this sub-region. Ongoing projects are currently being implemented in the three countries, and close work with different ministries in each country being done.

Consistency with national or sub-national strategies

Globally, the project aligns with UN 2030 Agenda (ref. SDGs 5, 6, 9, 11, 13), the Paris Agreement (COP21), the Sendai Framework for Disaster Risk Reduction, the New Urban Agenda, as well as with the Intended Nationally Determined Contributions (INDC) pledged in 2015 by the three countries.

At the regional level, the Mercosur Organization Summit (Argentina, Brazil, Paraguay and Uruguay) held on 21 July 2017 in Mendoza, the heads of States ratified their commitment to the Paris Agreement, underscoring the need to increase the capacity for adaptation to adverse effects of climate change.

At national level, the proposed project is in line with respective National Adaptation Plans to Climate Change adopted by Brazil and Paraguay in 2016, as well as with Argentina’s National Plan of Adaptation to the impacts of climate change, to be approved in 2019.

At municipal level, instead of proposing and working on specific plans for urban resilience, -- which opens the door to non-institutionalization and duplication of efforts -- plans and actions will be adapted and embedded into the formal planning mechanisms and requirements that exist in the different countries for municipalities. This would ensure consistency, long-term sustainability of planning and actions to be done at local level.

Learning and knowledge management

A dedicated Component (4) addresses awareness, knowledge management, communication and networking. It is the assumption that inter-municipal and international cooperation will contribute to the increase of capacities because more minds will be available and working together, making use of the best methods and tools. This includes improving actors’ capacities (e.g. transfer of specialised competencies to operational staff) and enhancing interactions between actors. Whilst Component 4 provides the cornerstone for capturing and disseminating lessons learned, other project components will directly contribute to knowledge management and dissemination of lessons learned from local to national and international levels. The project will foster an increased policy dialogue and the development of evidence-based policies.

At the national level, the different governments will be able to draw from lessons learned through this project, including replication and scale-up of good practices. Information will be consolidated in reports and tools methodologies, guidelines, trinational workshops and conferences.

Multilateral initiatives and organizations originating from the three cities –such as the recently created Sustainable Development Council for the trinational region– will greatly facilitate information sharing, stakeholders’ mobilization, knowledge management and public outreach.

At the international level, the lessons from the project will be left to the care of UN-Habitat’s Best Practices Programme in HQ, for dissemination to all countries. UN-Habitat will dedicate specific attention and communications worldwide with other transborder agglomerations that could benefit from this unique experience. International conferences gathering other binational and trinational urban agglomerations could be organised, regarding collective efforts towards resilience to climate change.

The consultative process

UN-Habitat participated in May 2018 in the final wrap-up meetings organised by the University of Leeds (*see Footnote 1*), attended by civil society members, private sector, local and national authorities. All stakeholders pledged to support initatives for reducing the vulnerability to climate change of this tri-city region.

For the development of the concept note, consultations in the three countries will be held with national and local governments, local communities and vulnerable groups, and other relevant stakeholders such as universities, private sector and the Sustainable Development Council that was created in May 2018 for the trinational region.

Regarding the full proposal, efforts will focus on feasibility studies, environmental impact assessments, and based on the findings, final selection of the concrete actions will be done. This will take into consideration their adaptation benefits, their cost effectiveness, and environmental and social impacts and risks, especially for the most vulnerable groups (low income households, single-parent families, indigenous groups in Paraguay).

Sustainability of the project/programme

The sustainability of the project will be ensured thanks to existing positive dynamics and relationships between the three cities and national governments. Authorities (at municipal, sub-national and national level) frequently meet in order to deal with common issues specific to this unique tri-national area, as well as the civil society and the private sector from the three cities currently intertwine. Hence, the project intends to capitalize on this ongoing and positive impetus.

Besides,the sustainability strategy for the overall project rests on the integrated approach adopted, which considers a package of inter-linked and multi-level actions designed to develop new opportunities for local populations, as well as for municipal and national authorities. By investing in climate-proof infrastructure, preserving ecosytems located in urban areas, as well as providing technical assistance, this will create enabling conditions for the improvement of living conditions for city dwellers, and enchance cities' resilience to climate change. The partnerships between local and national authorities, as well as the opportunities for better dialogue and inclusion of vulnerable groups, will provide social and economic benefits that will outlast the project's duration. Please note that maintenance arrangements for concrete interventions will be identified during Concept Note Phase.

Economic, social and environmental benefits

With water management works (drainage and flood control), the project will guarantee or increase the value of both public and private properties and facilities.Sustainable actions in these three cities located next to a world-renowned site (Iguazu Falls) will protect natural sites and therefore contribute to maintain and attract more tourists who come in the region mainly for ecotourism purpose. This will have positive economic benefits for the region as well as and improve well-being among inhabitants.

Environmental benefits appear also at different levels. At the national scale, the project will deduct specific recommendations for climate change adaptation frameworks and at the municipal and community scales, the urban planning process will define adaptation strategies and concrete projects that will positively impact biodiversity of urban ecosystems, preservation of riparian areas against erosion and floods, through anticipation and construction of infrastructure. Other additional environmental benefits will include the adequate management of watersheds through a drainage network, the revitalization of specific urban areas linked to a more efficient and compact use of lands and ecosystems.

By implementing a combination of concrete ecosystem-based and drainage measures, this initiative is expected to reduce future climate change related risks, more specifically economic, social and environmental losses related to floods and erosion. Given that communities, and especially vulnerable groups, are involved during the project design phase and will be involved during the implementation, they shall have the opportunity to directly influence the design and selection of project activities and outcomes, thus influencing their own project benefits. The project will allow to secure places where vulnerable groups dwell, while safeguarding the ecosystems in which they live.

Compliance with Adaptation Fund Environmental & Social policy and with National requirements

The proposed project seeks to fully align with the Adaptation Fund's Environmental and Social Policy (ESP). For the concept note, the entire project will be screened to identify potential environmental and social risks and impacts using the Adaptation Fund Principles.

The project will fully align with national technical standards and requirements, including standards for environmental and social impacts, land use planning, etc. Compliance procedures and information about authorizing offices will be provided in the Concept Note.

Overlap with other funding sources

To the best of our knowledge, there is currently no ongoing projects that would overlap with this new initiative. On the contrary, it will build on another initiative led by the University of Leeds that has just come to a close, and by implementing its recommendations developed through research and stakeholder consultations that took place between February 2017 to May 2018.

During the concept note development phase, all projects and their lessons learned, complimentary potential and non-duplication will be mapped out in order to avoid overlap with other projects and use lessons learned where possible. In parallel, the Concept Note development phase will establish linkages and dialogue with potential

partners such as Development Banks and the Social-Responsibility Board of “Itaipu Bi-national”, in order to identify complementary measures and actions that should be implemented.

PART III: IMPLEMENTATION ARRANGEMENTS

UN-Habitat will be the implementing partner from its regional office based in Rio de Janeiro, Brazil. A dedicated team already managing projects in Brazil and Southern Cone countries will be providing with colleagues from HQ specific technical and administrative support.

One executing entity in each of the countries (Ministries mentioned above) will cooperate with the project and with provincial and municipal authorities. Other national institutions will also be technical supporting partners, as well as city officials and public servants will be fully involved through their line departments.

There are existing working and communication linkages between UN-Habitat and the main Ministries, Agencies and local institutions of Argentina, Brazil and Paraguay. This will ensure the successful implementation and coordination of the project. For the measures’ implementation at community level, a local partner in each of countries will be designated to support the community mobilization and technical work.

The list below shows names of the organizations and their expected role in the program implementation arrangements. NGOs – still to be identified – could also be contracted in order to facilitate local stakeholders involvement and engagement. This will be determined in the next phase (concept note).

ARGENTINA

National

- Ministry of Environment and Sustainable Development (Direction Adaptation to Climate Change) *(Leading Executing Entity)*
- Ministry of Interior, Public Works and Habitat (*Supporting Executing Entity)*

Regional

- Universidad Nacional de Misiones *(Knowledge partner - Regional Observatory)*

Municipal

- City of Puerto Iguazú *(Preparation, design and implementation of works and activities)*
- Oficina de Defensa Civil *(Articulation between different components of an early warning system)*
- Consejo de Desarrollo Economico Social y Ambiental de Puerto Iguazú (CODESPI) *(Mobilization among local actors)*

BRAZIL

National

- Ministry of Environment and Sustainable Development (Direction Adaptation to Climate Change) *(Leading Executing Entity)*
- Ministry of Cities (*Supporting Executing Entity)*

Regional

- Universidad Estatal de Paraná Occidental (UNIOESTE) *(Knowledge partner - Regional Observatory)*
- Sistema Estatal de Protección y Protección Civil (SEPDEC) *(Articulation between different components of an early warning system)*

Municipal

- City of Foz do Iguaçu *(Preparation, design and implementation of works and activities)*
- Defensa Civil de Foz do Iguaçu *(Articulation between different components of an early warning system)*
- Consejo de Desarrollo Local de Foz do Iguaçu (CODEFOZ) (*Mobilization among local actors)*

PARAGUAY

National

- Ministry of Environment (National Office of Climate Change) *(Leading Executing Entity)*
- Secretaría Técnica de Planificación del Desarrollo Económico y Social (*Supporting Executing Entity)*
- Secretaría de Emergencia Nacional (*Supporting Executing Entity)*
- National University of Asunción–Facultad Politécnica (FP-UNA) *(Knowledge partner - Regional Observatory)*

Regional

- Universidad Nacional del Este *(Knowledge partner - Regional Observatory)*

Deleted: ¶
At global level, the project will also rely on collaboration of knowledge partners such as University of Leeds, mentioned in the previous section as research agency in this trinational area within the “Climate Resilient Cities in Latin America” initiative.¶

Municipal

- City of Ciudad del Este *(Preparation, design and implementation of works and activities)*
- Consejo Local para la Reducción de Riesgos y Respuesta *(Articulation between different components of an early warning system)*
- Consejo de Desarrollo Económico de Ciudad del Este (CODELESTE) (*Mobilization among local actors)*

INTERNATIONAL STAKEHOLDERS

- University of Leeds (UK) *(Knowledge partner)*
- IDRC *(Knowledge partner – Potential co-funding to be determined in the next phase)*
- Itaipú Binacional (*Potential co-funding to be determined in the next phase)*
- Centro de Hidroinformática (CIH/ITAIPU) *(Regional Observatory)*

- Consejo de Desarrollo Económico, Social y Ambiental de la Triple Frontera (CODETRI) *(Mobilization among local and regional actors)*

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A.

Lucas Di Pietro Paolo, Coordinator of Adaptation to Climate change, Minsitry of Environment and Sustainable Development, Government of Argentina	August 2, 2018
Government of Brazil	August 6, 2018
Government of Paraguay	August 6, 2018

República Argentina - Poder Ejecutivo Nacional
2018

Letter of No-Objection by Government

Government of Argentina

Ministry of Environment and Sustainable Development

Buenos Aires, Argentina
August 2nd, 2018

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for "*Building multi-level resilience through better water management in a transboundary urban setting*"

In my capacity as designated authority for the Adaptation Fund in Argentina, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the country.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by UN-Habitat and executed by the Ministry of Environment and Sustainable Development.

Sincerely,

Lucas Di Pietro Paolo
Coordinator of Adaptation to Climate Change
Ministry of Environment and Sustainable Development

ADAPTATION FUND

Letter of No-Objection by Brazil

[BRAZIL]

[Brasilia, 06 August 2018]

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: No-objection to the concept note "Building multi-level resilience through better water management in a transboundary urban setting"

In my capacity as Acting Focal Point of Brazil to the UNFCCC and Acting Head of the Division of Climate Change at Brazil´s Ministry of Foreign Affairs, I confirm that the above concept note of a regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the triple frontier between Brazil, Argentina and Paraguay.

Accordingly, I am pleased to inform our No-Objection to the above concept note. If approved, the project will be implemented by UN-Habitat and executed by the Federal Government of Brazil.

Sincerely,

Patricia Soares Leite
Subchefe
Divisão de Mudança do Clima

Patricia Soares Leite
Acting Focal Point to the UNFCCC
Acting Head of the Division of Climate Change
Ministry of Foreign Affairs

TEKOHA REÃI HA AKARAPÚÃ KATURÃ
MINISTERIO DEL AMBIENTE Y DESARROLLO SOSTENIBLE

TETÃ REKUÁI GOBIERNO NACIONAL
Construyendo Juntos un Nuevo Rumbo

paraguay

Letter of Endorsement by Government

06 August 2018

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Regional Project "Building multi-level resilience through better water management in a transboundary urban setting"

In my capacity as Focal Point designated authority for the Adaptation Fund in **Paraguay**, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in **Paraguay**.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by UN Habitat and executed by the Ministry of the Environment and Sustainable Development of the Republic of Paraguay.

Sincerely,

OFICINA NACIONAL DE CAMBIO CLIMÁTICO
SECRETARÍA DEL AMBIENTE

Ethel Astigarribia
Adaptation Fund Focal Point
Ministry of Environment and Sustainable Development

B. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans of Argentina (in line with revised NDC submitted in 2016, and will be in line with the *National Plan for Response to Climate Change to be adopted in the following months)*, Brazil (*National Adaptation Plan to Climate Change - May 2016*) and Paraguay *(Plan Nacional de Mitigación ante el Cambio Climático y de los Programas de Acción - September 2017)* and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.
for Rafael Tuts Director, Programme Division UN-Habitat Signature
Date: 06-August-2018 | Tel. and email: +25420762-3726 raf.tuts@un.org
Project Contact Person: Alain Grimard
Telephone & Email: (+55) 21 99981-1654 Alain.Grimard@un.org

ADAPTATION FUND

Project Formulation Grant (PFG)

Submission Date: 06-08-2018

Adaptation Fund Project ID:	
Countries:	Argentina, Brazil, Paraguay
Title of Project:	Building multi-level resilience through better water management in a transboundary urban setting
Type of IE:	Multilateral
Executing Entities:	**Argentina:** Ministry of Environment and Sustainable Development, Ministry of Interior, Public Works and Habitat, City of Puerto Iguazú **Brazil:** Ministério das Relações Exteriores / Divisão de Mudança do Clima, Ministry of Environment, Ministry of Cities, City of Foz do Iguaçu **Paraguay**: Ministry of Environment (National Office of Climate Change); Supporting: Secretaría Técnica de Planificación del Desarrollo Económico y Social, City of Ciudad del Este

A. Project Preparation Timeframe

Start date of PFG	**10/15/2018**
Completion date of PFG	**Submission date concept note in 2019**

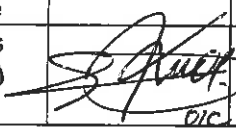
B. Proposed Project Preparation Activities ($)

Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount
1. Bring together leading ministries and target municipalities to: o Agree on approach, priority interventions and target vulnerable communities o Agree on execution and coordination modalities	Workshop and Mission reports, MoUs on formulation and coordination modalities with key stakeholders.	6.000
2. Conduct detailed vulnerability / risk mapping of target neighbourhoods and ecosystems, and conduct community-level and vulnerable groups consultations	Vulnerability assessment / Consultation reports	12.300
PSC	8.5%	1.700
Total Project Formulation Grant		20.000

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Rafael Tuts Dir. / P.D		06 August 2018	Alain Grimard	(+55) 21-99981-1654	alain.grimard@un.org