

## Call for submission on human settlements and adaptation

According to the Vancouver Declaration on Human Settlements, human settlements can be defined as the totality of the human community – whether city, town or village – with all the social, material, organizational, spiritual and cultural elements that sustain it.<sup>1</sup> During SBSTA 44, Parties highlighted that those making submissions should “bear in mind the unique challenges and scale differences in urban, rural and remote settlements, in particular in small island developing States and least developed countries.”<sup>2</sup> During SBSTA 46, Parties further underscored their interest in collecting information related to rural and coastal settlements, particularly remote settlements.<sup>3</sup>

*We thank you in advance for filling out this template with concise, evidence-based information and for referencing all relevant sources. There are 5 sections in the template: please fill the sections that are relevant to the work of your government or organization. As you will see on the last page of the document, more detailed information on case studies, tools/methods and other knowledge resources for dissemination through the Adaptation Knowledge Portal is welcome, but optional.*

### Name of the organization or entity:

Boticario Group Foundation

### Type of organization:

*Please choose as appropriate:*

- |   |   |
|---|---|
| <input type="checkbox"/> Local government/ municipal authority          | <input type="checkbox"/> Regional center/network/initiative         |
| <input type="checkbox"/> Intergovernmental organization (IGO)           | <input type="checkbox"/> Research institution                       |
| <input type="checkbox"/> National/public entity                         | <input type="checkbox"/> UN and affiliated organization             |
| <input checked="" type="checkbox"/> Non-governmental organization (NGO) | <input type="checkbox"/> University/education/training organization |
| <input type="checkbox"/> Private sector                                 |   |

### Location

City: Curitiba, Paraná

Country: Brazil

### Scale of operation:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Global   | <input type="checkbox"/> Regional      |
| <input type="checkbox"/> Local               | <input type="checkbox"/> Subregional   |
| <input checked="" type="checkbox"/> National | <input type="checkbox"/> Transboundary |

### City(ies)/Country(ies) of operation (if appropriate):

<sup>1</sup> See: <https://unhabitat.org/the-vancouver-declaration-on-human-settlements-from-the-report-of-habitat-United-nations-conference-on-human-settlements-vancouver-canada-31-may-to-11-june-1976/>

<sup>2</sup> FCCC/SBSTA/2016/2, paragraph 15(b)(ii).

<sup>3</sup> FCCC/SBSTA/2017/L.7, paragraph 13.

## 1. Assessing sensitivity and vulnerability to climate change

### Description of relevant activities/processes or research:

*Please describe the activities or processes that your entity has implemented to assess sensitivity and/or vulnerability to climate change in human settlements. In case your organization carried out research on such activities/processes, please describe them.*

[Boticário Group Foundation for Nature Protection](#) is a non-governmental organization dedicated to the conservation of nature in Brazil. We started our activities in 1990 with the grant making of scientific research and became one of the main funders of environmental projects in the country. Through our Private Natural Reserves, we conserve more than 11 thousand hectares of Atlantic Forest and Cerrado - the two most threatened biomes in the country - which are biodiversity hotspots and also part of Biosphere Reserves.

Research on climate and biodiversity is scarce, especially in the Atlantic Forest, one of the few biodiversity hotspots and habitat of endemic and endangered species. This lack of knowledge makes it difficult to create successful adaptation strategies, especially based on ecosystem services. Thus, the Boticário Group Foundation launched the Bio&Clima Lagamar initiative in 2010, encouraging research on the impact of climate change on biodiversity with a focus on the [Lagamar Protected Areas Mosaic](#), a set of protected areas located in the coast between the southeastern and southern regions of Brazil. The beginning of this process was a Seminar that gathered specialists from different areas of knowledge and the opening of a call for proposals with the objective of collecting scientific support for the elaboration of guidelines for natural areas management aiming to reduce the loss of biodiversity caused or intensified by climate change. In order to integrate the projects and promote the discussion of results, workshops were held annually over five years. In addition to the technical experts responsible for the research, we invited climate specialists, researchers with a successful history in stimulating the creation of public policies, managers of Lagamar protected areas and of public agencies and programs. The document "[Preliminary Guidelines for Managing Natural Areas Considering the Impact of Climate Change on Biodiversity in the Lagamar Protected Areas Mosaic Region](#)" was presented to state and federal protected area managers and was also presented at [VIII Brazilian Congress on Protected Areas](#), one of the largest scientific events on Biodiversity Conservation in Latin America, organized by the Boticário Group Foundation.

We understand the importance of a theme that gained strength and relevance in the international scenario - Ecosystem-based Adaptation (EbA) - which consists of the use of ecosystem services and biodiversity as part of a broader strategy to assist people and communities to adapt to the negative effects of climate change at local, national, regional and global levels (UNEP). In order to contribute to the adaptation to climate change process, considering the natural environments as part of the strategy, the Boticário Group Foundation elaborated the report: "[Ecosystem-based Adaptation: opportunities for public policies in climate change](#)", in 2014. ICLEI Brasil was hired for the technical execution of the report, under the coordination of the Boticário Group Foundation, with the support of the [Climate Observatory](#) - network of Brazilian NGOs that work with

climate change. The report brings the concept of EbA as well as practical examples of its application in Brazil and all over the world - including some cases with a comparative analysis between the cost-benefit of the implementation of EbA projects and green infrastructure with conventional engineering solutions ("gray infrastructure") - and guidelines to include EbA in public policies. An [English version of the report](#) was also sent to the Convention on Biological Diversity and other international partners.

#### Description of relevant tools/methods:

*Please describe the tools and/or methods that have been developed and/or used to assess sensitivity and/or vulnerability to climate change.*

In Brazil, the number of projects with EbA is still incipient; however, the few experiences found demonstrate the potential of this strategy which can be used in combination with conventional engineering and considering cost-effectiveness and co-benefits. Eg. the implementation of adaptation measures combining Environmental Services and the Conservation of Biodiversity that stimulates an integrated view of the territory. Based on the research a number of objective recommendations were suggested in order to include EbA in public policies that help address adaptation to climate change focusing on the contribution to the National Adaptation Plan, launched by the government in May 2016. As the Boticário Group Foundation was in contact with the Ministry of Environment since the early stages of the study the government was able to contribute with considerations ranging from the Term of Reference description throughout the preparation of the study, which made possible taking the final document during the construction of the [National Adaptation Plan](#) (NAP), launched by the government in May 2016. We are also active partners on the development of a [collaborative platform](#) on adaptation, which will be launched by the end of 2017.

#### Key outcomes of the activities undertaken:

*Please provide information regarding the outcomes of the activities/processes described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.*

The Brazilian NAP brings EbA as one of its principles and the main challenge of this contribution was to find EbA strategies for each of the thematic chapters that constitute the plan. We also hope to contribute to the national and local government strategy for disaster risk reduction, risk management and adaptation to climate change, always considering the conservation of biodiversity.

#### Description of lessons learned and good practices identified:

*Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).*

We've realized that disseminating the concept of EbA is extremely relevant, as most decision makers are not aware of the possibility of using ecosystem services in adapting to climate change or even other demands. The cycle for the implementation of EbA strategies in public policies foresees 5 main steps: i.

Appropriation of the concept; ii. Integration into existing policies and programs; iii. Economic evaluation; iv. Prioritizing non-regret measures; and v. Economic Incentives. Ecosystem-based Adaptation strategies should be considered, wherever possible, as they normally present much lower costs and they combine benefits such as biodiversity conservation and the maintenance of environmental services which help society in adapting to climate change. Many sectors of society are eager to understand more about EbA strategies for adaptation and disaster risk reduction and the main challenge now is to quantify the results in order to prove that they're cost-effective and bring additional benefits such as biodiversity conservation and better quality of life.

#### Description of key challenges identified:

*Please describe the key challenges associated with those activities/processes or the use of those tools/methods, that policy-makers, practitioners and other relevant stakeholders interested in assessing sensitivity and vulnerability to climate change should know about.*

Financing or funding for EbA strategies could be a problem in Brazil, as usually projects based on conventional engineering are easier to be approved by funders and already have a plain process, EbA alternatives are not considered as infrastructure that can be financed. Identifying cost-benefit and cost-effectiveness is also a challenge, as many decision makers have requested us for this specific information and there's still room for improvement on quantifying the benefits, return of investment and indicators.

#### Planned next steps (as appropriate):

*Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such activities/processes?*

Boticário Group Foundation organized in 2016 the Workshop "Nature-based Solutions: opportunities for adaptation to the new climatic scenario" with the objective of guaranteeing a more natural environment that will increase society's resilience – and Ecosystem Services play a pivotal role here. This workshop integrated regional actors and experts in climate seeking opportunities to use nature-based solutions (NBS) to solve demands identified by society. One alternative that was raised during this meeting was the environmental recovery of a river basin to reduce the sedimentation and dredging costs of a downstream commercial port at the mouth of the river by the sea near the Port of Paranaguá, one of the largest ports of Brazil.

As a next step, the diagnosis of a society's demand for the implementation of an NBS project will be carried out, demonstrating the importance of maintaining protected areas to guarantee the population's well-being and increase quality of life. In addition, we are developing a study on the [natural infrastructure for water security in Brazil](#), in partnership with [WRI](#) International, [IUCN](#), [TNC](#) and [IBIO](#). This study aims to elucidate the main bottlenecks for the implementation of nature-based solutions for water security in Brazil using as a case study focusing on 3 of the largest capitals in Brazil: São Paulo, Rio de Janeiro and Vitória.

#### Relevant hyperlinks:

*Please provide hyperlinks to sources of information*

## **2. Integrating both short-term and long-term climate considerations (including both extreme and slow onset events) into planning**

According to UNFCCC decision 1.CP/16, slow onset events include sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification.<sup>4</sup>

[Ecosystem-based Adaptation: opportunities for public policies in climate change](#)

### **Description of relevant activities/processes or research:**

*Please describe the activities or processes that your entity has implemented to integrate both short-term and long-term climate considerations (including both extreme and slow onset events) into planning. In case your organization carried out research on such activities/processes, please describe them.*

### **Description of relevant tools/methods:**

*Please describe the tools and/or methods that have been developed and/or used to integrate both short-term and long-term climate considerations (including both extreme and slow onset events) into planning.*

### **Key outcomes of the activities undertaken:**

*Please provide information regarding the outcomes of the activities/processes described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.*

### **Description of lessons learned and good practices identified:**

*Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).*

### **Description of key challenges identified:**

*Please describe the key challenges associated with those activities/processes or the use of those tools/methods, that policy-makers, practitioners and other relevant stakeholders interested in integrating both short-term and long-term climate considerations into planning should know about.*

### **Planned next steps (as appropriate):**

*Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such activities/processes?*

### **Relevant hyperlinks:**

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<sup>4</sup> FCCC/CP/2010/7/Add.1, para 25, footnote 3.

*Please provide hyperlinks to sources of information.*

### **3. The role of national governments in supporting adaptation at the local level**

#### **Description of relevant activities/processes or research:**

*Please describe activities or processes that your entity took part in, or studied, and that illustrate the role of national government(s) in supporting adaptation at the local level.*

#### **Description of relevant national-level policies, programmes or projects:**

*Please describe relevant policies, programmes, projects (or other relevant initiatives) implemented by national government(s) to support adaptation action at the local level. Information on the implementing partners and financial mechanisms established would be particularly helpful.*

#### **Description of relevant tools/methods:**

*Please describe specific tools and/or methods that have been developed and/or used by national government(s) to support adaptation at the local level.*

#### **Key outcomes of the action undertaken:**

*Please provide information regarding the outcomes of the actions described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.*

#### **Description of lessons learned and good practices identified:**

*Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes, national-level policies, programmes or projects (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).*

#### **Description of key challenges identified:**

*Please describe the key challenges associated with those actions, that policy-makers, practitioners and other relevant stakeholders working either at the national or at the local level should know about.*

#### **Planned next steps (as appropriate):**

*Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such actions.*

#### **Relevant hyperlinks:**

*Please provide hyperlinks to sources of information.*

#### 4. Cross-cutting issues and linkages to the process to formulate and implement national adaptation plans (NAPs)<sup>5</sup>

##### **Description of relevant activities/processes or research:**

*Please describe activities or processes that your entity took part in, or studied, and that illustrate cross-cutting issues and/or linkages to the process to formulate and implement NAPs.*

##### **Description of relevant national-level policies, programmes or projects:**

*Please describe relevant policies, programmes, projects (or other relevant initiatives) implemented by national government(s) that integrate local-level adaptation action into the process to formulate and implement NAPs. Information on the implementing partners and financial mechanisms established would be particularly helpful.*

##### **Description of relevant national-level policies, programmes or projects:**

*Please describe specific tools and/or methods that have been developed and/or used by national government(s) to address cross-cutting issues and/or foster linkages with the process to formulate and implement NAPs.*

##### **Key outcomes of the action undertaken:**

*Please provide information regarding the outcomes of the actions described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.*

##### **Description of lessons learned and good practices identified:**

*Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes, national-level policies, programmes or projects (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).*

##### **Description of key challenges identified:**

*Please describe the key challenges associated with those actions, that policy-makers, practitioners and other relevant stakeholders working either at the national or at the local level should know about*

##### **Planned next steps (as appropriate):**

*Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such actions?*

##### **Relevant hyperlinks:**

*Please provide hyperlinks to sources of information.*

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<sup>5</sup> For additional information on NAPs, see: <http://www4.unfccc.int/nap/Pages/Home.aspx>

## 5. City-to-city partnerships on climate change adaptation

### Description of relevant activities/processes or research:

*Please describe activities or processes that your entity took part in, or studied, and that contributed to fostering city-to-city partnerships on climate change adaptation.*

### Description of relevant tools/methods:

*Please describe specific tools and/or methods that have been developed and/or used to foster city-to-city partnerships on climate change adaptation.*

### Key outcomes of the action undertaken:

*Please provide information regarding the outcomes of the actions described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.*

### Description of lessons learned and good practices identified:

*Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).*

### Description of key challenges identified:

*Please describe the key challenges associated with those actions, that policy-makers, practitioners and other relevant stakeholders should know about.*

### Planned next steps (as appropriate):

*Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such actions?*

### Relevant hyperlinks:

*Please provide hyperlinks to sources of information.*

### Further information:

Please do not hesitate to submit more detailed information on case study(ies), tool(s)/method(s) and/or other relevant knowledge resource(s) that are relevant to adaptation in human settlements. The latter will be shared through the [Adaptation Knowledge Portal](#):

- [Case study\(ies\)](#)
- [Tool\(s\)/method\(s\)](#)
- [Other knowledge resource\(s\)](#) (online portals, policy briefs, training material, multimedia material, technical reports and scientific publications)