

1. Title/Heading.

NATURE-BASED SOLUTIONS FOR WATER SECURITY

2. Context and rationale.

The [Boticário Group Foundation](#) is an NGO dedicated to nature conservation in Brazil. Since 1991, we have been supporting scientific research on biodiversity conservation and contribution to public policy in the environmental field. We believe that nature is part of the solution for the greatest humanity challenges, such as water scarcity and climate change. More than one decade ago, we have developed a pioneer mechanism of Payment for Environmental Services (PES), Oasis, that covers a governance model and a valuation methodology that can be customized according to each region's environmental and economic characteristics. This is substantial to assure transparency in the distribution of resources among the land owners, which is completely related to the land management and better practices that enable nature conservation, mitigation and adaptation to climate change. Over the last 13 years, we have been supporting different stakeholders to implement PES initiatives, and we have learnt that every project has its own specificity.

3. An overview of the contribution.

Recently, new approaches have emerged from discussions involving one of the projects, its expansion and future investment possibilities. In partnership with the local government and the water company, we have conducted an assessment on the best strategies for an attractive Return on Investment (ROI) considering the conservation and restoration of natural areas around the only source of water for more than 80 thousand people that live in the city.

4. How the contribution leverages living natural systems as a solution to avert climate change?

NBS proves to be a successful strategy of Ecosystem-based Adaptation, reducing significantly the negative effects of climate change. The conservation of the natural infrastructure avoids losses 6x greater than the associated costs, proving that conservation is a good deal. In case of Natural Infrastructure loss in São Bento do Sul, by means of deforestation of the most prone areas, economic losses could reach almost one million per year for the municipality itself, in addition to generating U\$ 8 million per year in the neighboring municipalities. Restoration actions and conservation in a region bring benefits environmental, social and economic to other regions, which testifies to the importance of shared management of river basins. The recovery of degraded areas is a necessary action to guarantee resilience against climate change, more than compensating for the expected damages. Nevertheless, it is notably more expensive to recover natural areas than to preserve those remnants that already provide ecosystem services.

5. How might the contribution support both climate, mitigation and adaptation as well as other important co-benefits and social, economic and environmental outcomes in coming years. They may include:

- Reduction in carbon emission and carbon capture (GTonnes)
- Increasing climate resilience
- Social impact (job increase; poverty reduction; Just transition, etc.)
- Net economic impact (total in US\$; how was it achieved?)
- Impact on realization of the 2030 Agenda for Sustainable Development (in particular SDGs 1,2,6,12,13,14,15,16)
- Food security
- Minimising species extinction and ecological losses and fostering an increase of biodiversity.

As preliminary results, in the positive scenario, the additional conservation of 1,620 hectares through PES and the restoration of 3,239 hectares of degraded pastures

would mean a reduction on the sediment yield of 54%, meaning a reduction of turbidity of 44%, saving from 13% to 26% in water treatment costs and increasing 2.8% in water production. This strategy would result in a positive ROI in 12 years, with the breakeven around the 6th year, considering local benefits such as the reduction of water treatment costs, regional benefits (avoided costs of flood damages) and global benefits (carbon sequestration). We also valued the ecosystem services of capturing and retaining carbon, which could come to around U\$6 million. These results show that, beyond the maintenance of gray infrastructure, it's worthy to invest in natural infrastructure, restoring and conserving nature as part of the solution. The contribution to the SDGs is very clear, especially SDGs 6, 13, 15 and 17, as the project is a multi-stakeholder approach to restoration and biodiversity conservation through PES, with benefits to the environment, society and the water company as well.

6. Which countries and organisations are involved in the contribution?

The Boticario Group Foundation for Nature Protection, the local government – city hall (Prefeitura Municipal de São Bento do Sul), and the water company (SAMAE-SBS), all of us in Brazil.

7. How have stakeholders (for example local communities, youth and indigenous peoples, where applicable) been consulted in developing the contribution?

For the PES in São Bento do Sul to be viable, changes and adaptation in municipal public policies played a relevant role in the process. The process of convincing councilors for unanimous approval of the law helped in the engagement of the various institutions involved, promoting a sense of ownership of the project vis-à-vis local actors. The landowners who are part of the project are very proud of the recognition of being guardians of environmental services, and spread their good results, attracting more and more interested parties. The creation of a PES Committee to monitor the project allows the participation of representatives from all sectors involved in decision-making, empowering local actors and engaging society in solving their own conflicts.

8. Where can the contribution be put into action?

It is a local initiative that can be easily scaled up to different cities.

9. How the contribution will be delivered? How will different stakeholders be engaged in its implementation? What are the potential transformational impacts?

The stakeholders involved in the project are interested in expanding the project, increasing the area of restoration and conservation of natural areas. We hold a Debate about water security in the region, attracting strategic actors from different sectors. Local transformation is already taking place, due to the transfer of PES resources to rural landowners, orientation to better practices of property management, increased sense of belonging to rural dwellers, and valuation of the rural property owner as the custodian of services environmental impacts.

10. Is this initiative contributing to other Climate Action Summit workstreams (industry transition; energy transition; climate finance and carbon pricing; infrastructure, cities and local action; resilience and adaptation; youth and citizen mobilization; social and political drivers; mitigation strategy)?

This initiative has a potential to contribute to climate finance and carbon pricing; infrastructure, cities and local action; resilience and adaptation; youth and citizen mobilization; social and political drivers; and mitigation strategy.

11. How does this contribution build upon examples of experience to date? How does the contribution link with different ongoing initiatives?

Natural infrastructure investment opportunities have been evaluated in different places to achieve two water management objectives: reduce sediment management costs and secure water flows, considering climate change scenarios. Cases conducted in 3 Brazilian Metropolitan Regions (Cantareira-Sao Paulo, Guandu-Rio de Janeiro, and Jucu-Vitoria), showed that forest restoration could boost sedimentation avoidance, provide cleaner water, and decrease turbidity levels. Regional benefits such as avoided costs of flood damages and global benefits (carbon sequestration) were also evaluated. The law compliance has also potential to improve several water-related ecosystem services provided by forests, but such effect can depend on the land use and climate context. For instance, while degraded biomes will be positively affected by the NVPL, the most preserved regions are prone to lose large areas of native vegetation. The NVPL aims for the Atlantic Forest the restoration of 10 million ha of riparian vegetation, which will contribute to the achievement of the Brazilian NDC (contribution to the Paris Agreement).

12. *What are the mechanisms for funding (with specific emphasis on potential for partnerships)?*

The PES is currently funded by the water company. We are developing other financial instruments to support and leverage the project.

13. *What are the means of stewardship, metrics for monitoring?*

The monitoring is carried on by the project executor, the water company, and it is evaluated by the PES Committee, which is the specific Forum for the participation of representatives from all sectors involved in decision-making.

14. *What is the communication strategy?*

We are developing a communication strategy, in order to engage the local community, especially urban people, to increase the sense of ownership towards the project. We also want to engage local business to invest more resources in the project, since they can recognize that the benefit goes beyond the water company; it is wider than only reducing water treatment costs, it is increasing local resilience.

15. *What are the details of proponents (indicating the degree of commitment among the countries and organizations that are named).*

The Boticario Group Foundation for Nature Protection is an NGO which focus on biodiversity conservation in Brazil, supporting scientific research, public policies and innovative instruments and financial tools for nature protection.

The local government – city hall (Prefeitura Municipal de São Bento do Sul) is the idealizer of the project.

The water company (SAMAE-SBS) is the project executor and responsible for the main financial resources.



Land owners are proud to be part of the solution!

A Summit about action and opportunity

- The UN Climate Action Summit, being convened by UN Secretary-General on 23 September 2019 provides an opportunity for redefining people's relationship with nature. 'Nature-Based Solutions' can harness nature's capacity to reduce emissions, enhance resilience, and can offer a crucial response to climate change and sustainable development at the scale and pace that is needed: To make this transformation possible, the necessary actions must be clearly identified, along with robust implementation systems and finance on an unprecedented scale. The Summit also provides an opportunity of cooperation for all of us - from government, finance, business, civil society and international organizations - to contribute to collective efforts that will tip the balance. These include reversing climate change, implementing SDGs, delivering multiple economic, social and environmental outcomes, and benefiting lives and livelihoods everywhere.

Nature-Based Solutions (NBS) in the Summit

- The United Nations Secretary-General has initiated nine coalitions comprised of national governments who are joined by other stakeholders. Their remit is to undertake preparatory work for the Summit and to ensure 'transformative outcomes, of which Nature-Based Solutions (NBS) is one. The coalitions are each preparing propositions that will be offered to world leaders at the Summit and be followed up through the UNFCCC COPs and other intergovernmental processes. It is anticipated that propositions, when implemented, will have significant and transformative impact, reflect public interest, and contribute to balanced and equitable development, taking account of economic and social considerations. Propositions will be assembled at the Climate Action Summit preparatory meeting will take place on 30 June and 1 July in Abu Dhabi, United Arab Emirates.

Assembling the proposition for the Nature-Based Solutions workstream

- The proposition for NBS will be established in conjunction with the coalitions involved in the eight other summit workstreams. This reflects the growing recognition that NBS are critical to the work undertaken in these different workstreams. The NBS coalition is keen to have a strong proposition for NBS to establish beyond doubt the critical importance NBS and to stimulate actions in NBS for climate action. At the 30 June meeting a strong proposition is more likely to be chosen for advancement to the September Summit. The NBS coalition co-leads will be fully engaged in establishing the scope and form of the NBS proposition in the run up to this meeting and on to the Summit. After the 30 June meeting, there will be discussions about the propositions among governments whose leaders are due to participate in the Summit.

Possible thematic areas for the Nature-Based Solutions proposition

- The co-leads of the NBS coalition are China and New Zealand. They envisage that the proposition on the NBS theme could include (but not be limited to) scaling up the preservation and restoration of forests, land and marine ecosystems; conservation and restoration of wetlands; comprehensive treatment of soil erosion; prevention of desertification, climate resilient infrastructure and connectivity; eco-corridors and protection of biodiversity; climate compatible agriculture and food systems; regenerating ecosystems of the ocean and natural reserve systems with national parks as the mainstay.

The timetable of work for the NBS coalition

- During the 12 weeks between early April and end June 2019, the NBS coalition will work for the emergence of a proposition that is highly ambitious and aggregated: it will call for intensifying the implementation of NBS within climate action. The proposition will have significant potential impact for the mitigation of climate change and capacities for adaptation, as well as co-benefits linked to the 2030 Agenda for Sustainable Development (such as poverty reduction, food security and health). As stated above, the proposition will be assembled in conjunction with the coalitions involved in the eight other summit workstreams.

Possible outcomes for the NBS workstream

- The main outcome will be the proposition on Nature Based Solutions, presented as a declaration to be jointly issued by the coalition countries. Other outcomes anticipated include:
 - Establishing a “Nature-Based Solutions” coalition and explore the establishment of a science experts’ institution of the coalition.
 - Identifying action initiatives in various outcome areas. Further integrate and distill existing or proposed initiatives by coalition partners and include good initiatives into the annex to the declaration.
 - Compiling good practices: high-quality case studies provided by coalition partners and share them with all parties through seminars, roundtables and other activities.

Receiving contributions

- We would be grateful to receive contributions from those who wish to participate in the development of this NBS proposition. These contributions should describe action initiatives and/or good practices which could be aggregated into the ambitious NBS proposition. They should include actions that have a high potential impact, building (where appropriate) on existing initiatives and good practices. All inputs for the NBS proposal should be shared by 24 April. They will each be examined before the end of April and then be drawn on when shaping the NBS coalition’s proposition for the Climate Action Summit. It is envisaged that as the coalition advances its work its propositions will also be shaped through contributions from the other preparatory workstreams.

Criteria being used when the propositions/contributions are examined

- The NBS proposition will be developed on the basis of the five criteria recommended by the UN Secretary-General’s Office and contributions will be reviewed using these criteria:
 - **Transformational impact:** Transformational in development philosophy or ambition on climate action (mitigation/adaptation) either setting a new precedent in a sector, regionally or internationally or dramatically scaling-up an existing initiative;
 - **Sustainable development co-benefits:** Addressing economic and social issues: Initiatives will need to demonstrate that they are inclusive (ensuring that no-one is left behind), advancing sustainable development, cross-sectoral and multi-stakeholder;
 - **Replicable and scalable:** Ability to be scaled-up or replicated across sectors or regions;
 - **Measurable and implementable:** The proposed initiatives should be concrete enough to be immediately implemented with a measurable effect that allows the proponents to demonstrate their contribution and secure accountability. Initiatives will need to be supported by an implementation plan with concrete milestones and the corresponding financial requirements.
 - **Innovative and visible:** Development of a competitive, innovative solution as well as a clear communications strategy that stimulates public awareness.

The proposed structure of contributions

- Those who are interested to provide inputs to the NBS coalition are invited to submit them in summary form (not more than 1000 words), in English, using the following headings (if a specific heading is not applicable this should please be indicated in the contribution):
 1. Title/Heading.
 2. Context and rationale.
 3. An overview of the contribution.
 4. How the contribution leverages living natural systems as a solution to avert climate change?
 5. How might the contribution support both climate, mitigation and adaptation as well as other important co-benefits and social, economic and environmental outcomes in coming years. They may include:
 - Reduction in carbon emission and carbon capture (Gtonnes)
 - Increasing climate resilience

- Social impact (job increase; poverty reduction; Just transition, etc.)
 - Net economic impact (total in US\$; how was it achieved?)
 - Impact on realization of the 2030 Agenda for Sustainable Development (in particular SDGs 1,2,6,12,13,14,15,16)
 - Food security
 - Minimising species extinction and ecological losses and fostering an increase of biodiversity.
6. Which countries and organisations are involved in the contribution?
 7. How have stakeholders (for example local communities, youth and indigenous peoples, where applicable) been consulted in developing the contribution?
 8. Where can the contribution be put into action?
 9. How the contribution will be delivered? How will different stakeholders be engaged in its implementation? What are the potential transformational impacts?
 10. Is this initiative contributing to other Climate Action Summit workstreams (industry transition; energy transition; climate finance and carbon pricing; infrastructure, cities and local action; resilience and adaptation; youth and citizenmobilization; social and political drivers; mitigation strategy)?
 11. How does this contribution build upon examples of experience to date? How does the contribution link with different ongoing initiatives?
 12. What are the mechanisms for funding (withspecific emphasis on potential for partnerships)?
 13. What are the means of stewardship, metrics for monitoring?
 14. What is the communication strategy?
 15. What are the details of proponents (indicating the degree of commitment among the countries and organizations that are named).

A web-based platform for sharing NBS contributions

This NBS contributions' web link has been set up to receive inputs and to enable all with an interest to see them. Contributions should be sent by email to the NBS Facilitation team at: nbs@4sd.info; any questions should be sent by email to the same address. Please indicate if you prefer contributions and email details not to be seen by others who access the platform. The inputs received from the NBS network will be summarised and shared with those who have contributed, as well as others with an interest, tentatively on 29 April 2019.

The NBS facilitation team is pleased to issue this invitation to input on behalf of the co-leads and look forward to receiving the contributions. We would be grateful for this invitation to be shared across networks interested in nature-based solutions and climate action. The co-leads and facilitation team want to encourage inclusive engagement in the development of the proposition incorporating NBS in climate action. This engagement should draw upon the wide range and innovative brilliance of the work underway on NBS.

Topics

- [Climate change](#)

[Sustainable Development Goals](#)

Related Sustainable Development Goals



[Goal 1](#)
[No Poverty](#)



Goal 7
Affordable and Clean Energy



Goal 11
Sustainable Cities and Communities



Goal 12
Sustainable Consumption and Production



Goal 13
Climate Action



Goal 14
Life Below Water



Goal 15
Life on Land