



Rio Doce Panel External Evaluation

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This evaluation was organised by IUCN and conducted by independent evaluators. The evaluation team included Michiel Meijer and Paloma Gerzeli Pitre.

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List of acronyms

CBH	Comitê da Bacia Hidrográfica do Rio Doce (Rio Doce Watershed Committee)
CIF	Comitê Interfederativo (Inter-federative Committee)
CT	Câmara Técnica (Technical Chamber)
GQ	Guiding Question
IBAMA	Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (Brazilian Institute for the Environment and Natural Resources)
ISTAP	Independent Scientific and Technical Advisory Panel
IUCN	International Union for Conservation of Nature's
MPF	Ministério Público Federal (Federal Public Ministry)
MEL	Monitoring, Evaluation and Learning
MTR	Mid-term review
OECD	Organisation for Economic Co-operation and Development
SWOT	Strengths, Weaknesses, Opportunities and Threats
TTAC	Termo de Transação e de Ajustamento de Conduta (Terms of Transaction and Conduct Adjustment)
ToR	Terms of Reference
RDP	Rio Doce Panel
RF	Renova Foundation

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Executive summary

Established to assist with technical expertise in the restoration efforts of the Rio Doce after Fundão's rupture, the Rio Doce Panel project is coming to an end. This document provides an external evaluation over the past five years of Panel's work, assessing its relevance, effectiveness, efficiency, impact, sustainability, adaptability, as well as possible best practices to be used in similar situations, which could be extracted from interviews and documents throughout the five years of this project.

Brief background

The Rio Doce Panel (RDP) was created in July 2017 to address science-related issues after the Fundão tailings dam burst in November 2015. Considered to be Brazil's biggest socio-environmental disaster, the failure of the Fundão tailings dam owned by the mining company Samarco caused extensive damages over and beyond the State of Minas Gerais, with 19 lives lost and more than 600 kms of the Rio Doce contaminated. Subsequently, a governance system was established to repair the damages. This system is composed of governmental institutions, mining companies, people affected and other public and judiciary actors. In this context, IUCN was asked to create an Independent Scientific and Technical Advisory Panel (ISTAP) with the objective of providing scientific and technical advice to the institutions involved in the restoration process and bring a long-term holistic view to the issue.

Objectives and methodology

The evaluation had two main objectives:

- 1) To assess the relevance, effectiveness, efficiency, sustainability, adaptability and impact of the RDP during its work tenure, including its relationship with Renova Foundation and other key stakeholders; and
- 2) To identify and consolidate best practices and lessons learned from the RDP process, in order to inform IUCN and other interested audiences in dealing with post-mining disasters reparations.

The external evaluation developed a set of guiding questions (Annex I) to address the two objectives, which should be addressed by each of the following evaluation criteria:

- i) relevance; ii) effectiveness; iii) efficiency; iv) impact; v) sustainability; vi) adaptability; and
- vii) best practices and lessons learned.

Three main tools (Table 1) were used to collect the data to respond to the guiding questions: i) semi-structured interviews; ii) desk review and field visit; and iii) observation.

The evaluation used four steps to analyse and systematise the evidence and write the report: i) processing and systematisation; ii) triangulation techniques; iii) strength of evidence; and iv) presentation of findings.

Annex III summarises the description of each step, as well its application during the evaluation process.

Summary of findings

Based on the seven evaluation criteria, the external evaluation shows the following findings:

Relevance

The Panel's contributions were highly relevant to the reparatory process of Rio Doce, for contributing with a long term, integrated view and with the idea of leaving a legacy in the basin. This is due mainly because of the Panel's independence and its unique role played in the process. The RDP produced relevant materials about key issues regarding the Rio Doce Basin's human and ecosystems health and long-term resilience.

The stakeholders' awareness of the Panel's work and products and the adoption of the recommendations by implementers are important aspects of relevance as well. On this matter, some issues were identified through the interviews and desk review. Some of the recommendations made by the RDP were considered by Renova to be too detached from its day-to-day operation and to be very generic, not providing enough detail for direct application in the reparation efforts. Furthermore, some interviewees considered the work to be too academic and detached from the reality in the field. In addition, some of the reports were deemed by Renova respondents as not being urgent to Renova's day-to-day needs and where a number of the Panel's recommendations to Renova were published after a decision on the issue had already been made by the Renova team.

Considering the issues faced, the RDP needed to adapt to remain relevant. This was done in the last stage of the project by considering more direct demands by Renova. Efforts were made to involve other stakeholders more effectively to generate influence over the reparation efforts beyond Renova. It is important to consider that recommendations not (yet) adopted may very well be relevant, and they will remain for the future and may be used by other actors, e.g. by using them in policy formulation.

Effectiveness

Internally, RDP had an effective way of, working in accordance with its objectives, producing reports, papers and recommendations, with the aim to promote the long-term health of the Rio Doce Basin. The number of documents produced was less than half of what was expected, which can be attributed to over-optimistic estimates during the formulation of the project. Collaboration with the IUCN Brazil and HQ's secretariat was quite fruitful, particularly when additional staff was recruited.

In this regard, it could be asked whether the scientific nature of the panel was adequate in addressing the concrete demands of the reparation efforts, which were often of a more practical nature. A negative point was the timing of the recommendations, which were often released when Renova had already decided on the course of actions to take. It would be desirable to speed up the process of delivering timely recommendations.

Recommendations were mainly accepted by Renova and put into practice. From within the Panel, some criticism was received during the interviews that the fixed composition of the Panel was not always optimal, lacking certain types of expertise, e.g. on marine issues. Externally, communication with Renova was considered good (although slow at times) by those involved. Other stakeholders were always contacted and informed. However, during the interviews, it became clear that the full potential of influencing them was not reached. This can be partially explained by the fact that advocacy was not part of the RDP terms of reference. In the opinion of the evaluators, however, there is no use in providing recommendations if they are not broadly adopted. In general, it would be recommendable to make the Panel more responsive to changing needs that are actually felt, without compromising its independence.

Efficiency

Considering the international customary rates, the project's budget should be considered adequate. On the other hand, productivity was much less than expected and the process of producing recommendations was slow. Considering the need of Renova for practical solutions, this could probably have been achieved in a more economical way through consultancies. Nevertheless, the high scientific quality of the documents, as well as their long-term relevance, constitute considerable added value and are useful in similar situations (e.g. the Brumadinho disaster). There is also the fact that they will remain and most probably will be useful for planning and policy development initiatives. Finally, it is important to mention that this report concluded that efficiency gains could be obtained by differentiated modes of contracting, e.g. by more flexible contracts or direct formal collaboration with universities. A number of Panel members being contracted full-time would also be a possibility. All this would apply both to costs and flexibility.

Sustainability

The report concludes that most of the Panel's recommendations have not been sufficiently internalised by some of the stakeholders, hampering the Panel's long-term impact.

Alternatively, the novelty of some of the concepts brought by the Panel to its work, such as the source-to-sea approach, might have not brought immediate results, but may have a pioneering importance on the academic circles or policy formulation in the near future. To ensure recommendations to be continuously relevant even after the Panel's end, RDP must promote platforms to guarantee continued access to the documents. Similarly, the Panel should also adopt continuous monitoring tools to consider its lasting impact.

Impact

The lack of effective interaction between RDP and stakeholders affects how different actors used the Panel's recommendations in the reparatory process of the basin. In this sense, the majority of interviewed actors understand that the Panel did not have the impact expected.

Besides, in the vast majority of cases, RF agreed to implement completely or part of the recommendations, which confirms that the RDP work influenced the decision-making processes in the RF. In spite of the adoption rate being in line with the expectations, part of the Renova team believes recommendations would have been more useful if the Panel would have produced materials specifically considering the daily obligations of the RF, related to the fulfilment of requirements imposed by the justice system.

In general, interview results suggested that the recommendations made by the Panel were mostly used by the Renova Foundation, while other stakeholders (mining companies, governmental institutions, CIF, CTs or MPF) and the people affected by the disaster did not have that much use for them. In conclusion, although key actors considered that the RDP played a unique role in the reparatory process of Rio Doce, impacts could have been larger. It is, however, still possible to create more spaces of intersection between RDP and stakeholders, which could increase its long-term impact.

Adaptability

The RDP adopted several adaptive measures to address the external factors that impacted its functioning. The Panel also considered the recommendations of the MTR. Even that way, it was difficult for the organ to gain influence and find its spaces within the current judicialised governance sphere. This means that although adaptations were made, these were often not as effective as was hoped for. To achieve the goal of a better inclusion of the Panel, at least the key stakeholders (CIF, MPF, RF and IUCN) should participate and be engaged in finding a relevant space for the Panel's recommendations to be used in governance.

The demands of Renova changed over time and the RDP initially was reluctant to adapt to this change, on the premise that this could change the initial scope of the Panel. By the last year of the Panel, its attitude changed, and it started to address more practical issues, directly relevant to Renova. The complex socio-environmental, judicial and political/governance in which the RDP was included needed more flexibility in the choice of topics and more dialogue. The reason for this was the continuously changing context, which had implications for relevance of the choice of topics to be dealt with. The Report concludes that it is particularly important that in a highly complex and fast-changing context, flexibility in the selection of topics is of the utmost importance.

Based on the findings of this evaluation and using the SWOT analysis approach (Table 5), the evaluators understand that it is possible for RDP and for future ISTAPs to learn from this experience (section 4.6).

Summary of recommendations

Finally, the external evaluation has formulated the following recommendations directed to IUCN and Renova Foundation summarised below:

- 1) Adopt strategies and platforms in order to guarantee continued access and use of the documents, knowledge and recommendations generated by RDP, as well as continued promotion of the work in a proactive manner.
- 2) Strengthen IUCN team in Brazil and maintain part of its national staff dedicated to the mission of making the work done by the RDP over the years visible.
- 3) Consider the possibility of including a professional on future ISTAP projects to take care only of the liaison between the ISTAP and all the key stakeholders.
- 4) For future ISTAPs the possibility to contract some panel members to work full time or to contract specific personnel according to the specific needs should be considered.
- 5) Considering the difficulties of the RDP to find its niche in the highly complex governance system of the Rio Doce case, it is necessary that at the design stage of the ISTAP, all the key stakeholders participate in this step and all should think about how the ISTAP work can be optimised for its use by each institution.
- 6) Identify and establish approaches and partnerships that will enhance long term holistic measures.
- 7) RF could use their central position in the reparatory process to insert the Panel in the governance sphere, promoting better liaison between the Panel/IUCN and other institutions.

1 Introduction

On 5 November 2015, in the community of Bento Rodrigues (Minas Gerais), the Fundão tailings dam managed by the mining company Samarco¹ (a joint venture between the companies Vale and BHP), with residues of iron ore extraction, ceded. Subsequently, the mud flow found its way through the Rio Doce until the river mouth and beyond in the state of Espírito Santo. The disaster caused severe socio-economic and environmental damages to more than 40 municipalities in the Rio Doce Basin.

In this context, on 2 March 2016, the Federal and State government and agencies established a *Termo de Transação e de Ajustamento de Conduta* (Terms of Transaction and Conduct Adjustment, or TTAC in its Portuguese acronym), signed by the mining companies, determining actions to promote restoration efforts in the environment and the socio-economic conditions existing before the disaster. In compliance with the requirements of the TTAC, the mining companies created Renova Foundation, with the objective of repairing the damages caused by the disaster, implementing 42 socio-economic and environmental programs. To guide and substantiate work of the Foundation, the *Comitê Interfederativo* (Inter-federative Committee, or CIF) was created, which is presided by the executive branch of the Ministry of Environment, the *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis* (Brazilian Institute for the Environment and Natural Resources, or IBAMA). The CIF is composed of representatives of the federal government, the state governments of Minas Gerais and Espírito Santo, the affected municipalities, the affected population, the public prosecutor's office and the Rio Doce Watershed Committee.

After the establishment of Renova Foundation, BHP requested IUCN to create an Independent Scientific and Technical Advisory Panel (ISTAP) which could provide scientific advice on the restoration process and bring a long-term perspective to the issue. The Rio Doce Panel (RDP) was thereby formed in July 2017, taking into consideration the opinions and interests of different stakeholder in order to enhance the legitimacy of the Panel. The Terms of Reference (ToR) of RDP (Annex VII) were drafted by IUCN, BHP and Renova Foundation. The Chair of the Panel was then appointed and the Panel members selected. The process was overseen by IUCN to guarantee the independence of the Panel.

This document aims to evaluate the work done by RDP during those last five years and propose recommendations that could serve the establishment of future ISTAPs.

¹ Samarco is a joint venture between two mining companies, Vale and BHP.

2 ISTAP and the Rio Doce Panel

2.1 What is ISTAP

An Independent Scientific & Technical Advisory Panel (ISTAP) is an advisory body formed by IUCN. ISTAPs are composed by a group of specialists, with the objective to fulfil a work plan to achieve scientific or technical advice in circumstances that demand solutions for the themes of biodiversity conservation or natural resource management. Some of the characteristics of the ISTAPs are its independence, transparency, accountability and scientific rigour.

The Procedures for establishing and managing IUCN-supported Independent Scientific & Technical Advisory Panels (IUCN, 2014) provides a number of ways a company, government or organisation could request scientific and technical advice from IUCN. In specific circumstances, IUCN adopts ISTAP mechanisms where there is a demand to compose a custom-fitted technical team composed of renowned scientific experts and professionals to provide advice. Two such panels are worth mentioning in the context of this evaluation. The Western Gray Whales Advisory Panel, the first ISTAP created in 2004, provided advice to one of the oil and gas companies operating near a feeding and reproductive area of the endangered Western gray whales near Sakhalin Island. In 2012, the Niger Delta Panel was established in Nigeria, in partnership with Shell, with the purpose of guiding the remediation process after oil spills severely affected the biodiversity of the Niger Delta River. At the finalisation of this Panel in 2016, a compilation of the recommendations and analyses was produced to share lessons that are still *en vogue*, thus proposing best practices for the company and, in some cases, the industry worldwide. A novelty in the Niger Delta Panel was the introduction of a peer review, which was subsequently adopted by the Rio Doce Panel.

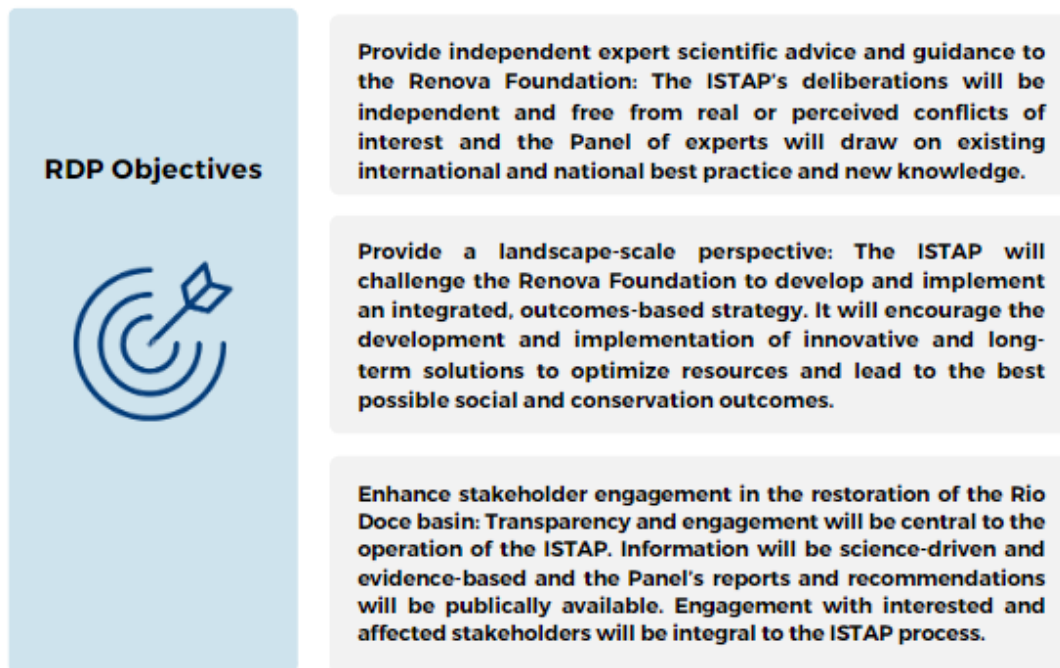
2.2 Rio Doce Panel

After the creation of Renova Foundation by BHP and Vale, the Australian mining company BHP requested IUCN to form an ISTAP that would provide Renova Foundation with scientific advice on the Rio Doce Basin restoration process. Since BHP was not familiar with the Brazilian context, it was keen to receive expert advice that could provide guidance to its restoration efforts in the Rio Doce Basin. BHP believed that the Panel would add to the credibility and integrity of its efforts, and Renova was also receptive to the idea.

In light of BHP's request, the Rio Doce Panel was established in 2016 with three primary goals (Figure 1): (i) to provide independent technical advice to Renova Foundation in its Rio Doce Basin's restoration efforts; (ii) to have a broad perspective in the restoration effort, not

necessarily coinciding with Renova’s point-of-view; and (iii) promote stakeholder engagement and transparency to the reparation efforts.

Figure 1 – Objectives of the Rio Doce Panel



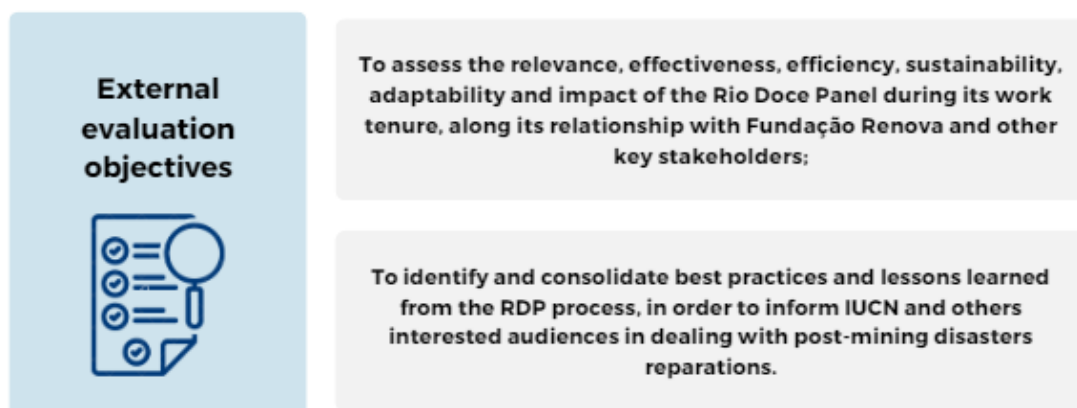
Source: IUCN (2017).

In order to achieve these three objectives, the Rio Doce Panel adopted a holistic integrated approach to the restoration process, focusing on Nature-based Solutions (NbS), grounded in the landscape perspective. What differentiated the Panel from the Renova Foundation was not only its independence, but its focus on a scientific-based, long-term vision perspective that could establish the Rio Doce restoration process as a benchmark for other similar future processes. This implied that the Panel concentrated its efforts on long-term recommendations which could require considerable time to implement, rather than providing advice on urgent matters regarding day-to-day issues related to reparation efforts.

3 Methodology

The external evaluation is designed for the Rio Doce Panel project, an ISTAP project within IUCN that occurred from 2017 to 2022. Therefore, despite the Rio Doce Panel being the primary target of this evaluation, IUCN Secretariat's institutional support will also be assessed throughout this document. The two main objectives of the evaluation are described in Figure 2.

Figure 2 – Objectives of the external evaluation



Source: Authors.

To address its main objectives, the external evaluation developed a set of guiding questions (Annex I) to be answered for each one of the following evaluation criteria:

- i) Relevance.
- ii) Effectiveness.
- iii) Efficiency.
- iv) Impacts.
- v) Sustainability.
- vi) Adaptability; and
- vii) Best practices and Lessons Learned.

The evaluation, which was undertaken from March to November 2022, used a mixed methods approach to collect the data necessary to respond to those evaluation criteria. Primarily, 42 interviews were conducted with key members of the restoration process, ranging from IUCN's Secretariat to decision-making level executives from Renova and policymakers from different areas of the Government sphere. In addition to these interviews, a detailed desk review was made with several documents produced along the Panel's

lifespan, such as financial reports, Monitoring, Evaluation and Learning documents, among others (see Table 1 for more details).

Likewise, the evaluation team held meetings with the Panel and several data collection activities, including field visits and workshops, happening in English or in Portuguese.

The Inception Report was a preview of the tools and methods used in the external evaluation. Table 1 describes those tools and how they were incorporated in this evaluation.

Table 1 Data collection tools used

Tool	Application in the evaluation
Desk review	<p>The following documents were reviewed:</p> <p>1) Communication strategy; 2) Financial reports; 3) Logical Framework; 4) Minutes of meetings; 5) MEL strategy and reports; 6) Mid-term review and Management Response; 7) Stakeholder Engagement Plan; 8) Terms of Reference of the Rio Doce Panel; 9) Theory of Change; 10) Thematic Reports and Issue Papers; and 11) work plans.</p> <p>Additional documents analysed were:</p> <p>12) Legacy Paper (unpublished); 13) Factsheets developed by the IUCN team; 14) spreadsheet, including Renova Foundation's response and feedback to the RDP's recommendations; and 15) Procedures for establishing and managing IUCN-supported Independent Scientific & Technical Advisory Panels</p>
Semi-structured interviews	<p>42 semi-structured interviews were held with actors from all over the spectrum (see Annex II), including Panel members, both current and former, as well as relevant staff from IUCN, Renova Foundation, mining companies, representatives of Government (municipal, state and federal) and judiciary (public prosecutors) and Brazilian IUCN member organisations.</p>
Focus groups/ group interviews	<p>After the first group interview, the evaluators received feedback in groups, the opinion of one person can influence the other and there was not enough space or time for each person to express all concerns and opinions. The interviewees then asked to be interviewed again, albeit individually this time.</p> <p>Considering this feedback, the evaluators decided to instead conduct only individual interviews during the rest of the process. Given the considerable number of individual interviews held (42), the information requirements of the evaluators were met. In this sense, there was no longer a need to work with focus groups.</p>
Field visits/ observations	<p>One of the evaluators participated as an observer in a Panel meeting in Minas Gerais in the first week of July 2022. It was an opportunity to interview and have informal discussions with Panel members personally, as well as Renova staff and members of the affected population. The evaluator also participated in field trips to observe some of the damage and restoration efforts, such as the construction of an alternative village in Novo Bento (to replace Bento Gonçalves, which was destroyed by the disaster), reforestation efforts and support to local farmers.</p>

Source: Authors.

For each question of the evaluation criteria, a Performance Score ranging from 1 to 6 was assigned to evaluate the Panel's work against each of the evaluative guiding questions. The notes attributed by the evaluators considered the guidelines provided in the tables presented in Annex IV. After each interview, a record (or minutes) was made standardising the information collected against the evaluative questions. The minutes was also included in a data collection software that improves documentation and provides overall trends.

Finally, the different data collection methods, such as interviews, desk review and field observation considered to answer the Guiding Questions (GQ) likewise received a score that contributed to understanding the strength of the evidence collected, which were used to answer each of the GQ. The attribution of the scores is based on the criteria 'strength of evidence' (see Annex V) which adopted the following considerations:

1. The quantity and types (interviews, desk review, field observations) of data sources data available to address a specific GQ; and
2. In the case of the existence of different sources, analyse whether they contradict each other or are complementary.

4 Findings

This section presents the findings for the six areas outlined in Terms of Reference (ToR): i) relevance; ii) effectiveness; iii) efficiency; iv) impact; v) sustainability; and vi) adaptability. Annex VI presents a summary of the results of the evaluation criteria, including the responses to the guiding questions, the performance score and the strength of evidence (please see also section 3 on Methodology for more details).

As explained in section 3, the evaluators collected evidence using multiple tools to conduct the evaluation, such as desk review, semi-structured interviews, and field observations. Triangulation techniques were used to validate the information gathered and to provide additional in-sight. Subsequently, several tools were used to analyse the information gathered. The strength of evidence and performance were assessed using a scoring system. The SWOT analysis was applied to the findings to summarise the strengths, weaknesses, opportunities and threats of the project. The lessons learned and recommendations of this report are primarily based on the SWOT analysis.

4.1 Relevance

The first initiative to establish the Rio Doce Panel came from BHP. Being unfamiliar with the Brazilian context, BHP wanted an independent internationally-oriented body to provide orientation to the reparation process. This would also serve to validate the reparation efforts and create credibility. The idea was swiftly accepted by Renova Foundation as well, who was responsible for the reparation efforts. Thus, the creation of the RDP was promoted by the support of the initiative by two of the major stakeholders involved in the reparation efforts.

The vast majority of interviewees from different institutions also understood that the Panel's contributions were highly relevant to the reparatory process of Rio Doce, as well as to providing a long-term, integrated view and leaving a positive legacy of their work. Because of its independence and being exempt from the legal bindings of TTC, the consensus among the interviewees was that the Panel was able to play a role that no other actor involved was able to.

Based on an analysis of the documents produced by the Panel, it is clear that the RDP produced documents and recommendations about key issues regarding the Rio Doce Basin's human and ecosystems health and long-term resilience, which is confirmed by most of the interviewees. However, some of the reports were viewed as not urgent by [some] Renova respondents such as the report on climate change.

Table 2 – Relevant outputs of the Rio Doce Panel

Outputs related to issues affecting the human and ecosystems health of Rio Doce Basin		Outputs related to issues affecting long-term resilience	
Thematic Report	Issue Paper	Thematic Report	Issue Paper
1 – Impacts of the Fundão Dam failure	1 – Alternative livelihoods in rural landscapes of the Rio Doce Basin	2 – Mainstreaming climate change in the Rio Doce watershed restoration	
3 – Source-to-sea and landscape approaches	2 – The fishing ban after the Fundão Dam failure	4 – From restoration to responsive governance	
5 – The environmental impacts of a major mine tailings spill on coastal and marine environments	3 – Risks of suppressing natural flows within a source-to-sea system (Juparanã)		
	4 – A framework for assessing environmental and social impacts of disasters		
	5 – Interconnections between human and ecosystem health – An integrative approach		

Source: Authors.

Even though the RDP dealt with themes that were duly selected and prioritised, a significant part of interviewees, particularly Renova staff, believed that many of the Panel-produced documents tended to be generic and did not provide enough detail for direct application in the reparation efforts. Interviewees tended to emphasise that the Panel was especially generic in social themes, despite the fact that the Panel had a limited scope within this field, only addressing health and socio-economic issues such as fisheries, but abstaining from indemnifications and similar issues. The discrepancy between the Panel scope and the interviewees' feedback on the Panel's work implies that some of the criticism might be based on a lack of understanding of the Panel's objectives.

Several interviewees, in particular those working at Renova Foundation, also stated that the Panel's work was too academic and detached from the reality in the field. A commonly pointed example was Issue Paper No. 2 (*The fishing ban after the Fundão Dam failure*), which discussed the fishing ban in the basin, but did not mention that fishing activities were still occurring regardless of the fishing ban, a highly relevant socio-economic point that was not addressed by the Rio Doce Panel.

The Rio Doce Panel's recommendation timing was another recurring topic among interviewees. Many interviewees claimed that some of the Panel's recommendations to Renova Foundation were published after the decision-making deadline had already passed, either when Renova had already made different choices or when Renova was already implementing a similar path proposed to the Panel despite being unaware of the Panel's recommendations. In the former, the Panel's input would be of little use, while in the latter, recommendations would have been useful to substantiate Renova's actions. Subsequently, the timing of the recommendations has been found to have an impact on their relevance.

In this sense, the Rio Doce Panel approach, which by its intrinsic nature required a certain amount of time to accomplish its work, was not always attuned to Renova's time constraints imposed by the TTAC. Several interviewees reported a gradual change within Renova Foundation and the restoration process that fundamentally changed the relationship of Renova with Panel. Reparation efforts became increasingly judicialized, which meant that the Judiciary exerted pressure for immediate implementation of the TTAC's clauses.

Renova, CIF, MPF and other stakeholders became increasingly focused on discussing and gathering relevant information to implement the TTAC, leading these organisations to follow almost exclusively direct and urgent short-term problems or issues. Such TTAC-oriented short-term compliance efforts became increasingly conflicting with the Panel's long-term vision and knowledge production such that not directly abiding with TTAC clauses might also have hampered the Panel's relevance to the restoration process.

Many direct short-term priorities from Renova and other stakeholders were not dealt with by the Panel. This fact cannot be considered a failure of RDP, but occurred due to the very complex governance situation, in which there was little space for the long-term solutions on which the RDP focused in accordance with its ToR and vision. Interviewees understood that the published reports and recommendations therein were partially used by the actors involved. This affected the relevance of the Panel's work at the practical level. Nevertheless, a significant number of recommendations were, in fact, adopted by Renova, which is documented in a spreadsheet of Renova's management response to the recommendations.

As a result, it can be argued that the scientific expertise of the Panel was not suitable to the context of the restoration efforts, which were often of a more practical nature.

At the same time, it was feasible to operationalise many of the recommendations, since Renova adopted most of them, as shown in Figure 4 (Impact). Nevertheless, some argued that by the time some of the documents were released, the institutional and political situation often had already changed and decisions on the topics already been made, hampering the use of the reports by the stakeholders. The main reason for this was the time required to publish the Panel's documents which followed the rigorous standard of IUCN's science-based publications, including a peer review and the approval of IUCN Publications Committee and Editorial Board.

The Thematic Reports and Issue Papers used a technical language, terms that can be understood mostly by qualified actors, but not necessarily by the general audience, such as the majority of the people affected by the disaster, who also have personal interests in the matters addressed by the Panel. IUCN staff systematised the main results into eleven factsheets (one about the RDP and one for each Thematic Report and Issue Paper). The factsheets are synthetic and use accessible expressions and image resources.

Whereas the Panel originally had Renova as its primary audience, when the scope of Renova became more limited due to the judicialization and consequently larger influence of the TTAC, it became more important for the Panel to expand its audience to include other stakeholders. In this sense, it can be considered as good practice to make the effort to render Panel's work equally accessible to a general audience.

Finally, it is important to view that the level of concordance and action of the stakeholders in relation to the recommendations was limited, because many actors did not have adequate access to what the Panel was producing (for more details, see section 4.2 on Effectiveness).

Despite this context, by analysing the interviews, it was possible to verify that depending on the recommendation, stakeholders agreed to apply it. Such was the case of the Rio Doce Watershed Committee, an institution which, according to its representative during the interview, used the Panel's recommendations to guide the development of the watershed management plan for the next eight years. However, the interviewee was not able to provide further details. Figure 4 (Impacts of the documents produced by the Panel) shows the extent to which Renova acted in accordance with Panel's recommendations.

In other cases, stakeholders did not agree with the themes selected, such as the report on Climate Change, the preparation of which Renova did not agree with. This kind of situation

occurred due to the Panel's independence in the selection of topics. Independence is an important condition for any ISTAP, but may lead to the production of documents that, although undoubtedly highly relevant to the vision of the Panel, may not be considered as relevant by the other stakeholders. Although the situation indicated diverging interests and perhaps a sub-optimal integration of the Panel in the governance system of the reparation efforts, it must also be noted that the Rio Doce Watershed Committee and CIF greatly appreciated the report on Climate Change.

In conclusion, interviewees were unanimous in acknowledging the high relevance and unique approach of the RDP. Their recommendations were directed mainly to Renova and in some cases to other stakeholders. Indeed, the role of the Panel was to provide recommendations, while other parties were responsible for their implementation. The relevance of the recommendations was therefore largely subject to its adoption by implementers. In this case, most recommendations were in fact entirely or partially implemented principally by Renova.

However, there was a point where the Panel ran the risk of becoming less relevant, specifically, when Renova became more worried about short-term solutions. This situation was confirmed during interviews with Renova representatives. As a result, the RDP needed to adapt to remain relevant, especially in the last phase of the project, by taking into account more specific demands by Renova. Efforts were also made to involve other stakeholders more effectively to generate influence over the reparation efforts beyond Renova. Ultimately, recommendations not yet adopted may still be relevant in the future work, e.g. by using them in policy formulation.

Based on the ratings provided in Annex V, the **relevance** of the project is considered as being ***Moderately Satisfactory*** – where there were moderate shortcomings – and some needs or stakeholders were not adequately addressed. The main issue was that initially, the focus was to address Renova's requirements, which over time lost part of its influence on the process. Somehow, similar stakeholders were not as interested as it was expected. In terms of conceptual thinking and the long-term holistic view, the work of the RDP has been considerably relevant.

4.2 Effectiveness

The effectiveness criterion describes the results obtained by the project on the basis of the expected outcomes and their respective progress markers, which are defined in the project logical framework. It is as important as the final results, paving the way for a clear view on how those results have been accomplished, including the reasons why they were, or were not, achieved in a specific way.

The Panel has been effective in working towards its objectives, by producing reports, papers and recommendations promoting the long-term health of the Rio Doce Basin. The documents were made available for download on the Panel's dedicated website, as well as printed copies. Aside from being downloaded by an international audience, printed copies were distributed in Brumadinho (where another mining disaster occurred in 2019) and to Vale staff where they were eagerly received.

Out of a total of 29 recommendations formulated by the Panel, 20 were completely or at least partly accepted by Renova, which represents 69% of the total. This is well above the minimum 50% target that was set out in the logical framework. In some instances, Renova rejected the recommendations and in other instances valued them highly. This was the case with the Thematic Report on Climate Change which, although not appreciated as being useful by Renova, was embraced by the CIF and the Rio Doce Watershed Committee, who considered it extremely valuable. This is likely due to the fact that these two stakeholders tend to regard the basin with a more long-term view than Renova. Furthermore, the fact that the documents were published both in English and Portuguese increased their accessibility and therefore effectiveness.

In the opinion of the evaluators, effectiveness could have been enhanced. The publishing steps that the Panel created to make the process more scientifically accurate ensured the documents quality but were also time-consuming. Therefore, as previously mentioned, this process might have made the Panel to lose the decision-making timing in the extremely dynamic reparation effort framework, and by the time recommendations were published decisions might have already been made by Renova or other key stakeholders. In this sense, it would have been interesting to identify ways to release recommendations, even if only preliminary, earlier in the process, instead of waiting for the finalisation of the complete scientific publication process.

Another option to increase effectiveness that could have been considered, and which came up during the interviews with Panel members, would be to work with a smaller Panel core team, which then could be complemented by temporary contributors with specific knowledge. This would free up time for other Panel members and increase thematic flexibility. In fact, this option was considered by the Panel, but the opinion within the Panel was that this would undermine the internal process of concertation and democratic decision making. For this reason, it was not considered to be a valid option by the Panel.

The mid-term review (MTR) was held in the first semester of 2020 and made a total of 20 recommendations to IUCN, RDP and Renova, who responded jointly. Out of the 20 recommendations, only one was rejected by the management response and action was

undertaken on all the others. The most important actions taken were the revision of the stakeholder mapping and the RDP Theory of Change. This was deemed necessary in order to better identify those stakeholders with a shared vision with the RDP and better identify the most effective points of intervention. Although these efforts had some impact, from interviews with RDP members and other stakeholders it became clear that liaison with other stakeholders still has much space for improvement even today (please see further discussions in sections 4.5 and 4.6, respectively on Sustainability and Adaptability).

The work of the Panel is not equally known and accessed among all stakeholders. It can therefore be concluded that outreach and uptake was limited. This may be due to the fact that the recommendations were more remedial, rather than addressing the underlying causes of the flaws in the Panel's approach. The general impression of the current evaluators is that shortcomings were in fact identified, but that the proposed remedies added mechanisms to intensify communication and procedures, instead of demonstrating awareness of the complexity of the reparation process and rapidly changing circumstances and context, all of which required flexibility rather than additional procedures and mechanisms. It is likely that over time Renova and other stakeholder's technicians became less aware of the RDP's recommendations, due to high staff turnover and increasing judicialization. As such, during the initial phases of the RDP, its work was probably somewhat more acknowledged in general.

Panel members considered the support provided by IUCN as adequate and most helpful. Although the project started off with only one support staff in Brazil, the Brazilian staff gradually increased with a coordinator, MEL officer, communication officer and two interns. In addition, methodological support from IUCN HQ was highly valued. A problem was mentioned by staff from the Brazil office, referring to their limited capacity to perform all their duties, leading them at times to also deal with issues not related to the RDP. Thus, the need was identified to strengthen the Brazil office as a whole. It must be noted that apart from having suffered two major mining disasters, Brazil is a biodiversity hotspot under ever increasing pressure, and IUCN seems to have very limited capacity to deal with such a wide scope of issues.

Regarding communications, it was also expressed that more human resources would have helped to increase effectiveness in this area. Several interviewees from IUCN and the Panel confirmed that it would have been useful to have a person on the team specifically for liaison with actors (such as CIF and the Rio Doce Watershed Committee) other than Renova. This would have enabled the Panel to establish closer ties with such actors and increased the outreach of its recommendations.

The communication of the Panel's work and recommendations was in keeping with the communication strategy developed at the start of the project, which states the following goal:

Recommendations and knowledge generated by the RDP addressed adequately to the primary audience, mainstreamed into public and private sectors; policy and regulatory frameworks influenced and enforced, and communication and information exchange scaled up among the key stakeholders.

The RDP's key messages are generally based on an integrated long-term approach, Nature-based Solutions and participatory governance. The main vehicles used to deliver these messages, by means of recommendations, are the Thematic Reports and Issue Papers, which are available on the IUCN RDP website both in English and Portuguese and in printed copies. These have been downloaded internationally and printed copies were distributed broadly among key partner institutions, such as Renova, mining companies (including in Brumadinho), CIF, municipalities and others. Similarly, IUCN and the RDP participated in events and meetings to disseminate information on their work. Furthermore, publications in more accessible language produced and the use of traditional media was tapped.

Care was also taken to guarantee two-way communication. In general, according to the interviews, the communication between RDP and Renova has been effective. However, a significant number of other interviewed stakeholders still complained about the lack of familiarity of the Panel's work. Perhaps a more proactive attitude on behalf of IUCN would have improved this situation, such as increasing the number of communication staff and enhancing institutional liaison with stakeholders other than Renova. This will still be valid after the Panel's mandate, since the recommendations and reports will still have great value in the future, e.g. for formulation of policies and legislation. The evaluators feel there is a need for a strong exit strategy of the project.

Throughout the first two years of the project, the Panel and Renova leadership had an effective and close relationship. Nevertheless, as citizens and public officials became discontent that the level of progress in the restoration process was not in the expected pace, Renova became increasingly the target of judicialization efforts made by the Prosecutors' Office and judicial branches of state and federal government. This increased judicialization fundamentally altered the dynamic of the restoration process, as Renova was required to become more guided by the TTAC and its short-term needs.

Several interviewed members of Renova's staff claimed that during this time, Renova moved away from the integrated long-term restoration effort promoted by RDP and that Renova's management started to view the Panel's work as less relevant and reduced its engagement. Nevertheless, Renova's staff did not question the relevance of the broader picture offered by the Panel to the basin in general.

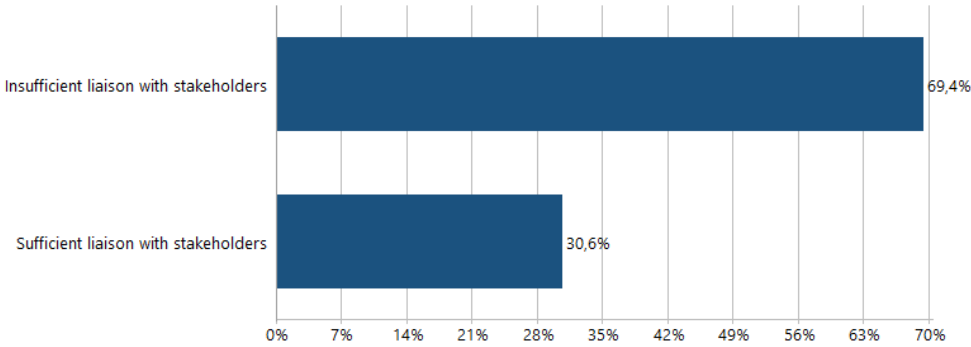
Despite this change of views, engagement with the most relevant Renova teams continued to be good, although a considerable proportion of other Renova staff are still not quite aware of the Panel's work. This could be because its work might be less relevant to day-to-day operations. The Renova Foundation has a large communications department, which could promote the RDP work within and outside the foundation. According to IUCN and RDP interviewees, Renova could have done much more to facilitate the Panel's work, by promoting its documents and events more actively, both internally and externally. Renova staff met during the field trips in July 2022 declared that they are quite engaged with RDP, and said the Panel provided them with useful support.

The Panel also liaised with other important stakeholders, such as CIF, the Rio Doce Watershed Committee and other government offices. Those institutional relationships became even more important after Renova became more bided by the TTAC and it became increasingly important to liaise more with actors who shared the long-term vision of the Panel.

Some of the reports were very well received by many of those actors like the Rio Doce Watershed Committee, who confirmed that they have used them in their management plans and to instigate state governments to improve policy. This led to the development of a new policy on climate change in the State of Espírito Santo, which had been lacking so far.

At the same time, it was felt by interviewees from the Panel, IUCN as well as the other actors that the engagement with these actors could have been more profound in order to gain influence and relevance. Figure 3 shows that 69.4% of interviewed actors believed that the Panel did not interact enough with all the actors involved in the Rio Doce case. Another 30.6% indicated the specific times in which the Panel interacted with actors, albeit with a limited capillarity. This means that interaction with Renova was frequent, whereas interaction with other actors was deemed insufficient by most interviewees. Figure 3 presents the opinion of all interviewees regarding the sufficiency of liaison with all stakeholders.

Figure 3 – Liaison with stakeholders



Source: Graphic generated by MaxQDA based on the minutes of interviews.

The Monitoring, Evaluation and Learning (MEL) strategy conducted by IUCN has proved to be particularly important in identifying and documenting progress and impacts. Making use of the Theory of Change, Target Audience Analysis, the Result Logframe (including progress markers) and a set of tracking tools, it was possible to target the right audiences, and track impacts, main goals and outcomes of the project, including uptake of recommendations by Renova and other stakeholders as well as unexpected results. Compliance with the work plan and the reach and relevance of the outputs were also included. This work not only helped to monitor the achievements but also to make the necessary adjustments to optimise the work of the Panel for it to remain relevant. For example, it enabled the Panel to adapt to the changing information needs of Renova which were mainly caused by the increasing influence of the TTAC, as confirmed mainly by IUCN and RDP interviewees, and to a much lesser extent by Renova. Without the MEL system, the project would have been at a loss in terms of its true impacts and unable to adapt to changing circumstances.

During the first two years, Renova and RDP shared the same vision on key knowledge and information needs, and RDP publications were in line with that vision. Over time, Renova was forced to move away from this vision, because of the obligation to comply with the clauses of the TTAC, thus shifting Renova's focus on more immediate problems. It was mentioned by most interviewees from Renova that such problems could often have been solved by contracting a consultant. Providing consultancy services, however, was never part of the ISTAP concept. The Panel had complete independence in the selection and prioritisation of the themes and although it communicated with Renova, it was under no obligation to address any specific demands. Nevertheless, recommendations made by the Panel continued to be taken up by Renova.

Because the complex governance structure was created very shortly after the Fundão's failure, its effectiveness for the reparation effort has been a constant question. There have been continuous efforts to renegotiate the TTAC, which could have been an opportunity for IUCN and the Panel to further promote its work among key players and influence the process and the new context. Similarly, by the end of 2022, Renova has shared news that there is a public renegotiation process ongoing aiming to diminish its role and restructure the restoration effort governance. Albeit the Panel has not participated in these events directly, there is evidence of some of the Panel's key concepts being used in the renegotiation process, such as the source-to-sea approach.

During the last years of the project, the Panel did start to adapt to the changed needs of Renova. Themes more relevant to the needs of Renova were selected, such as the coast-to-coast approach, and a document on aquatic biodiversity monitoring. In 2022, the last implementation year of the project, Renova suggested that there would not be much additional use in receiving yet more recommendations, so the RDP did not plan any more TRs or IPs. Instead, it was asked to provide assistance in implementing a number of recommendations already made. Subsequently, during the Panel's final year, Thematic Report No. 5 focused on the theme of how to establish aquatic monitoring systems. This is an important development, because it helped the Panel to increase its relevance to practical implementers, who were greatly satisfied with the work. In such a particular situation, where immediate practical situations may be more urgent than scientific long-term views, future ISTAPs should consider the identification of the right mix between pure independent science and more pressing needs.

From the very beginning of the design stage, it should be clear what an ISTAP can and cannot do in order to avoid unrealistic expectations. However, a certain degree of flexibility should also be maintained. Currently, it is not part of the ISTAP concept, but proves that specific situations need tailored solutions, thus a call for the flexibility of the ISTAP concept. In several interviews with Renova staff, some doubt was expressed as to whether many of the Panel's recommendations could not have been provided by less expensive consultancies (this issue is further addressed under section 4.6 on Adaptability).

As a final point for this section, the Panel largely produced what it was established for, which is proof of effectiveness. Although the number of documents produced was less than half of what had been expected, it can be attributed to over-optimistic estimates during the formulation of the project, rather than to lack of effectiveness. Collaboration with the IUCN Secretariat was quite fruitful, particularly after additional staff had been recruited. A negative point was the speed at which recommendations were produced, often taking place when

Renova had already decided on its actions. It would be preferable to expedite the process of delivering timely recommendations. Section 4.4 will address Impacts more specifically. From within the Panel, some criticism was received during the interviews that the fixed composition of the Panel was not always optimal, or lacking certain types of expertise, e.g. on marine issues.

Externally, communication with Renova was considered good (although slow at times) by those involved. Other stakeholders were regularly contacted and informed. However, during the interviews, it became clear that the full potential of influencing them was not reached. For example, the Rio Doce Watershed Committee stated that the reports were being used in their planning, but representatives were unable to provide concrete examples. Likewise, the CIF stated that it considers the Panel's work to be highly relevant, but at the same time no evidence was given that they actually influenced CIF's course of action. For some IUCN and Renova staff, the role of the Panel was not one of advocacy. In the opinion of the evaluators, however, there is no use in providing recommendations if they are not adopted. In this sense, it should be suggested for future Panels to pay more attention to liaison. In the specific case of RDP, it would have been advisable to make the Panel somewhat less independent but more responsive to more concrete needs, more in line with the TACC immediate requirements. In this respect, the RDP is probably different from other ISTAPs, due to the urgency in the search for solutions. However, it does show that any future ISTAP might require specific characteristics in accordance with the specific circumstances it was established for.

Based on the ratings provided in Annex VI, the **effectiveness** of the project is considered as being **Moderately Satisfactory**, where there were moderate shortcomings, and the project achieved most of the expected outcomes. The needs of Renova and what RDP was offering diverged over the course of the project. IUCN's support was considered adequate by Panel members, but it lacked the capacity to liaise and get more involved in advocacy. As a result, capillarity among stakeholders other than Renova remained below what was desirable.

4.3 Efficiency

This section evaluates which human and financial resources were available and used, and if the results obtained were proportional to those resources. Timeliness is equally discussed under this section, in relation to possible delays which may have occurred.

In the opinion of the evaluators, the budget should be considered adequate for the planned human resources, support and activities. For the period 2017 to 2021 expenditure was approximately US\$ 3,242,000 out of a budget of approximately US\$ 4,231,000, which is

equivalent to around 77%. Since the only activities not executed were the field visits during the COVID-19 pandemic, it can be considered that the project expenditure was well aligned with the available resources.

The breakdown of costs is roughly:

- one third was allotted to honorariums.
- one third to support,
- one sixth to mobilisation and outreach; and
- one sixth to overhead costs.

Over time, these rates have been quite consistent, indicating that budgeting has been adequate.

With respect to the number of documents produced, however, a total budget of around US\$ 5 million might be considered a high figure for five Issue Papers, five Thematic Reports, a document on Stories of Influence and a Legacy Paper, as was pointed out by interviewees from the mining companies and part of Renova. In contrast, IUCN, RDP and also some other Renova interviewees mentioned that quality should be valued over quantity. According to IUCN HQ, it should be taken into account that the RDP is composed of internationally-renowned scientists, which comes at a considerable cost. In addition, the Panel's independence was mentioned and rigorous scientific methods were applied. This said, it is, however, quite unlikely that a Panel of such calibre could have been established at a lower cost.

The unexpected low productivity of the Panel was a major setback. According to the progress markers mentioned in its logical framework, the Panel should have produced between 15 and 25 Thematic Reports and Issue Papers over the implementation period, a stark contrast with the ten that were actually produced. The reason for this discrepancy was the amount of time to write the documents with the participation of all panel members and the period needed for the peer review.

Additionally, Panel members were contracted part time and therefore only had limited dedication to the RDP. For them, participation in the Panel was an 'extra', on top of their normal activities. At the same time, it is unlikely that people from academia would be prepared to be contracted full time, since this would make them lose their position at universities. For future ISTAPs, it would perhaps be interesting to establish agreements with universities, to allow for more flexibility and perhaps lower cost. In addition, the response to the recommendations by Renova equally took a long period of time.

These delays could have been tackled by having less Panel members dedicating themselves to each document to free up members to deal with other themes simultaneously (more efficient use of human resources). This was, however, not in accordance with the protocols established by the Panel. Some Panel members mentioned that due to the fixed composition of the RDP, some expertise was lacking and that the RDP would perhaps have benefited from a smaller core team and space to contract additional members on an as-needed basis. This would have allowed for greater flexibility and therefore also greater efficiency.

Another issue concerns synergies created by collaborating with other organizations, which would facilitate efficiency gains. This could have been for example with UNESCO, who had a contract with Renova to work on monitoring. Not only would such synergies have helped to avoid duplication, but also constitute a mechanism to increase capillarity, gain influence among a wider range of actors and diminish the risk of becoming isolated. Although the Panel did communicate with UNESCO as well as other relevant institutions, no significant collaborations creating synergies were established.

Given the internationally customary rates, the project's budget should be considered adequate. In terms of efficiency, productivity was much less than expected and the process of producing recommendations slow, while Renova needed mostly practical and expedient solutions. This could probably have been achieved in a more cost-effective way through consultancies. Nevertheless, the high scientific quality of the documents, as well as their long-term relevance, constitute considerable added value and are useful in other similar situations (for example, in Brumadinho). The documents will most probably remain useful for planning and policy development initiatives. Finally, it is important to mention that efficiency gains could be obtained by differentiated modes of contracting such as by more flexible contracts and/or direct formal collaboration with universities. A limited number of Panel members being contracted on a full-time basis would also be a possibility. Such options could enhance both cost effectiveness and flexibility.

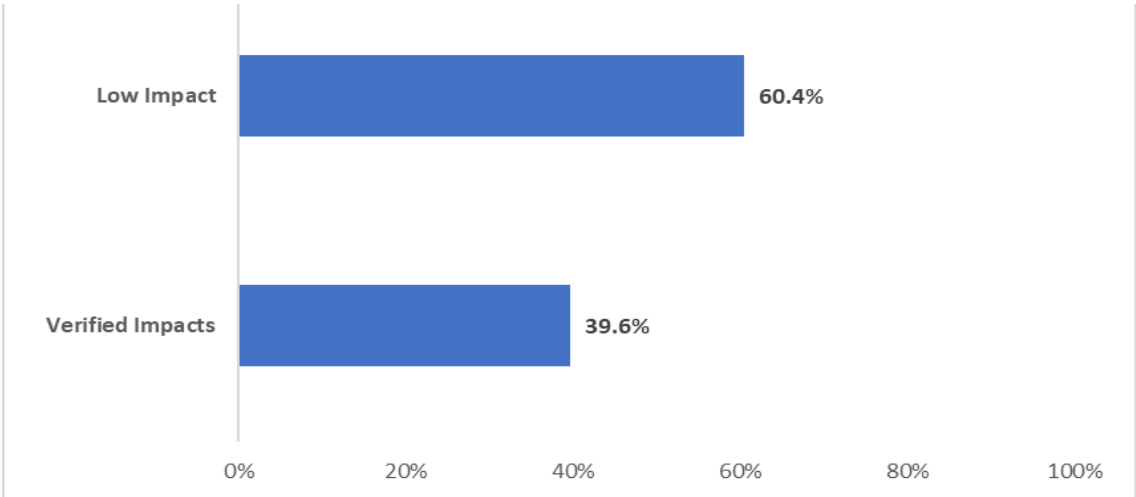
Based on the ratings provided in Annex VI, the **efficiency** of the project is considered as being **Moderately Satisfactory**, where there were moderate shortcomings, and the project suffered some setbacks in its implementation. Besides productivity, which was much lower than expected, the other drawback was the lack of concrete synergies created with other actors. On the other hand, the budget was adequate for the number of resources used.

4.4 Impact

This section deals with how the results of the RDP have generated lasting results in the field and/or institutionally.

The evaluators found that lack of effective interaction between the Panel and stakeholders (see section 4.2 on Effectiveness) affected how different actors applied the Panel's recommendations in the reparatory process of the Rio Doce Basin. Figure 4 shows that most interviewed actors understood that the Panel did not have the impact expected. In 60.4% of cases, actors considered the impact of the panel as less than expected (low impact), while 39.6% consider the Panel to have generated significant impacts (verified impacts).

Figure 4 – Impacts of the knowledge products generated by the Rio Doce Panel

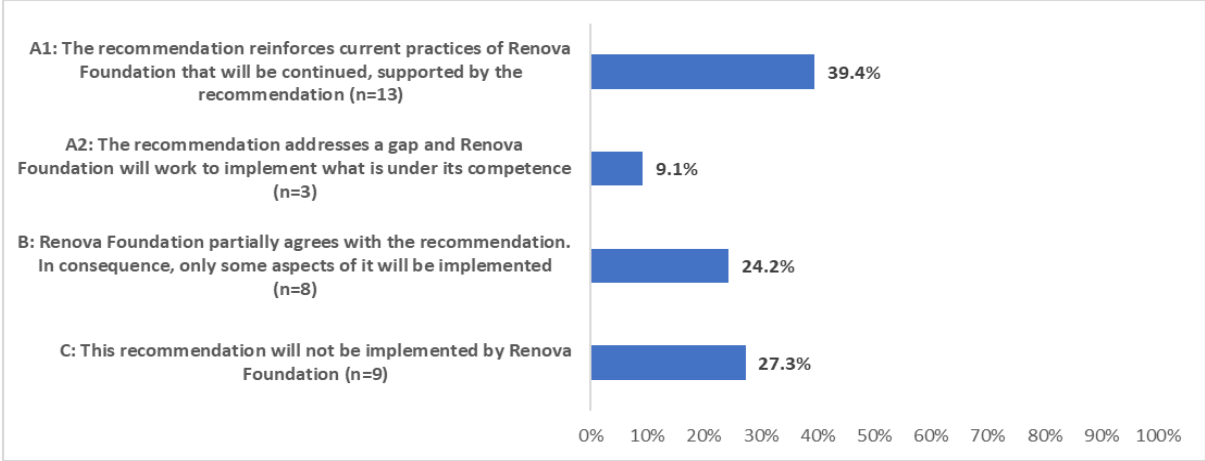


Source: Graphic generated in MaxQDA based on the minutes of interviews.

The verified impacts are reflected mostly in the adoption of recommendations by Renova. Through the MEL strategy, IUCN and Renova monitored the uptake of the Panel's recommendations and their internal uses by different sectors of Renova. Figure 5 shows that in most cases recommendations were either adopted or confirmed practices already adopted by Renova. Renova agreed to implement completely or part of the recommendations, which confirms that the Panel's work influenced the decision-making processes in the RF.

Whether or not practical application of Panel's recommendations actually occurred was not always clear from interviews with Renova staff or in additional documentation. In some cases, there was clear proof (such as the establishment of the *Curadoria de Impactos*, or Impact Curatorship), in other cases less so. This was also due to the growing divergence in objectives between the Panel and Renova, as has been explained previously. The strength of the evidence is sometimes reduced because respondents, at times, did not provide spontaneous reactions as to whether or not recommendations had been useful.

Figure 5 – Response of Renova Foundation to the recommendations of Rio Doce Panel



Source: Extracted from IUCN Secretariat Internal Data.

Figure 4 shows that at least 55.17% of recommendations made by the Panel were fully accepted by Renova, 13.79% were partially accepted and only 31.03% were rejected and/or not applied at all. Renova's representatives state that those they rejected were considered mostly valid, however could not be adopted due to limitations in scope and/or mandate of Renova. According to the results' logframe, this is still on the higher end of the original expectations. Despite the adoption rate being in line with the expectations, some members of the Renova team believe the recommendations would have been more useful if the Panel had produced materials specifically addressing the daily obligations of the Renova in relation to the fulfilment of TTAC requirements. This demonstrates the limitations of using these numbers as an indicator without any qualitative specification of the recommendations.

For future ISTAPs, it would be advisable to develop indicators that also reflect the specific expectations of counterpart organisations, however complicated that may be. On the one hand, responding only to direct Renova demands, however, would have made the Panel comparable with an ordinary consultancy, contrary to the specific ISTAP concept which considers that the RDP should be independent. This same holds true for the selection of themes to be addressed and the holistic long-term vision. Whether it was an attribution of the Panel to attend to those immediate demands is at the least questionable. From the original conception of the Panel, it was not, but considering the extremely complex situation, it was essential to attend to those demands to keep its work relevant, not only from the Panel's holistic and long-term point of view but also from what Renova would be able to integrate in light of the shifting circumstances. At the same time, ignoring Renova's more specific requirements contributed to losing some degree of the Panel's relevance to Renova.

As a result, it has become clear that no two ISTAPs are alike and that in the specific context of the RDP the backdrop was extremely complex. In comparison with the Western Grey Whale Panel, although dealing with an equally difficult issue, it was set in a more straightforward context, with clearer responsibilities and decision-making procedures. The added value of an ISTAP under such circumstances was to have independent advice not influenced by, for example, the commercial interests of oil companies. The RDP, on the other hand, was set in a more highly complex context, not only regarding the subject matter, but most of all in terms of decision-making being distributed among several stakeholders. The question that should be asked is two-fold: was the context too complex for the RDP to deal with, and were sufficient analysis and effort made when the Panel was created to identify and closely involve all those actors with considerable influence on the reparation efforts. With hindsight, it can be said that Renova, as the main partner, had less influence on the process than some other actors, particularly the public prosecutors' office (please see section 4.6 on Adaptability for further discussion).

Often mentioned by members of RF as an important result/impact was the establishment in Renova of the *Curadoria de Impactos* (Impact Curatorship), as a result of Thematic Report No. 4 on governance. Through monitoring, the *curadoria* provides Renova with information on the impacts of its actions for each programme thus enabling Renova to optimise and adapt its work when needed. According to a member of the Rio Doce Watershed Committee, this organ also uses the RDP reports and recommendations. Members of this Committee were always up to date on the Panel's work and used the reports to develop their long-term watershed management plans.

The RDP has had influence on decision-making processes within stakeholders and on the reparation process. According to the MEL reports and confirmed by Renova, Thematic Report No. 3 on the source-to-sea approach is reflected in several approaches adopted by Renova which focus on the interdependency of the different landscape elements. Some examples include reforestation, restoration of springs, biodiversity monitoring and sanitation. Thematic Report No. 4 on governance led to improvements in information sharing and more involvement with other key players, such as the Watershed Committee.

Additionally, analyses of the 2018– 2021 MEL reports find additional examples of the impacts produced by the RDP work in the reparatory process and its governance. Table 3 lists the statements confirmed in the interviews.

Table 3 – Influence of the Rio Doce Panel according to the MEL reports

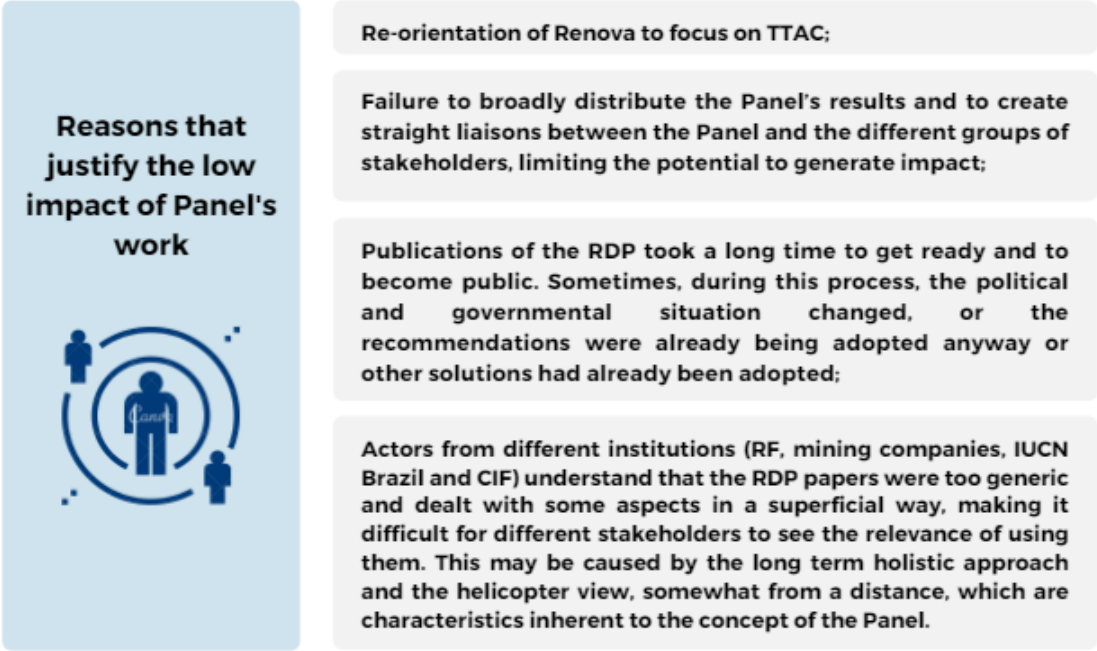
RDP influence on RF and other stakeholders’ decision-making process	RDP influence on the reparation process
Thematic Report 3 and 4: “studies are useful for the RF’s work in the reparation, the programs’ resilience, and the long-term ecosystem health and sustainability of the Basin” (MEL Report, 2021, p. 2)	
It was negotiated that the Panel would help the RF to “build a methodology for the Impact assessment of coastal and marine zones, in close relationship with RF’s teams.” (MEL Report, 2021, p. 2, interviews with RDP and RF). This resulted in the elaboration of Thematic Report 5.	“The RDP work also influenced the strategic and methodological approaches used in the Paraopeba’s Basin Recovery Plan after the <i>Córrego do Feijão</i> tailings’ dam collapse.” (MEL Report, 2021, p. 2)
“Renova’s programs implemented RDP recommendations, addressing communication and knowledge management, alternative livelihoods and economic development.” (MEL Report, 2020, p. 2)	“TR01 and IP01 were used as a reference to describe the Rio Doce Basin and the impacts of the disaster in several technical and scientific study, not confirmed by interviewees” (MEL Report, 2020, p. 3)
An unexpected influence of RDP’s work was the inclusion of a section on post-disaster recovery in the Global Industry Standard on Tailings Management, <i>launched by the Global Tailings Review</i> in August 2020	

Source: Authors.

Thematic Report No. 2 on climate change was considered by Renova to be far beyond its scope of action – a policy issue which should rather be addressed by the government. In fact, the impacts generated by that report were achieved at government level, rather than at the level of Renova. While the state of Minas Gerais said that they were working on the issue anyway, the state of Espírito Santo acknowledged to be motivated by the Panel’s recommendations to develop a climate change policy. As such, the RDP’s recommendations proved relevant to both states.

Interview results suggest that in general the recommendations made by the Panel were mostly used by the Renova Foundation, while other stakeholders and the people affected by the disaster often did not find them beneficial. Figure 6 summarises the reasons mentioned by interviewees about the limited impacts on them:

Figure 6 – Reasons that justify the low impact of the Rio Doce Panel’s work



Source: Authors.

Subsequently, representatives from mining companies and government agencies attested that they have limited access to the work of the Panel, leading them to be unfamiliar with most of the products. This situation is remarkable since the documents are freely available on the IUCN RDP website. It is therefore fitting to suggest a more proactive promotion of the reports and papers. Some actors believe it is still possible to create more converging spaces. RDP recommendations becoming known by the mining sector, local, regional and national authorities, as well as national and international regulatory and key government agencies, will leverage public policies and practices in future similar cases. Further information about the future of the Panel’s work is addressed in the next section 4.5 on Sustainability.

The vast majority of key stakeholders understood that the Panel’s role in the reparatory process of Rio Doce was quite unique, especially considering the highly complex context. The RDP was the only independent body producing knowledge which examined the long-term integrated view of the reparation process. There is a consensus that no other institution was looking specifically from this angle. Most other actors were mainly concerned about the resolution of immediate issues. In order to preserve the work of the Panel, it was decided to produce a legacy document, compiling the work undertaken and recommendations made, for future use in the formulation of public policies as well as the development of watershed management plans. The RDP is about to finalise its work. Notwithstanding, its products will remain accessible and it is expected to potentially generate impact and influence on the follow-up of the Rio Doce case and on other spheres. IUCN and the Panel believe that the

products will have their 'scientific timing' and will therefore be able to influence future academic work on such issues.

In the Brazilian context as a whole, the introduction of the 'source-to-sea' approach is seen by a number of interviewees as a significant RDP contribution not only to future academic work, but also to the country's policy formulation. This will hopefully contribute not only to future academic work but also to policy formulation in the country

In conclusion, the impact of the Panel 's work was largely on Renova. As reported in interviews, impacts on institutions, such as mining companies, governmental institutions, CIF, CTs or MPF, were much less. Although key actors considered that the RDP played a unique role in the reparation process of the Rio Doce, its impacts could have been more far-reaching. It is, however, still possible to create more spaces of convergence between the Panel and stakeholders, which could increase its long-term impact. In this sense, the institutional communication towards other actors, which is the responsibility of Renova, could be considered insufficient. In future ISTAPs, this could be countered by paying more attention to advocacy and liaison, perhaps by appointing a liaison or advocacy officer, either within the Panel or among support staff.

Most recommendations were accepted by Renova and it is clear that the recommendations helped enhance the functioning and vision of Renova. For example, RDP promoted the long-term vision that rather than only repairing, the guiding objective should be the restoration of the Rio Doce basin. Restoration goes much beyond reparation, recovering a situation in the basin better than it was before the disaster. Renova was, however, limited in its options to adopt this long-term vision due to the urgent issues to be resolved in the context of the TTAC.

Regardless, the scientific knowledge generated will remain valid and relevant and, as confirmed by CIF representatives, is likely to be of use in the future, for example in the formulation of policy and legislation.

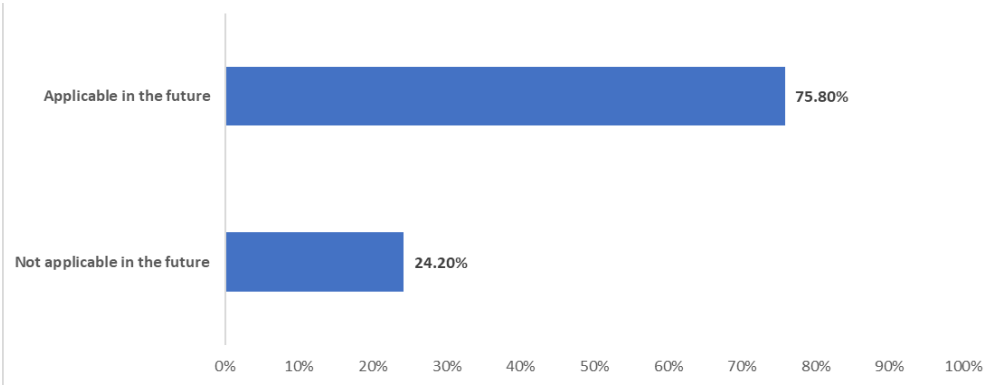
Based on the ratings provided in Annex V, the **impact** of the project is considered as being ***Moderately Unsatisfactory***, where there were significant shortcomings, and some expected impacts were not generated. This is partly due to the change in focus of Renova as well as the lack of liaison with instances that have become more powerful over the course of the project, which will remain relevant in the future.

4.5 Sustainability

In this section, the RDP recommendations will be verified as to whether they were internalised by stakeholders and whether the benefits of the project are likely to continue in the future – all in the context of the current reparation process that is yet to be concluded and potentially new knowledge that will continue to be needed and generated.

Data from the interviews, as discussed in the succeeding parts, provide some information to help verify if the knowledge products and recommendations issued by the Panel will continue to serve in the future. The actors' perceptions are divided into two different points of view: 75.8% believe that the recommendations issued by the Panel will be used in the future by several of the stakeholders and will serve as a legacy for the Rio Doce Basin as well as other basins; while only 24.2% see difficulties in the use of the Panel's work in the long term.

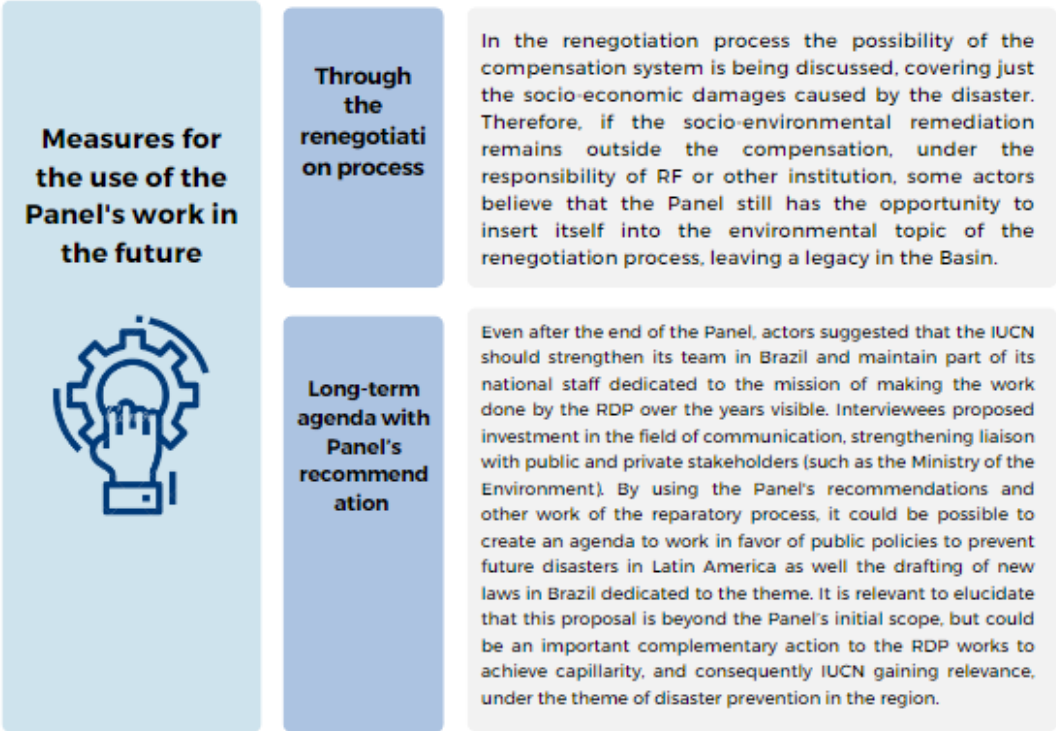
Figure 7 – Future of the Rio Doce Panel's recommendations



Source: Graphic generated in MaxQDA based on the minutes of interviews

Figure 8 presents options mentioned by the interviewees for the continued use of the Panel's work in the future.

Figure 8 – Measures suggested by the interviewees on how to use the Rio Doce Panel's work in the future



Source: Authors.

Some interviewees mentioned the difficulty of making use of the Panel's work in the future because until now, they (mining companies, IUCN staff in Brazil, RDP members, a Mayor of a city in Minas Gerais and a CIF employee) understand that most of the stakeholders involved in the restoration efforts are not sufficiently familiar with the Panel's work. Consequently, the recommendations developed by the Panel (with the exception of Renova; see section 4.4 on Impact) were not internalised. In this regard, it is important to understand why this occurred. It appears that it was not sufficient to produce documents and make them available on the internet and have occasional meetings.

In general, municipalities, especially the smaller ones, are weak in terms of human resources, quantitatively and sometimes qualitatively. For higher level institutions, such as CIF, competition may be an issue. The evaluators observed during a meeting between RDP and CIF that the climate was competitive rather than collaborative, particularly on the part of CIF. The reason for this lack of collaborative spirit, based on interviews and observation, seems to be two-fold. On the one hand, weaker institutions (particularly the smaller and poorer municipalities) would have needed more direct support to see the usefulness of the RDP, whereas state and federal government instances, as well as the judiciary should have been more involved in the process from the beginning in order to create co-ownership. Furthermore, interviewees attested those upcoming changes in the governance system, such

as the eventual closing of important institutions (Renova, CIF, as well as the Panel) and the renegotiation process, affected the certainty of how the Panel's products will be used in the future. Some understood that the Panel lost the timing to synergise with other actors during the renegotiation process.

The access to the reports produced by RDP will remain available on the IUCN website, in both Portuguese and English versions. In addition to publishing the reports on the IUCN website, disseminating the reports to the largest number of public collections, libraries and databases of interest will likewise ensure a broad and extensive reach. For example, the Rio Doce Watershed Committee has already shown interest in taking advantage of the results presented by the Panel in its database. The Panel should also provide accessible materials, with simple language that can be understood by the general public such as people affected by the disaster of Rio Doce. IUCN Brazil's communications officer, in fact, is already working on these issues.

As mentioned earlier, it would however be beneficial to consider other means and strategies of accessing those documents, engage key stakeholders and guarantee the availability of the knowledge and information to next generations. One of such ways is direct intervention by IUCN or Panel members, using communications strategies that ensure the visibility of the work in the territory and work in partnership with stakeholders. Indirectly, it involves working with different institutions, such as universities, public services and researchers, who are also users of the reports. In this sense, it would be important for IUCN to liaise with decision-making instances and policy developers, to include the recommendations in new public policy formulation.

The Legacy Paper, scheduled to be published by the Panel at the end of 2022, is seen by the evaluators, RDP and IUCN as a positive initiative in terms of sustainability to gather the main findings of the Panel over the years and make them public and visible to the society. All those strategies are important to guarantee the future use of the knowledge that has been generated and thus ensure the continued impact of the Panel's findings. There is no plan to have a continuous monitoring tool by any other institution after the expiration of Renova's mandate.

In conclusion, in terms of sustainability, the RDP is approaching the end of its mandate, and so will eventually Renova. Therefore, the legacy of the RDP will have to lie in the continued relevance and use of its recommendations. IUCN plans to maintain the reports available for download, but so far there is no clear strategy on how the RDP recommendations can be effectively promoted to generate lasting influence. Such a strategy is highly desirable, the key points of which should be:

- Proactively promote the knowledge embodied by the publications among as many stakeholders as possible, including organisations linked to the affected population; and
- Long-term liaison with state governments at all levels to influence development of policy and legislation.
- To facilitate long term availability of adequate financial, institutional, socio-political and environmental conditions.

Based on the ratings provided in Annex VI, the sustainability of the project is considered ***Moderately Unsatisfactory***, where there were significant shortcomings, and some doubt as to whether the financial, institutional, socio-political and environmental conditions will sustain long-term project results. This may still change if an exit strategy is developed, taking into account proactive liaison with key decision and policy makers.

4.6 Adaptability

This section discusses the circumstances which impacted the project approach and the adaptive measures taken to mitigate those impacts.

Throughout the length of the Panel's mandate, there were several changes in the context that took place. First of all, the role of the Renova Foundation became increasingly more of an executing agency, rather than a space where strategic decisions were made. According to members of the CIF and Renova staff, this occurred mainly because of the pressure from the need to comply with the TTAC. Due to the Foundation's rather slow start, the reparation efforts became ever more judicialised, which pushed them to deliver results at a swift pace. Consequently, Renova had less and less time to deliberate on the more strategic long-term issues presented by the Panel. Because of its links to the executive directorate of Renova, the Panel experienced difficulties in interacting effectively with other actors.

The governance of reparation efforts was likewise highly complex with a multitude of high-level stakeholders. The reparation process had a unique governance scheme in which a foundation created by a private company was a key stakeholder in the reparation process of public and private goods, instead of the State. At Renova's level, the Board is dominated by the mining companies, which compromised Renova's autonomy and independence to carry out the reparation process.

Within the public sphere, the reparation process was guided through several stakeholders with decision-making autonomy. The federal government established a committee (CIF) to provide guidance and to promote dialogue between Brasília technicians and local experts, acting as a forum of the restoration effort and as a representative of IBAMA. At a state-level,

the governments of Minas Gerais and Espírito Santo had Executive-power autonomy to conduct state-wide reparation efforts. A cross-state institution, the Rio Doce Watershed Committee, had important management and planning roles of reparatory efforts, especially in springs restoration and public sanitation. Finally, the Public Prosecutor's Office represented citizens' interests and played an increasingly important role in the reparation process, as Renova's actions became more judicialised and more bound to TTAC's clauses. Albeit there are significant efforts to promote integration between these different public agencies, governance becomes complex when there are multiple *foci* of decision-making within the state system.

Because of the complex governance and the increasing judicialization process suffered by Renova Foundation along the reparation process, Renova's demands became more related to resolving immediate issues. This short-term focus promoted a diversion between Renova and the Panel's objectives, which, by its own nature, was created to address the reparation needs of in a holistic long-term vision. Nevertheless, the Panel adapted itself as much as possible, within the limits of its original objectives, addressing some of the immediate issues during field visits through formal and informal discussions. Towards the end of the project, the Panel started to attend more to the immediate needs of Renova and became more flexible.

The most important adaptation of the Panel occurred during the last implementation year, 2022. Renova requested that no more recommendations be produced and instead, the Panel would assist Renova in implementing some of the already produced recommendations. All this shows a considerable degree of flexibility from the Panel, reconciling the interests of Renova with the independence of the Panel. It must be noted that the changing context was not expected when the project was conceptualised, thus the subsequent adaptation of the Panel's work, although occurring at a late stage, should be considered satisfactory.

Along with these flexibility changes, the Panel made an ongoing effort to involve more stakeholders, particularly those at the decision-making level. Hence, mainly in the second semester of 2021, meetings were held with the Rio Doce Watershed Committee, the Prosecutor's Office and CIF, among others, but the result of the interaction with these organisations was not as productive as it was hoped for. Interviewees understood that at this stage of the reparation process, all the institutions were rather involved and focused on their carrying out their own responsibilities and obligations, with little time to think about how to incorporate the Panel's recommendations, which often addressed the issues from quite a different angle.

At the same time, clearly, the task of finding an adequate space for the Panel in the governance system could not be easily solved by a simple adaptation in the Panel's approach in 2021. Although circumstances at the project inception were different, there was no sufficient acknowledgement of the complexities of the specific Brazilian context, where potentially influential institutions should have been involved more closely in project design.

In 2020, another unexpected external factor impacted the functioning of the RDP: the COVID-19 pandemic. With the beginning of the pandemic heightened the impossibility of face-to-face meetings and planned field visits. Members of the Panel attested that the unusual situation did not represent a problem, as the reunions became virtual and facilitated more frequent meetings.

Mid-term review

Through the Management Response of the Mid-term Review (MTR), IUCN responded to the recommendations of the MTR, either accepting or rejecting them. According to the management response document, considering the total of 20 recommendations, IUCN agreed with 12, partially agreed with seven and disagreed with one, providing the reasons for its decision.

In accordance with the recommendations that were accepted (partially or totally), the project made the necessary adaptations. These adaptations were in line with the management response, which was confirmed during interviews. An important aspect of the MTR recommendations was allowing the Panel to gain influence, in relation to the position that it occupies and its role in the governance system. Table 4 presents two recommendations related to this issue.

Table 4 – Mid-term review recommendations on options to increase influence

Mid-term review (MTR) recommendation	Management response of the mid-term review (MTR)	Action undertaken
<p>Recommendation 9: The IUCN and the RDP: To set up a reference group for the Panel, with IUCN support, which meets in independently-facilitated annual workshops, using appropriate methodologies, aimed at providing support for RDP prioritisation and planning; <u>and to set up a network to support the dissemination of RDP work.</u> This reference group should include representatives from the main stakeholder groups, favouring those with whom the Panel has already had contact, particularly: Renova Foundation Focal Points, CIF members representing the states of Minas Gerais and Espírito Santo, Mayors, members of Regional Chambers, advisors to those affected and research institutions.”</p>	<p>Partially agree. IUCN and RDP agree that it is important to have a better definition of who are the key stakeholders (“reference group”), but the methodologies to communicate and engage with them should be defined by the respective plans, based on information gathered during the revised stakeholder analysis. Improved communication and engagement with key stakeholders will disseminate the work of the Panel and promote the implementation of recommendations.</p>	<p>A new stakeholder map was developed. For specific actions, the existing strategies were continued and intensified.</p>
<p>Recommendation 16: The IUCN: To expand efforts to make RDP information accessible to policymakers in the municipalities, to the affected populations and their advisory services. To this end, to develop communication products that are more accessible to this group, including graphic materials to support RDP communication.</p>	<p>Agreed Key stakeholders identified, and communication necessities mapped and adapted to reach different audiences. More proximity of communities and field population.</p>	<p>The RDP produced accessible materials (factsheets). Despite this, external stakeholders did not mention those documents in the interviews. It suggests that additional work on the dissemination of those products was needed.</p>

Source: Authors.

In conclusion, the Panel took several adaptive measures, considering the external factors that impact its functioning and considered the recommendations of the MTR. In spite of these steps, it was difficult for the Panel to gain influence and find its place within the current TTAC-oriented governance sphere. To accomplish a better inclusion of the Panel, at least the key stakeholders (CIF, MPF, Renova and IUCN) should participate and be engaged in finding a relevant space for the Panel to occupy in the governance context. It is an area that IUCN could pursue after the mandate of the Panel, since its recommendations will remain valid.

The demands of Renova changed as the project evolved and the Panel initially was reluctant to adapt to this change on the premise that this would affect its independence. In the last

year of its mandate, the Panel changed its approach and started to address more practical issues that were directly relevant to the immediate needs of Renova. In this sense, it is important to state that academic independence is a pre-condition for any ISTAP. However, a thematic independence carries the risk of not meeting expectations or losing relevance. Therefore, it would be useful to make the distinction between academic independence and thematic independence.

In former ISTAPs, such as the Western Gray Whales Panel, the problem addressed was more straightforward than the complex situation in the Rio Doce Basin. Indeed, the complex socio-environmental, judicial and political/governance situation in Brazil clearly needed more flexibility in the choice of topics and dialogue. The reason behind this was the continuously changing context, which had implications for the relevance of the Panel's choice of topics. It is therefore especially crucial that in a highly complex and fast-changing context, flexibility in the selection of topics is ensured.

Based on the ratings provided in Annex VI, the adaptability of the project is considered to be **Moderately Satisfactory**, where there were moderate shortcomings, and the project adapted to changing circumstances, although with some exceptions. When the context changed considerably over the duration of the project, the Panel at first was slow to adapt itself, prioritising its independence first. Towards the end of the project. It made adjustments to adapt and were met with positive results.

4.7 Lessons learned and best practices

Based on the findings of this evaluation and using the SWOT approach (see Table 5, SWOT analysis), the evaluators believe that a few lessons learned can be drawn. The lessons learned and used over the course of the implementation of the RDP project are dealt with in the chapter on adaptability, whereas the lessons identified here should be considered relevant for future ISTAPs.

The first lesson learned is that **the independence of the RDP has led to the production of knowledge and recommendations on relevant topics that otherwise would have been neglected**. The freedom to select the topics has led to the inclusion of relevant issues such as the source-to-sea approach and climate change, which would probably have been missed otherwise.

Another lesson is that **the recommendations of the RDP are applicable beyond the original project area**. An employee from a mining company reported that the RDP

recommendations were used as a reference in the Brumadinho disaster. Depending on specificities this is something to be considered for other ISTAPs.

Having a communication strategy in place before publishing document is key. Information should be tailored to key audience needs and capacities and communicated through appropriate platforms to improve engagement with the document. In this sense, the evaluators considered that for future ISTAPs strong and proactive communication strategies are key to promote visibility and to diversify document promotion via different platforms, such as university and government websites, social media and others.

Communicating about the Panel's recommendations through reports has proved not to be sufficient to ensure knowledge uptake among implementers. As pointed out in other sections of this document, an institutional plan to strengthen working relationships with other stakeholders beyond the main donor is crucial to ensure capillarity and propagation of any ISTAP's work. This was particularly true in the Rio Doce Panel after Renova became more focused on TTAC short-term obligations and the Panel's influence on Renova dwindled. Understanding and adapting to the overall governance context is necessary for a Panel to remain visible and to increase the chance of its recommendations to be internalised.

Another lesson learned was the perceived level of productivity, which was lower than expected and planned for initially. The difference between the 25 expected documents and the ten that were actually produced promoted some difficulties for the Panel. Therefore, **it is important to adjust expectations on productivity beforehand and to establish clear and realistic productivity parameters in future ISTAPs.**

Table 5 summarises this context from the framework of a SWOT analysis of the Panel as a concept as well as its contributions to the restoration process. It is based on the findings of this evaluation and represents a summary of identified strengths, weaknesses, opportunities and threats derived from them.

Table 5 – SWOT analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> - Independence - Highly reputed academic expertise - Unique long-term integrated vision - Recommendations applicable to other similar disasters 	<ul style="list-style-type: none"> - Limited visibility of the RDP - Weak inclusion in the governance context - Lower than expected productivity - Long-term integrated vision not appreciated due to the urgency created by the TTAC - Actors attested unfamiliarity with the RDP works and consequently, in general, they did not internalise the recommendations developed
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> - Initiate talks at government level to use RDP products for policy formulation (federal and state levels) - Intensify relations with implementors, such as municipalities and Rio Doce Watershed Committee - Adopt strategies and platforms to access the documents and knowledge that have been generated by the RDP 	<ul style="list-style-type: none"> - RDP's work being "forgotten" - Long term approach may not be adopted by any stakeholder

Source: Authors.

5 Conclusions and recommendations

5.1 Conclusions

In light of the results presented in the preceding sections, the evaluation concludes that:

On **relevance**, the RDP was established to provide independent scientific advice, based on a long-term, integrated, holistic and nature-based approach, and to improve knowledge on the most significant issues affecting the Rio Doce Basin's human and ecosystems health and long-term resilience. In this regard, the RDP was the only institution representing this angle to the reparation efforts. Interviewees were unanimous in acknowledging its high relevance. The recommendations of the RDP were directed mainly to Renova, but also to other stakeholders in some cases. It should be stressed that the role of the Panel was to provide recommendations, whereas other parties were responsible for their implementation. The adoption of the recommendations by implementers is one of the measures for relevance, while recommendations that were not adopted may still be relevant for the health of the Basin as such. Most recommendations were in fact entirely or partially implemented, principally by Renova, which is proof of the relevance of the Panel's work. The RDP ran the risk of becoming less relevant when Renova became more worried about short term solutions, which was confirmed by interviews with Renova representatives. As a consequence, the RDP needed to adapt to remain relevant. This was done in the last stage of the project by considering more direct demands by Renova. Also, efforts were made to involve other stakeholders more effectively in order to generate influence over the reparation efforts beyond Renova. It is important to consider that recommendations not (yet) adopted may very well be relevant, which will remain for the future, and may be used by other actors, e.g. by using them in policy formulation.

Based on the ratings provided in Annex VI, the **relevance** of the project is considered to be ***Moderately Satisfactory***, where there were moderate shortcomings, some needs or stakeholders were not adequately addressed. The main issue was that initially the focus was on RF, which over time lost part of its influence on the process. Somehow, other relevant stakeholders were not as interested as was expected. In terms of conceptual thinking and the long-term holistic view the work of the RDP has been very relevant.

Regarding **effectiveness**, internally the RDP had an effective way of working. The number of documents produced was less than half of what was expected, which can be attributed to over-optimistic estimates during the formulation of the project. Collaboration with the IUCN secretariat was quite fruitful, particularly when additional staff was recruited. It can be questioned whether the scientific nature of the panel was adequate at all times to address

the concrete demands of the reparation efforts, which were often of a more practical nature. A negative point was the speed at which recommendations were produced, often coming when Renova had already decided on its actions. It would be desirable to speed up the process of delivering timely recommendations. Recommendations were mainly accepted by Renova and put into practice, which was confirmed by RF staff. From within the Panel some criticism was received during the interviews that the fixed composition of the Panel was not always optimal, lacking certain types of expertise, e.g. on marine issues.

Externally, communication with RF was considered good (although slow at times) by those involved. Other stakeholders were always contacted and informed, however, during the interviews, it became clear that the full potential of influencing them was not reached. This can be partially explained by the fact that advocacy was not part of the RDP's terms of reference. In the evaluators' opinion, however, there is no use in providing recommendations if they are not adapted. In this sense, it should be suggested for future Panels to pay more attention to liaison, especially with those in a complex governance environment such as the Rio Doce restoration process. In general, it would be recommendable to make the Panel more responsive to changing needs that are actually felt, without compromising its independence. It must be said that the project addressed the needs at the start and towards the end, more could have been addressed by regular consultancies. In this sense, the context of the RDP was probably different from that of former ISTAPs, due to the urgency in the search for solutions.

Based on the ratings provided in Annex VI, the **effectiveness** of the project is considered as being **Moderately Satisfactory**, where there were moderate shortcomings, and the project achieved the largest part of the expected outcomes. The needs of Renova and what the Panel was offering diverged over the course of the project. IUCN's support was deemed adequate by Panel members, but it lacked the capacity to liaise and engage in advocacy. Consequently, capillarity among stakeholders other than Renova remained below what was desirable.

In terms of **efficiency**, considering the internationally customary rates, the project's budget can be considered adequate. On the other hand, productivity was much less than expected and the process of producing recommendations was slow. Considering the need of Renova for mostly practical and urgent solutions, this could probably have been achieved in a more economical means such as through consultancies. Nevertheless, the high scientific quality of the documents, as well as their long-term relevance, constitute a considerable added value and are useful in similar situations (e.g. Brumadinho). It is assumed that the knowledge products will stand the test of time and most probably will be useful for planning and policy

formulation initiatives. Finally, it is important to mention that efficiency gains could be obtained by differentiated modes of contracting, such as by more flexible contracts or direct formal collaboration with universities. A number of Panel members being contracted full time would also be a possibility. These options could enhance both cost effectiveness and flexibility.

Based on the ratings provided in Annex VI, the **efficiency** of the project is considered to be ***Moderately Satisfactory***, where there were moderate shortcomings, and the project suffered some setbacks in its implementation. Productivity was much lower than expected, the budget was adequate for the number of resources used and synergies with other actors were lower than expected.

The **impact** of the Panel 's work was largely on Renova. As reported in interviews, impacts on institutions, such as mining companies, governmental institutions, CIF, CTs or MPF, were much less. Although key actors considered that the RDP played a unique role in the reparatory process of Rio Doce, impacts could have been more far-reaching. It is, however, still possible to create more spaces of synergies between RDP and stakeholders, which could increase its long-term impact. In this sense, the institutional communication towards other actors, which is the responsibility of Renova, could be considered insufficient. In future ISTAPs, this could be countered by paying more attention to advocacy and liaison needs, perhaps by appointing a liaison or advocacy officer, either within the Panel or among support staff.

Most recommendations were accepted by Renova, which helped enhance its functioning and vision. RDP promoted the vision that rather than focusing only on repairing the damages, the restoration of the basin should be the guiding principle behind the reparation effort. Restoration goes much beyond reparation, recovering a situation in the basin better than it was before. Renova was, however, limited in its options to adopt this vision, due to the urgent issues that have to be resolved in the context of the TTAC.

At the same time, scientific knowledge generated will remain valid and relevant and, as was confirmed by CIF representatives, is likely to be of use in the future, for example in the formulation of policy and legislation.

Based on the ratings provided in Annex VI, the impact of the project is considered to be ***Moderately Unsatisfactory***, where there were significant shortcomings, and some expected impacts were not generated. This is partly due to the change in the focus of Renova as well as the lack of liaison with instances that have become more powerful over the course of the project, which will remain relevant in the future.

Regarding **sustainability**, the majority of the Panel's recommendations have not been sufficiently internalised by the stakeholders, which brings consequences for the Panel's long-term impact. Nevertheless, it is still possible to think of other strategies and platforms to access those documents and guarantee that the knowledge that has been generated will be useful in the future. It is also possible to adopt and think in terms of systems of continuous monitoring tools.

Similarly, it is likely that the RDP contributed with some innovative concepts in the Brazilian context, such as the 'source-to-sea' concept. Hopefully, this will contribute not only to future academic work but also to policy formulation in the country. In conclusion, in terms of sustainability, RDP is approaching the end of its mandate, and so will Renova in due course. Therefore, the legacy of the RDP will have to lie in the continued relevance and use of its findings. IUCN plans to maintain the reports available for download, but so far there is no clear strategy on how the RDP findings can be promoted effectively to generate lasting influence. Such a strategy is highly desirable, which could include two key points:

- Proactively promote the knowledge embodied by the publications among as many stakeholders as possible, including organisations linked to the affected population; and
- Long- term liaison with state governments at all levels to influence development of policy and legislation.

Based on the ratings provided in Annex VI, the **sustainability** of the project is considered to be ***Moderately Unsatisfactory***, where there were significant shortcomings and some doubt as to whether the financial, institutional, socio-political and environmental conditions will sustain long-term project results. This may still change if an exit strategy is developed, contemplating proactive liaison with key decision and policy makers.

As far as **adaptability** is concerned, the RDP took several adaptive measures, considering the external factors that impact its functioning and also took into account of the MTR. In spite of these steps, it was difficult for the Panel to gain influence and find its spaces within the current TTAC-oriented governance sphere. To ensure a better inclusion of the Panel, at least the key stakeholders (CIF, MPF, RF and IUCN) should participate and be engaged in finding a relevant space for the panel to occupy in the governance context. It is an area that IUCN could pursue for after the mandate of the Panel, since its recommendations will continue to be addressed.

This means that although adaptations were made, these were not as effective as was hoped for. To achieve the optimal inclusion of the Panel, at least the key stakeholders (CIF, MPF, Renova and IUCN) should participate and be engaged in finding a relevant space for the

Panel to occupy in governance as a means of adaptation after the end of the RDP. The demands of Renova changed over time, to which the RDP initially was reluctant to adapt to such change on the premise that this could change the initial scope of the Panel. In its last year, the Panel changed this attitude and started to address more practical issues directly relevant to RF. In this sense, it is important to state that academic independence would be a pre-condition for any ISTAP, but thematic independence carries the risk of not meeting expectations or losing relevance. Therefore, it would be useful to make the distinction between academic independence and thematic independence. In former ISTAPs, such as the Western Gray Whales Panel, the problem was more straightforward than the complex situation in the Rio Doce Basin. The complex socio-environmental, judicial and political/governance situation here clearly needed more flexibility in the choice of topics and more dialogue. The reason behind this was the continuously changing context, which had implications for relevance of the choice of topics. It is therefore particularly important that in a highly complex and fast-changing context, flexibility in the selection of topics is ensured.

The TTAC was being renegotiated, which would have been an opportunity for the Panel to influence the process and the new situation it would have to adapt to. The renegotiation process has currently been stalled, so in a practical sense it would not have mattered that much.

Based on the ratings provided in Annex VI, the **adaptability** of the project is considered to be ***Moderately Satisfactory***, where there were moderate shortcomings, the project adapted to changing circumstances with some exceptions. Circumstances changed considerably over the life of the project. The RDP at first was slow to adapt itself, valorising its independence. Towards the end of the project it did adapt, with positive results.

Recommendations

Based on the findings presented in this report, a number of recommendations can be made directed to IUCN and Renova. The RDP will not receive recommendations considering the imminent end of the Panel's mandate and, consequently, its impossibility to address measures in such a short time until the end of the planned activities. Table 6 below summarises the recommendations to IUCN and RF:

Table 6 – Recommendations to IUCN and Renova Foundation

Actor	Recommendation
IUCN	Sustainability of Rio Doce Panel's results
	<p>Adopt strategies and platforms to guarantee continued access and use of the documents, knowledge and recommendations generated by RDP, as well as continued promotion of the work in a proactive manner. To fulfil this, two main initiatives are recommended: (i) Organisation of workshops and events by IUCN, with the objective of disseminating the main recommendations made by the Panel over the years. The RDP members could present the workshops. Municipalities of the Rio Doce Basin, mining companies, governmental spaces should be targeted; (ii) establish partnerships with different institutions, such as universities, public services and researchers, so that the material produced will remain easily available, and can be used for activities in the Rio Doce Basin, areas with similar problems and for policy making.</p>
	<p>IUCN should consider strengthening its team in Brazil and maintain part of its national staff dedicated to the mission of making the work done by the RDP over the years visible. Consequently, over the coming months, IUCN could create more spaces of interaction to promote synergies and influence with key stakeholders other than Renova, such as mining companies and state and federal governments (Ministry of the Environment). Such liaisons would enable IUCN to influence the agenda of public policies directed to the prevention of future disasters in Latin America, as well as the drafting of new laws and policy in Brazil dedicated to the theme.</p>
	For future ISTAPs
	<p>Even though the work developed by an ISTAP is valuable, the knowledge and visibility of the entire production by all stakeholders can be an issue. Thinking about capillarity, IUCN should consider the possibility of including a professional on future ISTAP projects to take care only of the liaison between the ISTAP and all the key stakeholders. This will allow the Panel to understand the needs of the institutions and adapt its approach, as well as gaining influence.</p>
	<p>While independence is a key characteristic of ISTAPs, as soon as this leads to the loss of relevance due to changing circumstances, it should not be absolute and a certain degree of flexibility will help to remain relevant.</p>
<p>Considering that RDP productivity was lower than initially expected, for future ISTAPs, the possibility to contract some Panel members to work full time or to contract specific personnel according to the specific needs should be considered. Agreements with universities could also be a way to improve flexibility and productivity.</p>	
<p>Considering the difficulties, the RDP faced to find its niche in the highly complex governance system of the Rio Doce case, it is essential that at the design stage of the ISTAP that all the key stakeholders participate in this step and consider how the ISTAP work can be optimised for its use by each institution. Otherwise, the risk will exist of the work being under-used.</p>	

Table 6 – Recommendations to IUCN and Renova Foundation (continued)

Actor	Recommendation
Renova Foundation	<p>This report concluded that, currently, the majority of Renova's activities are directed to the accomplishment of the obligations reviewed in the TTAC. Despite the necessity and relevance of these actions, the evaluators understand that it is also important to think about the legacy that institutions of the reparatory process (such as Renova) will leave for the Rio Doce Basin. Considering this as well as the scope of the Panel (long-term view), the evaluators recommend that Renova identify and establish approaches and partnerships that will enhance long-term holistic measures</p>
	<p>Considering that Renova is the stakeholder that the RDP has the most interaction and dialogue with, Renova could use their central position in the reparatory process to include the Panel in the governance sphere, promoting better liaison between the IUCN/Panel and other institutions. Even with the imminent end of the Panel, Renova could act in consonance with IUCN (see recommendations above) to promote the dissemination of the Panel's work.</p>

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Annex I – Guiding Questions

Relevance			
Guiding Questions	Indicators	Data sources	Methodology
1. Has the Panel focused and improved available knowledge on the most significant issues affecting the Basin's human and ecosystems health and long-term resilience, in adherence with the Project's ToC and RDP's vision?	Documents produced by the project address prioritised key issues	Issue Papers and Technical Reports Stakeholders' opinion	Desk study Interviews and Focus Groups
2. Did the RDP work and its recommendations address priority issues for the Renova Foundation and other stakeholders?	Level of RF and other stakeholder satisfaction	Stakeholders' opinion	Interviews and Focus Groups
3. Were the recommendations easily understandable by the audiences?	Level of understanding by audiences	Stakeholder Opinion	Interviews and Focus Groups
4. Were recommendations feasible to operationalise?	Level of implementation of recommendations	Stakeholder opinion	Interviews and Focus Groups
5. Were stakeholders in accordance with the recommendations, willing and able to act upon them?	Adoption rate of recommendations	Stakeholder opinions	Interviews and Focus Groups
Effectiveness			
Guiding Questions	Indicators	Data sources	Methodology
1. How effective was the RDP ways of work to achieve the Project's objectives?	Degree of achievement of objectives	MEL Reports, progress markers Stakeholder opinions	Desk study Interviews and Focus Groups Field observations
2. Could the Panel have worked in a more effective way? What has and what hasn't worked well?	Alternative more effective approaches identified	Stakeholder opinions MEL Reports	Desk study Interviews and focus groups
3. How have the challenges encountered – including those reported in the mid-term review - been addressed?	Changes in approach identified	Mid Term Review and Management Response Stakeholder opinion	Desk review Interviews and focus groups

4. How effective was the IUCN support to the Panel activities?	Level of satisfaction of panel members	Panel opinion MEL Reports	Interviews
5. How appropriate and effective were the approaches chosen to communicate the work and recommendations?	Adoption rates of recommendations	MEL Strategy and Reports, communication strategy Stakeholder opinions	Desk study Interviews and focus groups
6. Has the RDP Project been effective in reaching and engaging with the Renova Foundation leadership and different teams?	Level of satisfaction RF leadership and teams	RENOVA opinion MEL Reports	Interviews and focus groups Desk study
7. Has the Panel been able to effectively communicate and engage with other relevant actors?	Level of satisfaction among actors	MEL Reports, Stakeholder engagement plan Stakeholder opinions	Desk study Interviews and focus groups
8. To what extent has the Monitoring, Evaluation and Learning (MEL) strategy conducted by IUCN helped answer key guiding questions, informed adaptive management and collected relevant data to help assess the RDP's influence and impact?	Level of impact generated	MEL Strategy and Reports Meeting reports Stakeholder opinions	Desk study Interviews and focus groups
9. Did the project address and solve RENOVA Foundation's key necessities regarding knowledge and information?	Proportion of priority issues addressed	RENOVA opinion MEL Reports Meeting reports	Desk study Interviews and focus groups
Efficiency			
Guiding Questions	Indicators	Data sources	Methodology
1. Have spending and delivery progressed according to the planned schedule?	Schedule implemented without delays and/or shortcomings	MEL Reports Financial Reports Work Plans	Desk study
2. Were there less costly and/or faster ways of achieving the same outputs?	Alternative ways identified/not identified	MEL Reports Financial Reports Meeting Reports, Mid-term Review Stakeholder opinion	Desk study Interviews

3. Were setbacks adequately dealt with?	[FR1] Modifications and adaptations in execution made to address setbacks	MEL Reports Meeting Reports Stakeholder opinions	Desk study Interviews and focus groups
4. Have synergies with other initiatives been used	Presence or absence of collaborations	MEL Reports Meeting Reports Stakeholder opinions	Desk study Interviews and focus groups
Impact			
Guiding Questions	Indicators	Data sources	Methodology
1. How effective was the Panel in influencing behaviours and decision-making processes in the Renova Foundation and across stakeholders who are not bound by formal agreements nor contractual obligations to the RDP?	Level of adoption of recommendations	MEL Reports Meeting reports Stakeholder opinions	Desk study Interviews and focus groups
2. To what extent the RDP and the knowledge it generated influenced other actors and players across the mining sector, local, regional and national authorities, national and international regulatory and key government agencies, including in the context of similar disasters?	Adoption of recommendations by these instances	Stakeholder opinions Field observations MEL Reports Meeting Reports	Desk study Interviews and focus groups
3. From the point of view of key stakeholders, what would have been different if the RDP did not exist? What will be missing when the Panel ceases to exist?	Acknowledgement of the panel's added value	Stakeholder opinions	Interviews and focus groups
4. Has the panel effectively provided information and knowledge that significantly aided reparation efforts? Provide examples.	Number of successful initiatives implemented based on recommendations	Stakeholder opinions	Interviews and focus groups
Sustainability			
Guiding Questions	Indicators	Data sources	Methodology
1. To which extent will the verified impacts last over time?	Institutional and financial conditions for continuation are met	Stakeholder opinions MEL Reports	Desk study Interviews and focus groups

2. To which extent have the RDP recommendations been internalised by the stakeholders?" [FR2]	Adoption rate of recommendations	Stakeholder opinions	Interviews and focus groups
3. Will there be continued monitoring of impacts generated by the project?	Presence of monitoring capabilities guaranteed	Documentation Stakeholder opinions	Desk Study Interviews and focus groups
4. Are there guarantees that the knowledge produced by the RDP continue to be available and accessed by the national and international community?	Information sharing mechanism in place	Stakeholder opinions Documentation	Interviews and focus groups Desk Study
5. Is there an exit strategy to guarantee generation and availability of the necessary knowledge and information in the future?	Follow up actions defined	Documentation and stakeholder opinions	Desk study Interviews and focus groups
Adaptability			
Guiding Questions	Indicators	Data sources	Methodology
1. To what extent the adaptive measures helped the project to remain relevant in a dynamic context	Priority issues continued to be addressed	Stakeholder opinions	Desk study Interviews and focus groups
2. How did the project adapt to respond to the MTR recommendations?	Degree to which the approach was adapted	MTR and Management Response MEL Reports Stakeholder opinions	Desk study Interviews and focus groups
3. To what extent the way the RDP project responded to the MTR impacted (positively or negatively) the project's relevance and influence?	Degree of stakeholder satisfaction over time	Stakeholders' opinions	Interviews and focus groups
4. To what extent other external factors, including the Covid-19 pandemic, impacted the functioning of the RDP and how did the Project evolve in response to the identified challenges?	Number of adaptations made Problems identified in project implementation	MEL Reports Stakeholder opinions	Desk study Interviews and focus groups

Best practices and lessons learned			
Guiding Questions	Indicators	Data sources	Methodology
1. To what extent has the project produced lessons that can be applied in other sustainability initiatives, such as those related to mining, environmental health and governance	New approaches adopted by the sector	Stakeholders' opinions MEL Reports	Interviews and focus groups Desk study
2. To what extent has the project adopted approaches that could be replicated in other ISTAPs?	Number of successful adaptations made to ISTAP approach	Meeting Reports MEL Reports Stakeholder opinions	SWOT Analysis Interviews and focus groups
3. To what extent did the project present characteristics that hampered the functioning of the RDP?	Amount of solved or unsolved problems in the approach chosen	Meeting Reports MEL Reports Stakeholder opinions	SWOT Analysis Interviews and focus groups

Source: Authors.

Annex II – List of interviewed actors

Stakeholder group	Contact	Institution	Role
Rio Doce Panel (RDP)	Yolanda Kakabadse	RDP	Panel Chair
	Francisco Barbosa	RDP	Panel member/Co-chair
	Christianne Maroun	RDP	Panel member
	Jonathan Renshaw	RDP	Panel member
	Peter May	RDP	Panel member
	Maria Cecília Wey	RDP	Panel member
	Luis Sánchez	RDP	Panel member
	Fernando V. Laureano	Former RDP	Former Panel member
	Keith Alger	Former RDP	Former Panel member
	Luiza Alonso	Former RDP	Former Panel member
IUCN	Steve Edwards	IUCN	Senior Manager
	Gerard Bos	IUCN	Director
	Barbara Almeida	IUCN	Programme Officer
	Renata Bennet	IUCN	Communication Officer
	Caroline Cogueto	Former IUCN Brazil staff	Former IUCN MEL Officer
	Fernanda Maschietto	Former IUCN Brazil staff	Former IUCN Programme Officer
	Carolina Marques	Former IUCN Brazil staff	Former IUCN Programme Officer
	Florian Reinhard	IUCN	MEL Officer
Mining companies	Guilherme Tangari	BHP	Manager
	Melinda Buckland	BHP	Former BHP staff
	Bruno Pimenta	BHP	Principal
	Camila Lott	Vale	Social Performance Executive Manager

Renova Foundation	Mirna Castro Folco	RF	Focal point
	Vitor Silva	RF	Focal point
	Emília Paiva	RF	Focal point
	José Carlos de Carvalho	RF	Consultant
	Pedro Strozenberg	RF	Ombudsman
	Thais Herdy	RF	Former focal point
	André de Freitas	RF	President
	Laila Campos	RF	Biodiversidade
	Daniela Arpini	RF	Curadoria
	Roberto Waack	RF	Former president
Do-ers	Flamínio Guerra Guimarães	CBH-Doce	President
	Moara Giasson	IBAMA/CIF	CIF Secretariat
	Margareth Saraiva	Secretary of Environ. ES	SEAMA Special Advisor
	Suely Araujo	Observatório do Clima	Former IBAMA staff
	Silverio Joaquim Aparecido da Luz	Former Mayor of Rio Doce	Former Mayor of Rio Doce
	Carlos Durigan	Wildlife Conservation Society	IUCN Brazilian Member
Complementary actors	Luciana Alves	WRI	Manager
	Camila Camilo	RF	Manager pesca
	William Ramos Abdalla Sarayed Din	RF	Governance
	Carlos Cenachi	RF	Governance

Source: Authors.

Annex III – Mixed methods approach

Method	Description	Application in the evaluation
<p>Processing and systematisation</p>	<p>Processing and systematisation of all the information collected and analysed. The synthesis was organised in the evaluation matrix based on the evaluation questions presented. A SWOT Analysis was made to determine the Strengths, Weaknesses, Opportunities and Threats of the project approach. This SWOT will be helpful in determining the lessons learned from the project and define what should be avoided, remedied and replicated in future similar initiatives. The performance assessment of the project as a whole will attribute values to the evidence in relation to the evaluation questions and progress markers ranging from no evidence, weak evidence, moderate evidence, sufficient evidence to more than sufficient evidence.</p>	<p>For analysis of the interviews, while preserving confidentiality, the mixed methods software MaxQda was used. Through a codification mechanism this software package allows for the creation of analysis categories, based on the evaluation criteria, generating quantitative graphics based on the qualitative classification. This evaluation used both qualitative and quantitative findings generated by the software. The findings obtained by MaxQda, in addition to the other techniques described in the table above, were used to answer the guiding questions for each of the criteria. Also, the SWOT approach was used to determine the lessons learned from the project.</p>
<p>Triangulation techniques</p>	<p>The evaluation team used the several available information sources to identify evidence. The triangulation process is directly related to the strength of evidence. The more sources confirm a certain fact the more likely it is to be valid, increasing the strength of the evidence. This process helps to validate facts and even come to new insights. When different stakeholders are involved, opinions may differ due to diverging interests, and it is important to take this into account. Rather than conflicting information, different opinions by different interest groups were identified, each of them valid from the point of view of the interviewee.</p>	<p>Used to validate the evidence gathered from the desk review and stakeholder opinions. Sources of evidence were compared, and any contradicting evidence was submitted to additional scrutiny. It will also be of the utmost importance to compare answers provided by stakeholders with clearly different interests, to see if they coincide. In case of divergence, objective information should be found to confirm either side, or confirm that opinions are divergent. Considering the sometimes-conflicting stakeholder interests in this particular context, it may occur that opinions remain divergent and the evidence may be considered inconclusive.</p>
<p>Strength of evidence</p>	<p>Evidence may be either convincing, inconclusive or absent. If ample or several reliable sources of evidence confirm the fact, it should be considered convincing. If sources contradict each other, an assessment should be made on the weight of each source, and possibly additional evidence should be sought. In this sense, the difference may be made by separating undisputable facts from opinions. Evidence may also go against the indicators in the evaluation matrix.</p>	<p>This method was considered for each of the evaluation criteria. Therefore, there is a space for it in each table created in the Evaluation Results items.</p>

Presentation of findings

In the beginning of August, the draft evaluation report is to be finalised and the evaluation results will be presented and discussed during a webinar. Any observations and/or corrections will then be incorporated in the final evaluation report, which is expected to be finalised by the end of September. The final activity will then be a webinar to disseminate and discuss the final evaluation results.

The draft report was delivered in August and the suggestions of IUCN teams were incorporated in a second version, delivered on 31 August. The evaluators will plan a webinar and finalise the report in September.

Source: Authors.

Annex IV – Scoring charts for the evaluation matrix

Rating	Description
Relevance	
6 = Highly Satisfactory (HS)	There were no shortcomings, the project addressed all priority needs of all actors involved
5 = Satisfactory (S)	There were minor shortcomings, some needs or stakeholders were addressed slightly less than desirable
4 = Moderately Satisfactory (MS)	There were moderate shortcomings, some needs or stakeholders were not adequately addressed
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings, only part of the needs and stakeholders were addressed
2 = Unsatisfactory (U)	There were major shortcomings, a significant number of needs and stakeholders were not addressed
1 = Highly Unsatisfactory (HU)	There were severe shortcomings, most needs and stakeholders were not addressed
Effectiveness	
6 = Highly Satisfactory (HS)	There were no shortcomings, the project exceeded expected outcomes
5 = Satisfactory (S)	There were minor shortcomings, the project was able to achieve the expected outcomes
4 = Moderately Satisfactory (MS)	There were moderate shortcomings, the project achieved the largest part of the expected outcomes
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings, some expected outcomes were not achieved
2 = Unsatisfactory (U)	There were major shortcomings, A significant number of expected outcomes was not achieved
1 = Highly Unsatisfactory (HU)	There were severe shortcomings, the project achieved hardly any of the expected outcomes
Efficiency	
6 = Highly Satisfactory (HS)	There were no shortcomings, project implementation was efficient above the expected
5 = Satisfactory (S)	There were minor shortcomings, project implementation was mostly in accordance with budget and workplans
4 = Moderately Satisfactory (MS)	There were moderate shortcomings, the project suffered some setbacks in its implementation

3 = Moderately Unsatisfactory (MU)	There were significant shortcomings, implementation was not what was to be expected
2 = Unsatisfactory (U)	There were major shortcomings, the project suffered several delays and/or exceeded its budget
1 = Highly Unsatisfactory (HU)	There were severe shortcomings, available resources were not at all adequately used and/or serious delays occurred
Impact	
6 = Highly Satisfactory (HS)	There were no shortcomings, the impacts generated exceeded the expectations
5 = Satisfactory (S)	There were minor shortcomings, the impacts generated matched the expectations
4 = Moderately Satisfactory (MS)	There were moderate shortcomings, most of the expected impacts were generated
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings, some expected impacts were not generated
2 = Unsatisfactory (U)	There were major shortcomings, a considerable amount of the expected impacts did not materialise
1 = Highly Unsatisfactory (HU)	There were severe shortcomings, only minor impacts were generated
Sustainability	
6 = Highly Satisfactory (HS)	There were no shortcomings, the financial, institutional, socio-political and environmental conditions provide more than sufficient conditions to sustain long-term project results.
5 = Satisfactory (S)	There were minor shortcomings. The financial, institutional, socio-political and environmental conditions are likely to sustain long-term project results.
4 = Moderately Satisfactory (MS)	There were moderate shortcomings, The financial, institutional, socio-political and environmental conditions may sustain long-term project results.
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings, there is some doubt as to whether the financial, institutional, socio-political and environmental conditions will sustain long-term project results.
2 = Unsatisfactory (U)	There were major shortcomings, it is unlikely that the financial, institutional, socio-political and environmental conditions will sustain long-term project results.
1 = Highly Unsatisfactory (HU)	There were severe shortcomings, the financial, institutional, socio-political and environmental conditions will not sustain long-term project results.

Adaptability	
6 = Highly Satisfactory (HS)	There were no shortcomings, the project adapted perfectly to changing circumstances
5 = Satisfactory (S)	There were minor shortcomings, the project mostly adapted to changing circumstances
4 = Moderately Satisfactory (MS)	There were moderate shortcomings, the project adapted to changing circumstances with some exceptions
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings, the project adapted to changing circumstances with quite a lot of exceptions
2 = Unsatisfactory (U)	There were major shortcomings, the project had great difficulties to adapt to changing circumstances
1 = Highly Unsatisfactory (HU)	There were severe shortcomings, the project did not significantly adapt to changing circumstances
Best practices and lessons learned	
6 = Highly Satisfactory (HS)	The project provides a wealth of important lessons, much above the expected, to improve similar initiatives
5 = Satisfactory (S)	The project provides valuable lessons to significantly improve similar initiatives
4 = Moderately Satisfactory (MS)	Lessons can be learned to improve similar initiatives
3 = Moderately Unsatisfactory (MU)	Somewhat less lessons than desirable can be learned to improve similar initiatives
2 = Unsatisfactory (U)	Very few lessons can be learned to improve similar initiatives
1 = Highly Unsatisfactory (HU)	No lessons can be learned from the project to improve similar initiatives

Annex V – Strength of evidence

Category	Description	Justification	Evidence
0	No evidence	There is no evidence to sustain the claims	Do not exist information regarding the question
1	Weak or contradictory evidence	Little evidence has been found or evidence found cannot be confirmed by triangulation	1 or more stakeholders reported but information was contradictory.
2	Sufficient evidence	Several sources provide evidence and triangulation is possible	2 interviewees report the fact and, sometimes, the desk review also confirms the fact.
3	Strong evidence	Ample sources of evidence exist, which all confirm each other through triangulation	3 or more interviewees report the fact and, sometimes, the desk review also confirms the fact.

Annex VI – Main results of the evaluation criteria

Guiding Questions	Tools and methodology used	Result	Performance Score	Evidence strength
Relevance				
1. Has the Panel focused and improved available knowledge on the most significant issues affecting the Basin's human and ecosystems health and long-term resilience, in adherence with the Project's ToC and RDP's vision?	Desk study (Issue Papers and Technical Reports) Interviews	It has improved available knowledge of significant issues, also those neglected by short term visions. But part of the interviewed actors believes that most of the documents were very general and did not enter into details of the issues.	4	3
2. Did the RDP work and its recommendations address priority issues for the Renova Foundation and other stakeholders?	Interviews	Considering the objectives of the Panel, its priority issues were addressed. But RF and other stakeholders had the priority to accomplish the TTAC and the function of the Panel did not always coincide with the daily obligations related to the compliance of the TTAC.	3	3
3. Were the recommendations easily understandable by the audiences?	Interviews Factsheets elaborated by the IUCN team	The IUCN staff produced understandable materials by producing factsheets. Also, the materials produced and their language were adequate to the primary audience (RF).	6	3
4. Were recommendations feasible to operationalise?	Interviews	As such they were feasible to operationalise, however, often they were not, because the documents were released when the political situation often had already changed. At times, scope of the recommendations was considered to be beyond the RF mandate.	4	3

5. Were stakeholders in accordance with the recommendations, willing and able to act upon them?	Interviews	Most stakeholders agreed with the recommendation. However, some recommendations are considered to be beyond the scope of each actor's responsibility (e.g. climate change report). Also, the level of accordance and action of the stakeholders was limited, because many actors did not have enough access to what the RDP was producing (more details in "effectiveness").	4	3
Effectiveness				
1. How effective was the RDP's way of work to achieve the Project's objectives?	Desk study (MEL Reports, progress markers) Interviews (Stakeholder opinion) Field observations	The RDP has been effective in producing reports and recommendations on themes relevant to the long-term health of the basin, however, not to the extent previously established.	4	3
2. Could the Panel have worked in a more effective way? What has and what hasn't worked well?	Desk study (MEL Reports) Interviews (Stakeholder opinion)	The human resources should have been better distributed for the production of each report in view of a better effectiveness of the RDP team. Criticism was also made regarding the impossibility to contract ad hoc specialisms when needed for specific topics to be dealt with.	4	3
3. How have the challenges encountered – including those reported in the mid-term review - been addressed?	Desk study (Mid Term Review and Management Response) Interviews (Stakeholder opinion)	After MTR a series of measures were taken in accordance with the recommendations. New ToC and stakeholder mapping were developed.	5	2
4. How effective was the IUCN support to the Panel activities?	Desk study (MEL Reports) Interviews (Panel opinion)	Started off with one support staff, but gradually the support team was increased and effectively facilitated the RDPs work. Also support from HQ. Interviewees reported that communication could have counted with more support, but the RDP members were quite satisfied with the support received.	5	2

<p>5. How appropriate and effective were the approaches chosen to communicate the work and recommendations?</p>	<p>Desk study (MEL Strategy and Reports, communication strategy)</p> <p>Interviews (Stakeholder opinions)</p>	<p>Own website, considerable number of downloads, hard copies, fact sheets, presentations at events. Nevertheless, several actors were identified that did not have in-depth knowledge on the Panel's work.</p>	<p>3</p>	<p>3</p>
<p>6. Has the RDP Project been effective in reaching and engaging with the Renova Foundation leadership and different teams?</p>	<p>Desk study (MEL Reports)</p> <p>Interviews (Renova opinion)</p>	<p>During the first two years, the RDP was aligned with RF. Subsequently, at the management level, RF became much more concerned with immediate problems and engagement became somewhat more complicated. Engagement with technical RF staff has always been good, although part of technical staff was not sufficiently aware of RDPs work</p>	<p>5</p>	<p>3</p>
<p>7. Has the Panel been able to effectively communicate and engage with other relevant actors?</p>	<p>Desk study (MEL Reports, Stakeholder engagement plan)</p> <p>Interviews (Stakeholder opinions)</p>	<p>From the interviews the evaluators got clear indications that in spite of some efforts made by the Panel and IUCN, receptivity among most stakeholders was much less than desirable. There was a clear lack of advocacy and liaison.</p>	<p>2</p>	<p>3</p>
<p>8. To what extent has the Monitoring, Evaluation and Learning (MEL) strategy conducted by IUCN helped answer key guiding questions, informed adaptive management and collected relevant data to help assess the RDP's influence and impact?</p>	<p>Desk study (MEL Strategy and Reports Meeting reports)</p> <p>Interviews (Stakeholder opinions)</p>	<p>The MEL strategy was reinforced by contracting a MEL Officer, and served to evaluate the results and impacts generated, by means of the progress markers. This enabled RDP to adequately react to changes in the situation.</p>	<p>5</p>	<p>3</p>
<p>9. Did the project address and solve RENOVA Foundation's key necessities regarding knowledge and information?</p>	<p>Desk study (MEL Reports Meeting reports)</p> <p>Interviews (Renova Opinion)</p>	<p>The RDP had a long-term vision and RF short term immediate needs. Nevertheless, many of the recommendations were adhered to by Renova, and towards the end of the project RDP started to address issues more relevant to the RF's direct needs</p>	<p>4</p>	<p>3</p>

Efficiency

1. Have spending and delivery progressed according to the planned schedule?	Desk study (MEL Reports, Financial Reports, Work Plans)	According to the financial reports from 2017 to 2021, expenditure has been on average 77% of the planned budget. Delivery has been very slow, but according to Panel members and IUCN this was much more due to over optimistic estimates.	4	3
2. Were there less costly and/or faster ways of achieving the same outputs?	Desk study (MEL Reports, Financial Reports, Meeting Reports, Mid-term Review) Interviews (Stakeholder opinion)	There are no indications that costs could have been significantly lower. Use of human resources, however, could perhaps have been managed more efficiently.	4	3
3. Were setbacks adequately dealt with?	Desk study (MEL Reports, Meeting Reports) Interviews (Stakeholder opinion)	The major setback was the lower-than-expected productivity. According to IUCN and the Panel members this was due to unrealistically set targets. This could have been addressed by limiting the number of Panel members involved in each document, but this would have been against the procedures established by the Panel.	4	3
4. Have synergies with other initiatives been used?	Desk study (MEL Reports, Meeting Reports) Interviews (Stakeholder opinion)	No significant synergies were created.	2	2

Impact				
1. How effective was the Panel in influencing behaviours and decision-making processes in the Renova Foundation and across stakeholders who are not bound by formal agreements nor contractual obligations to the RDP?	Desk study (MEL Reports Meeting reports, Internal data of the Renova Foundation) Interviews (Stakeholder opinions)	Internal data of the Renova Foundation, MEL Reports and interviews show that part of the RDP recommendations was adopted by RF. However, the interview results suggest that the recommendations made by the Panel were mostly used by the Renova Foundation, while other stakeholders and the people affected by the disaster did not have much use.	3	3
2. To what extent the RDP and the knowledge it generated influenced other actors and players across the mining sector, local, regional and national authorities, national and international regulatory and key government agencies, including in the context of similar disasters?	Desk study (MEL Reports Meeting Reports) Interviews (Stakeholder opinions) Field observations	The influence of the knowledge generated by the RDP was reduced, considering that stakeholders attested that they have limited access to the productions. Despite this, some actors believe it is still possible to create more spaces of intersection and influence in the future.	2	3
3. From the point of view of key stakeholders, what would have been different if the RDP did not exist? What will be missing when the Panel ceases to exist?	Interviews (Stakeholder opinions)	The end of the RDP probably will not represent a problem, considering that its productions will remain, causing impact and influence on the Rio Doce basin and other similar cases. In spite of all of this, no one was able to mention any concrete example of what would have been different if the Panel had not existed.	3	2
4. Has the panel effectively provided information and knowledge that significantly aided reparation efforts? Provide examples.	Interviews (Stakeholder opinions)	Documentation and interviews show some examples of RDP knowledge being used for the reparation's efforts. But below previous expectations. In the last year of the Panel, it has increased the utility of the organ contributions (e.g. TR 5).	4	2

Sustainability

1. To which extent will the verified impacts last over time?	Desk study (MEL Reports) Interviews (Stakeholders Opinion)	Documentation analysis does not bring so much information regarding this aspect. But the actor's perspectives are divided. Part of them believes that the results generated by RDP constitute the potential to be still used in the future by several of the stakeholders. They also present some alternatives to be considered. The minority of interviewees see difficulties in the use of the Panel's work in the long-term.	3	2
2. To which extent have the RDP recommendations been internalised by the stakeholders?	Interviews (Stakeholders Opinion)	The data shows that part of the recommendations has been internalised by RF. Although most of the actors attested unfamiliarity with the RDP works and consequently, in general, they did not internalise the recommendations developed.	3	2
3. Will there be continued monitoring of impacts generated by the project?	Desk study (MEL Reports) Interviews (Stakeholders Opinion)	Currently, RF has a monitoring system of the work that has been developed by the RDP. Also, IUCN publishes annual MEL Reports, since 2018. Although, with the end of the MEL teams in IUCN and if RF does not exist anymore, the existence of a continuous monitoring tool by another institution is not planned for.	2	3
4. Are there guarantees that the knowledge produced by the RDP continue to be available and accessed by the national and international community?	Desk study (Site of IUCN) Interviews (Stakeholders Opinion)	The IUCN will remain all the documents produced by RDP available on their site, in Portuguese and English. Despite this, it is necessary to think of other strategies and platforms to access those documents and the knowledge that has been generated.	4	3
5. Is there an exit strategy to guarantee the generation and availability of the necessary knowledge and information in the future?	Desk study (Legacy Paper) Interviews (Stakeholders Opinion)	The evaluators perceive a lack of strategies in this sense, such as: (i) communications strategies to be adopted by IUCN; (ii) dissemination of the reports in the largest number of public collections and databases; (iii) production of accessible materials; (iv) the Legacy Paper is seen as a positive initiative.	3	3

Adaptability				
1. To what extent the adaptive measures helped the project to remain relevant in a dynamic context	Desk study Interviews (Stakeholder Opinion)	RDP listened more to the needs of Renova and adapted itself considering these needs. For RF, the Panel became more relevant with these changes. Nevertheless, the RDP was very slow in reacting.	4	2
2. How did the project adapt to respond to the MTR recommendations?	Desk study (MTR and Management Response MEL Reports) Interviews (Stakeholder Opinion)	The project considered all the 20 recommendations of the MTR and gave responses to it, planning actions (most of them concluded). In spite of this, the recommendations of the MTR were too generic, which complicates the Panel improving its performance.	5	3
3. To what extent the way the RDP project responded to the MTR impacted (positively or negatively) the project's relevance and influence?	Interviews (Stakeholder Opinion)	Although most of the MTR recommendations were accepted by IUCN and the Panel, their adoption did not lead to significant improvements. The Panel could gain influence by responding to the MTR recommendations, if the recommendations addressed the main issue of the RDP: the necessity to clarify the position that the Panel occupies and its role in the governance system. But no specific measures were implemented to improve the RDP position in the governance system.	3	3
4. To what extent other external factors, including the Covid-19 pandemic, impact the functioning of the RDP and how did the Project evolve in response to the identified challenges?	Desk study (MEL Reports) Interviews (Stakeholder Opinion)	Many external factors impacted the Panel's work – mainly of them related to changes in the governance system – The RDP presented responses to these issues and adapted itself as much as possible. Even with this, some issues require more involvement from other stakeholders and plans that, for the next ISTAPs, should be done since the design of the ISTAP. Also, the Panel took a long time to adopt measures to create liaison with other stakeholders and to adapt to the changing reality of the RF.	3	3

Lessons learned				
1. To what extent has the project produced lessons that can be applied in other sustainability initiatives, such as those related to mining, environmental health and governance	<p>Desk study (MEL Reports)</p> <p>Interviews (Stakeholders opinions)</p>	Documents and recommendations are being used beyond the disaster area, for example, they were used as a reference in the Brumadinho disaster. The documents were downloaded internationally. The Panel's work is valuable and useful, but needs to be better known by institutions that act which the themes of mining, disasters, environment, etc.	5	3
2. To what extent has the project adopted approaches that could be replicated in other ISTAPs?	<p>SWOT Analysis</p> <p>Desk Study (Meeting Reports MEL Reports)</p> <p>Interviews (Stakeholder opinions)</p>	The flexibility in the aspects of governance and selection of the topics (Panel's independence) shown towards the end of the project should be replicated in future ISTAPs. Furthermore, several aspects of the ISTAPs in general confirmed the usefulness in this ISTAP.	5	3
3. To what extent did the project present characteristics that hampered the functioning of the RDP?	<p>SWOT Analysis</p> <p>Desk Study (Meeting Reports MEL Reports)</p> <p>Interviews (Stakeholder opinions)</p>	<p>Sub-optimal insertion in governance context.</p> <p>Slow production rate and slow reaction to changes in context. Also, the dependency on a single stakeholder (RF) in a very complex institutional context can be considered a flaw.</p>	5	3

Source: Authors.

Annex VII – Rio Doce Independent Scientific and Technical Advisory Panel (ISTAP) – Panel Terms of Reference

Final July 19, 2017

Updated on January 06, 2020

1. BACKGROUND

Samarco

Samarco Mineração S.A is a Brazilian company, established in 1977. It has been mining and processing iron ore in the mountains of Minas Gerais state for almost 40 years. BHP Billiton and Vale own Samarco in an equal 50/50 JV arrangement.

Samarco's industrial facilities include three concentrators at the Germano unit in the municipalities of Ouro Preto and Mariana in Minas Gerais, and four pellet plants and a seaport in Ubu, Espírito Santo, on the coast. These two units are connected by three pipelines, of some 400 km each, which transport the iron ore slurry from Minas Gerais to Espírito Santo, crossing 29 municipalities

The tailings residue (95% iron and silica) from the crushing process was stored in tailings dams adjacent to the operations. The original and largest of the two dams was decommissioned in 2008, when the Fundão Dam commenced operation.

In November 2015, Samarco employed around 6,000 people (employees and contractors) and was the largest contributor to the regional economy in the Mariana municipality. Samarco was recognised as a leader in the Brazilian mining industry for its commitment to high standards of health, safety, environment and community.

Fundão Dam Failure

On 5 November 2015, Samarco's Fundão tailings dam, containing approximately 55 million m³ of tailings failed. As a result, 32 million m³ of tailings left Samarco's site, destroying towns, impacting aquatic fauna, vegetation, and agricultural land. Most sadly, nineteen people lost their lives in the incident, including 14 Samarco employees/contractors and 5 members of the Bento Rodrigues community.

The tailings travelled down the natural waterway, overtopping the Santarem water polishing dam and partially destroying it, and flowed on to the township of Bento Rodrigues ~7 km downstream. The debris torrent reached Bento Rodrigues around 40 minutes after the failure. The material continued to move downstream through the 650 river kilometres of the Rio Doce before reaching the coast 16 days later.

The released material entered a large river network: Rio Gualaxo do Norte, which discharges to the Rio Carmo, which in turn flows into the upper Rio Doce. Along the flow path soils were scoured and vegetation removed, resulting in a mix of tailings, soils, and vegetation being deposited both along the river flood plain and along edges and mouths of tributaries as the flood wave receded and/or flow velocities slowed in certain areas.

Of the 32 million m³ of tailings that left Samarco's site, about 26.5 million m³ was deposited between Fundão to the Candonga Reservoir at Risoleta Neves hydro-electric power station on the Rio Doce (80 km of river) and 5.5 million m³ was deposited in the Candonga Reservoir itself.

Finer materials and other suspended solids exited the reservoir via the dam spillway. Some of these suspended sediments settled out within the Rio Doce, between the Candonga Dam and the next hydroelectric reservoir (Baguari) located downstream of Candonga. Smaller sediment particles remained in suspension along the mid and lower sections of the Rio Doce, to the mouth of the river and the Atlantic Ocean. A plume of water characterized by greatly elevated suspended solids from the breach event was visible at the estuary and into the marine environment, as the freshwater plume from the Rio Doce spread over the denser seawater.

Upstream Impacts

Sadly, nineteen people lost their lives as a result of the dam failure including 14 employees/contractors working on the dam at the time and 5 members of the Bento Rodrigues community.

The tailings spill caused extensive damage to the natural environment, communities and associated infrastructure along the Rio Doce. The most significant impacts occurred in the first 80km of the river system (tributaries of the Rio Doce) before Candonga Dam, a hydro-electric power station on the Rio Doce.

The failure resulted in the almost total destruction of the towns of Bento Rodrigues (population approximately 400), Gesteira (population impacted ~30), a large section of Paracatu (population impacted ~100) and significant damage in the community of Barra Longa (population impacted ~170). This rendered a total of around 700 people homeless. Local businesses were also destroyed or significantly impacted including farmers, restaurants and hydro power stations.

Other upstream impacts included:

- Destruction of 7 bridges and significant damage and no access to >100km of access roads.
- The destruction of 2000 ha of riparian vegetation and agricultural land.
- Deposition of around 10 million m³ of tailings material along the banks of the rivers.
- Very significant impact on aquatic fauna including a short term but very extensive fish kill.
- Deposition of around 10 million m³ of sediment in the reservoir of the Candonga hydro-power station rendering it inoperable and increasing its risk of failure.

Downstream Impacts

Downstream of Candonga dam the impacts are primarily related to water quality issues rather than the physical impact of the tailing's deposition. The main impacts are summarised below:

The dam failure released a plume of mud and highly turbid deoxygenated water that resulted in a fish kill throughout the river system.

As well as killing fish in the river, the sediment adversely impacted on the water supply systems in the communities and towns along the river. These towns included Governador Valadares, a town of around 300,000 people. The interruption to water supplies was relatively short (a week or two) and in most towns alternative drinking water supplies were provided, yet many people in these communities suffered disruption to their quality of life as a result of the impact.

A number of significant businesses suffered some disruption during the peak of the plume and many smaller businesses have suffered more prolonged impacts, such as fishermen who are no longer able to fish in the main river channel and sand miners who previously made a living taking sand from the river.

High turbidity levels have persisted in the river system, particularly in the upper reaches, and are continuing to impact on the ability of river dependent communities, primarily fishermen but also tourism operators to continue their businesses.

The turbidity plume reached the mouth of the Doce River on 21 November 2015, during the sea turtle spawning season and potential impacts on the turtles are yet to be identified. Initial biodiversity studies indicated a reduction in density and species diversity of benthic organisms in the coastal area however an analysis of studies suggests that impacts on phyto and zooplankton will be temporary and reversible. All studies indicate the need to continue monitoring of potential plume impacts within the coastal aquatic communities of the region.

Renova Foundation

The purpose of the Renova Foundation is rebuilding, restoring and repairing the impacts caused by the Fundão Dam collapse.

Samarco instigated emergency measures to mitigate the consequences of the dam failure, such as making temporary accommodation available for the families who lost their homes, distributing financial aid cards and

providing for students from impacted communities so they could return to school. Teams were mobilized to address water supply issues and to undertake fauna and flora rescue, recovery of affected areas, water monitoring, and assistance to residents, among other measures.

All these actions were initially performed by Samarco and were later consolidated in the Framework Agreement signed between Samarco, its shareholders, Vale and BHP Billiton, the Federal Government, the governments of the states of Minas Gerais and Espírito Santo and other governmental entities, on 2 March 2016. The Agreement prescribes 41 short, medium and long-term socio-environmental and socioeconomic repair programs to be completed. The 41 programs include a range of remediation measures designed to return the river system to the pre-existing conditions and compensatory programs designed to leave a lasting positive legacy.

The Renova Foundation was established to implement the programs in the Framework Agreement. The Foundation is a private, non-profit organisation that receives endowments from Samarco in order to develop and implement the programs. In the event that Samarco does not have sufficient financial resources, the shareholders, BHP Billiton and Vale will fulfil the funding requirements of the Agreement.

Constituted with a Board of Governors, an Executive Leadership Team, an Advisory Council and a Fiscal Council, it has full autonomy. An Interfederative Committee is also instituted, functioning as the Foundation's external oversight body which tracks, monitors and supervises the projects executed. The Interfederative Committee, comprising representatives from a range of government agencies, convenes technical experts in themed Technical Chambers, which provide advice and guidance to its own members and to the technical representatives from the Foundation.

The remediation of the Rio Doce Basin is a complex and long-term endeavour and while there are a number of organisations and individuals providing advice to the Foundation, the Renova Board believes there is significant value in establishing a panel of independent experts with the mandate to review the remediation and compensation programs in their entirety – across the social and environmental streams and from long-term and landscape perspective.

For credibility and transparency, the advisory panel must be under the auspices of an internationally recognised organisation, such as the International Union for the Conservation of Nature (IUCN), and it must report publically its findings and recommendations. The Independent Scientific and Technical Advisory Panel (ISTAP) model employed by IUCN in similarly challenging situations (e.g. The Niger Delta Panel, the Western Gray Whale Advisory Panel) has demonstrated a positive contribution to effective environmental outcomes through sound science and collaboration.

International Union for the Conservation of Nature (IUCN)

IUCN is a membership Union uniquely composed of both government and civil society organisations. Member organisations are represented by the IUCN Council – the governing body. Headquartered in Switzerland, IUCN Secretariat comprises around 950 staff in more than 50 countries. IUCN provides public, private and non-governmental organisations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together.

Created in 1948, IUCN has evolved into the world's largest and most diverse environmental network. It harnesses the experience, resources and reach of its 1,300 Member organisations and the input of some 16,000 experts. IUCN is the global authority on the status of the natural world and the measures needed to safeguard it. Experts are organised into six commissions dedicated to species survival, environmental law, protected areas, social and economic policy, ecosystem management, and education and communication.

The ability to convene diverse stakeholders and provide the latest science, objective recommendations and on-the-ground expertise drives IUCN's mission of informing and empowering conservation efforts worldwide. IUCN provides a neutral forum in which governments, NGOs, scientists, businesses, local communities, indigenous peoples groups, faith-based organisations and others can work together to forge and implement solutions to environmental challenges.

By facilitating these solutions, IUCN provides governments and institutions at all levels with the impetus to achieve universal goals, including on biodiversity, climate change and sustainable development, which IUCN was

instrumental in defining. As the only environmental organisation with official United Nations Observer Status, IUCN ensures that nature conservation has a voice at the highest level of international governance.

At the request of business, government and financial institutions, the IUCN has established and coordinated several Independent Scientific and Technical Advisory Panels to help understand, propose recommendations for, and monitor, projects that generate challenging issues and impacts on biodiversity and conservation. These Panels are managed by the IUCN's Business and Biodiversity Programme based in Europe.

2. GOAL AND OBJECTIVES

The Rio Doce ISTAP is an independent advisory body of scientists convened and managed by IUCN. The overall goal of the Panel is to provide the Renova Foundation with objective independent advice on the recovery of the Rio Doce Basin following the Fundão Dam failure on 5 November 2015. The ISTAP has been constituted and will be coordinated by the IUCN, an international organisation with extensive experience in managing similar Panels. Its objectives are to:

- Provide independent expert scientific advice and guidance to the Renova Foundation
- The ISTAP's deliberations will be independent and free from real or perceived conflicts of interest and the Panel of experts will draw on existing international and national best practice and new knowledge.
- Provide a landscape-scale perspective
- The ISTAP will challenge the Renova Foundation to develop and implement an integrated, outcomes-based strategy. It will encourage the development and implementation of innovative and long-term solutions to optimise resources and lead to the best possible social and conservation outcomes.
- Enhance stakeholder engagement in the restoration of the Rio Doce basin
- Transparency and engagement will be central to the operation of the ISTAP. Information will be science-driven and evidence-based and the Panel's reports and recommendations will be publically available. Engagement with interested and affected stakeholders will be integral to the STAP process.

3. PRINCIPLES

Based upon learning from other efforts with Panels, IUCN has recognized that to be effective, the ISTAP should operate according to the following four general principles: independence, transparency, accountability and engagement. These principles apply to all IUCN-supported Independent Scientific & Technical Advisory Panels (Procedures for establishing and managing IUCN-supported Independent Scientific & Technical Advisory Panels, 2014).

Independence: The Panel, whose members are selected through an open and transparent recruitment process by IUCN, should be established and operate free from any external influence (whether government, private sector, NGOs, scientists or IUCN). Collectively, the Panel members are free to reach what the Panel considers the most robust and feasible conclusions and recommendations based on the best available science.

Transparency: Working arrangements and conclusions and recommendations of the Panel should be made publically and openly accessible in an unaltered manner.

Accountability: The Panel should have a clear sense of purpose, deliver high-quality outputs in a timely manner and be administered in a way that is consistent with IUCN's policies and procedures.

Engagement: The Panel should consider the interests of all affected parties during its entire lifetime. This includes recruiting Panel members who are willing to understand a diversity of disciplines and perspectives and to implement a clear stakeholder engagement plan as part of the Panel's activities.

4. SCOPE

The intent of the Panel's recommendations is to enhance the design and implementation of the Framework Agreement programs and measures so that they deliver optimal outcomes for the environment and people of the Rio Doce catchment in Minas Gerais, Brazil. This will enable the Renova Foundation to effectively, efficiently and sustainably fulfil its mandate concerning remediation and compensation actions in the Rio Doce watershed. The scope of the Rio Doce Basin ISTAP is outlined below:

(a) The Rio Doce Basin ISTAP is an advisory rather than a prescriptive body, and its decisions will be in the nature of recommendations rather than prescriptions. It will provide guidance and recommendations it considers necessary, useful and/or advisable for the remediation and compensation of the Rio Doce Basin, both on a proactive basis and in response to specific requests for guidance on relevant issues within its mandate.

(b) Substantively, the ISTAP will focus on the rehabilitation of the Rio Doce Basin. It will focus on those issues related to biodiversity, ecosystem restoration and the dependency of local communities on natural resources. It provides the opportunity for coordination and cooperation among interested parties, including the Renova Foundation, governments, financial institutions, and civil society.

(c) Geographically, the focus of the ISTAP is on the 680 river kilometres and associated catchment areas from the impact zone to the mouth of the Rio Doce at Regencia. Compensatory actions are undertaken across the basin, but remediation activities are undertaken in specific regions:

- **Area 1** - 100km between Fundão and Candonga
- **Area 2** - Candonga to the sea
- **Area 3** - River mouth and coast

(d) To this end, the ISTAP should have sufficient access to data and information from all interested parties and will be free to seek any information necessary and relevant to discharge its duties. Where necessary or useful, the Panel may seek information and input from scientists and researchers in related fields external to the Panel and establish dialogues with other relevant scientific groups.

(e) The Panel should be open to input from organizations including NGOs, academic institutions and governments.

(f) The ISTAP will develop a vision for its work that will be delivered, through its successive annual work plans, reviews and assessments, into proactive, publically available, recommendations and advice to the Renova Foundation and others as appropriate. This and/or other developments may warrant appropriate amendments to these Terms of Reference.

5. ROLES AND RESPONSIBILITIES OF IUCN

The role and responsibilities of IUCN are to:

(a) Act as the impartial convenor of the Panel.

(b) Consult with Renova Foundation and other key stakeholders in relation to potential candidates for the Panel Chair and Members

(c) Select and appoint the Panel Chair and Members, in accordance with the IUCN Procedures for Establishing and Managing Independent Scientific and Technical Advisory Panels (2014).

(d) Establish and maintain the independence of the Panel.

(e) Provide the conduit for transmitting all information and documentation requests to and from the Panel.

(f) Provide secretariat support to the Panel, including the management of Budget Funds and negotiation/execution of contracts with Panel Members, as necessary and appropriate for their participation in the Panel.

(g) Ensure the Panel's work adheres to IUCN's Publishing Guidelines, are approved by the IUCN Editorial Board, and include a peer-review process

(h) Post all relevant reports and materials used and produced by the Panel on the IUCN website and make them available through other media/channels when and as IUCN, in consultation with the Panel Chair, deems necessary and appropriate.

(i) Promote the work of the Panel, and in particular its technical reports, through communications with relevant audiences and stakeholders.

(j) Monitor regularly the Panel's overall performance and compliance with their TOR.

(k) Engage relevant stakeholders as needed.

6. ROLES AND RESPONSIBILITIES OF THE RENOVA FOUNDATION

The role and responsibilities of Renova Foundation are to:

- (a) Enter into a legally binding contract with IUCN for the latter to convene and manage the ISTAP
- (b) Provide appropriate funding to support the Panel's activities. The budget will ensure there is a minimum threshold that will be provided and a certain timeframe to allow proper Terms of Reference to be developed and experts to be recruited
- (c) Actively solicit the participation of other organisations and facilitate engagement of the ISTAP with key stakeholders in the recovery process.
- (d) Provide relevant information and documentation to the ISTAP in a timely and well-documented manner to facilitate the efficient functioning of the ISTAP
- (e) Actively support IUCN in effectively maintaining its credibility as the ISTAP neutral convenor; and
- (f) With respect to the conclusions, advice and recommendations provided by the ISTAP, clearly identify and document specific areas and points (i) where they were/will be accepted and/or implemented or (ii) where they were not/will not be accepted and/or implemented (including a clear explanation).

7. ACTIVITIES

The ISTAP (in consultation with the Renova Board) will:

- undertake a scientific and evidence-based holistic review of the Framework Agreement programs to understand how they interconnect and to identify potential gaps and synergies.
- review specific scientific studies and other assessments to ensure they are appropriate in scope and methodology
- support the development of a practical, robust scientific monitoring and evaluation framework including definition of milestones and outcomes and development of appropriate outcome and impact indicators.
- monitor specific programs, verify results and make improvement recommendations
- provide practical and implementable recommendations to the Renova Foundation, and report findings to the IUCN secretariat.
- document learnings and knowledge throughout the process so they can be broadly applied in other relevant situations
- Communicate successful models to engage and enrol support of other actors in the broader restoration of the Rio Doce Basin.

The ISTAP will not:

- implement in part or in full any remediation or compensation programs prescribed in the Framework Agreement
- make decisions in relation to any of the Foundation's activities or Framework Agreement programs
- have a mandate to enforce recommendations, direct the Foundation or initiate any other actions that may place an undue burden on the Renova staff
- be a source of funding for any programs associated with the remediation of the Rio Doce Basin

8. KEY TASKS FOR THE ISTAP

The ISTAP will focus on issues that relate to biodiversity, ecosystem restoration and the interdependency between local communities and natural resources. It will cover three key areas:

Environmental remediation of impacted areas

- Collate and synthesise the best available scientific opinion to assess the scope and scale of actions required to fulfil terms of the Framework Agreement as they relate to remediation of ecosystems.
- Validate the approaches and tools selected by the Foundation to remediate impacted areas; and where necessary, highlight gaps and provide recommendations. The panel may provide input into technical challenges that impact the desired outcomes of the Foundation's work.

- Inform the development of appropriate indicators and review progress reports on efforts to remediate affected areas. Where necessary provide recommendations.

Environmental compensation and infrastructure

- Review and propose best practice mechanisms that compensate for environmental impacts in line with the terms of the Framework Agreement
- Encourage a holistic approach when producing recommendations and strategies for restoration that take into account livelihoods and their relationship with natural resources
- Inform the development of appropriate indicators and review progress reports of compensatory actions. Where necessary provide recommendations.

Human rights, social participation and livelihoods

- Support the design of an integrated livelihood and infrastructure development by identifying opportunities to explore new economy approaches that are well understood and embraced by affected communities and stakeholders; incorporate solutions to mitigate climate change risks; and address other long term sustainability challenges. Broadly communicate lessons-learned and successful models that are beneficial for restoration of the watershed as well as sustainable development.
- Review communication and advise on engagement processes to ensure that information is timely, accessible and accurate
- Encourage that a robust participatory approach is incorporated in the design and execution of programs and people's rights have been respected and promoted.

9. OPERATIONS OF THE ISTAP

9.1 Composition and Selection

It is envisaged that the Panel will consist of approximately 7 members, of whom approximately half will likely be based in Brazil (some local to Minas Gerais). The aim is to make the panel gender balanced; however, the overall goal will be to achieve the ideal mix of technical expertise and skills.

The technical and scientific expertise required on the Panel will be determined by IUCN in consultation with the Renova Foundation.

Objectivity and transparency in the selection process will be ensured by setting selection criteria, publically posting open positions, and constituting a candidate evaluation committee. To this end IUCN will also consult with Renova Foundation and interested parties (see Section 12) on nominations to be considered but the eventual decision will remain with IUCN as the convenor.

The Panel will include the best available scientists in their respective fields with ample experience and ability to bridge scientific, technological and policy issues related to terrestrial and aquatic restoration, community livelihoods, scientific research and conservation. Panel members will be independent from, and free of any conflict of interest (whether actual, potential or reasonably perceived) with Samarco, BHP Billiton, Vale, and the Renova Foundation. The actual number of scientists will depend on their availability and on the mix of different fields of expertise they individually bring to the Panel.

Below is an initial list of experts/expertise required for the panel.

- Freshwater/terrestrial ecologist
- Freshwater toxicologist
- Freshwater ecosystem remediation expert
- Landscape forestry restoration expert
- Community sustainable livelihoods specialist (e.g. fishing, agriculture, sand mining)
- Community specialist
- Sewage & water treatment expert

Other potential expertise areas:

- Health
- Marine
- Impact assessment – how to measure impacts, cumulative impacts. M&E
- New economy – climate change, SDGs, agribusiness sector, low carbon agriculture.

Panel chair may cover an area or areas of thematic expertise as well as serve as the Chair of the Panel

9.2 Work plans, Meetings, Missions, Reports

(a) For each calendar year, and no later than two months before of the end of the preceding year, the ISTAP, in consultation with IUCN and the Renova Foundation, will establish an annual work plan and proposed budget, including (but not limited to) the reviews it will undertake, the information it will require, the meetings it will hold, and the workshops and other events it may convene. The ISTAP may request activities (commissioning studies, site visits, some stakeholder consultation) be carried out by the Renova Foundation. The annual budget will need to be presented to Renova Foundation for approval.

Subsequently, and in consultation with the ISTAP Chair, IUCN will establish a more detailed plan for each of the key assignments.

(b) The ISTAP will meet face-to-face at least twice per calendar year. An annual meeting will be scheduled to ensure that a full analysis and review of results of the previous year's operations and restoration measures occur sufficiently in advance to influence the Renova Foundation's planning, procedures and activities for the ensuing work season. Meetings will be held with participation of the Foundation.

(c) The Foundation will nominate a contact for the ISTAP Chair who will have single point accountability for facilitating access to relevant information; ensuring personnel are available for consultation by the ISTAP at mutually convenient times, and for arranging dissemination of ISTAP outcomes to internal and relevant external stakeholders and providing relevant feedback and input from the Foundation to the ISTAP.

(d) The Chair of the ISTAP has single point accountability for defining annual workplans for the Panel, the proceedings of the meetings and the ISTAP's reports. This includes being responsible for its final content in consultation with panel members as well as adherence to IUCN's publication guidelines and peer review. IUCN and Renova Foundation will provide contracting and logistics support as needed.

It is expected that adoption of any report by the ISTAP will be by consensus among the Panel members. However, if full consensus is not achieved, any of the ISTAP members will have the right and opportunity to provide a written minority view that will be included in the relevant report as an authored annex.

The Foundation will be asked to review and comment on all ISTAP reports before they are finalized, however, the Panel chair will retain editorial control on all documents produced by the Panel. These documents will be subject to IUCN's Publishing Guidelines, will need to be approved by the IUCN Editorial Board, and include a peer-review process.

(e) The timelines for ISTAP reports and Renova Foundation responses will be agreed at each meeting, following consultations conducted by the Chair with IUCN and the CEO of the Renova Foundation. IUCN will dispatch the agenda and the background documents no later than two weeks in advance of a meeting.

(f) The Chair of the ISTAP may, with the advance written approval of IUCN and the Foundation, arrange for assignments or commission field visits and missions, either by one or more Panel members or by other independent experts, to analyze or assess a particular issue, event or outcome of direct relevance to the work of the ISTAP. The Foundation may also identify and support potential areas for specific assignments, visits etc., but the decision to move forward with these potential assignments resides with the Panel Chair. All such assignments, visits or missions will produce reports available to the members of ISTAP, IUCN and the Foundation. These assignments and commissions should be duly incorporated in the Annual plan and budget.

(g) The advisory process of ISTAP is guided by practices characterizing the delivery of objective, credible and high-quality scientific and technical advice. These practices include the identification of experts for the Panels' assignments (when and where needed) representing a balance of views and disciplines, and peer review of

working papers and new scientific outputs when appropriate, according to the discretion of the ISTAP Chair. In fulfilling its terms of reference, ISTAP shall draw on IUCN networks with the wider scientific community.

9.3 Data and Information

Cooperation is required by those collecting and generating information and data. Data represents the product of a significant investment of both money and time, therefore, appropriate measures aimed at safeguarding the legitimate interests of persons holding rights thereto shall be adopted and respected by all parties concerned.

The information and data exchange between IUCN and Renova Foundation will take place according to the following considerations:

- The intellectual property rights of those involved in the collection of data must be respected (e.g. the right to first publication, ownership as well as confidentiality concerns, whether of commercial or other nature).
- The right of first publication is a generally accepted scientific norm that will be respected and complied with.
- Recommendations should be based on a full scientific review of both data quality and analysis that can be independently verified.
- Whilst the results of analyses of the data and broad summaries of the data may be included in ISTAP reports if required to explain the rationale for recommendations, the raw data reviewed by panel members will remain confidential and the property of the rightful data collectors or providers.
- When use of proprietary data is involved in any publication or report, the rightful data collectors or providers, including Renova Foundation, will be consulted and requested to approve such use; and
- The information and level of resolution of the data to be made available to the ISTAP will be determined by the ISTAP on the basis of the analysis for which the data are required and must be reasonable, objective, and adequate to the purpose and delivered in a mutually agreed-upon and timely fashion.

Each ISTAP member will be required to sign an individual non-disclosure agreement (NDA) pursuant to which he/she will have an obligation, inter alia, not to disclose outside the ISTAP information designated as confidential.

9.4 Recommendations – Strategic and operational advice

Depending on their scope and as a mechanism to focus its advice, all recommendations are divided into Strategic Advice and Operational Advice.

Strategic Advice addresses contemporary, but open-ended or systemic issues related to the conservation and recovery of the Rio Doce Basin that call for the involvement and joint efforts of a wide range of stakeholders including national governments, companies and civil society.

Strategic Advice should be addressed to the competent national, state and regional agencies and organisations with responsibilities for the conservation and recovery of the Rio Doce Basin. It would include among other things:

- (a) Advice on needs for further scientific knowledge, policies and common operational implications of industrial operations related to the conservation of Rio Doce Basin
- (b) Advice containing specific scientific aspects of river ecology, the identification of negative impacts, its potential effects and on protective measures to minimize them; including level of integration and urgency of implementation; and
- (c) Advice on further research plans and programs by identifying targeted or integrated studies, which would improve the knowledge on the status and conservation of the Rio Doce Basin

Operational Advice addresses specific, clearly individualized and time-bound targets, e.g. current project, survey, installation, construction, program, research, and should be addressed to the body or bodies which undertake such activities. It would include:

- (a) Advice on protective measures and mitigation and offset for ongoing and planned future industrial activities.

(b) Advice on the nature and scope of the monitoring programs specified for ongoing and planned future industrial activities; and

(c) Advice on the improvement of ongoing and future scientific programs and individual research projects to maximize contributions to understanding conservation needs.

9.5. Funding

The operation of the ISTAP will be funded by the Renova Foundation as per a contractual arrangement between the Foundation and the IUCN.

Additional research or activities may be considered of benefit during the operation of the ISTAP. Funding for these activities may come from the Foundation or from other organisations as appropriate. The development of the annual workplan and budget is an opportune (but not exclusive) time to request, and budget for, additional research and activities.

10. COMMUNICATIONS AND TRANSPARENCY

(a) ISTAP members will disclose any conflict of interest (whether actual, potential or reasonably perceived) from recent (last 12 months) or anticipated (next 12 months) relationships with the Foundation.

(b) Information and documentation related to the ISTAP, including these Terms of Reference, work-plans, meeting schedules and agendas, reports and responses will be made publicly available on the IUCN website.

(c) IUCN has developed a communications strategy which will be implemented and updated as necessary. The aim of the strategy is to ensure that interested parties have access to information to enable independent assessment of progress and to have opportunities to interact with the ISTAP.

(d) All documents submitted to the ISTAP will normally be made publicly available, except for information that is designated confidential. Whether information is confidential or not will be determined by IUCN in consultation with the entity or individual providing the information. Confidentiality will be an exception rather than the rule, and therefore as much information as possible will be made available to the public.

(e) IUCN will act as intermediary between the ISTAP and interested parties in order to:

- i. ensures all interested parties have fair and equal access to information about the ISTAP process and ISTAP Reports,
- ii. strengthen the independence of the ISTAP,
- iii. enable documentation of information flows to the ISTAP, and
- iv. manage requests for information in connection with the ISTAP process and work.

(f) The provisions of paragraph 10(e) above apply to the formal activities of the ISTAP that IUCN will convene and does not preclude interactions between the ISTAP members and interested party scientists as part of the activities of associated task forces.

(g) The Chair of the ISTAP will have exclusive authority to speak for the ISTAP on substantive scientific aspects and findings of its work and will coordinate with IUCN on requests made to him/her by media or the ISTAP members, or other sources, for information, statements and interviews. All queries related to the process of ISTAP will be addressed by IUCN which, likewise, will coordinate with the Chair as necessary. The Chair may delegate his/her authority for responding to any of the substantive scientific questions or findings addressed to him/her to one or more of the members of the ISTAP. Where individual ISTAP members are approached directly, they shall consult and follow the advice of the ISTAP Chair.

11. PERFORMANCE ASSESSMENT

Regular performance assessment is essential to ensure that the collaborative effort required by these TOR from all the parties concerned succeeds and contributes to the achievement of the goal and objectives of this partnership. Consequently, assessments of the performance of the ISTAP (including individual panel members)

as an advisory body, of IUCN as a convenor, and of the Renova Foundation in terms of their implementation of the advice from the, will be conducted as follows:

(a) Self-assessment will be a recurring item on the agenda of the ISTAP. In each of its meetings, it will (i) evaluate its own performance and the extent to which, in its opinion and on the basis of available information, the Renova Foundation are implementing its advice and (ii) provide any recommendations to IUCN for changes needed in the ISTAP process.

(b) IUCN will, in adherence to its Monitoring and Evaluation Policy, and in consultation with the ISTAP Chair and the Renova Foundation, appoint an independent agency to perform a mid-term and final evaluation of (i) the performance against these TOR (ii) the effectiveness with which IUCN, ISTAP, and the Renova Foundation have played their respective roles and (iii) the impact the ISTAP has played in enhancing environmental outcomes and public confidence. The Renova Foundation will provide the necessary funds to carry out these evaluations as part of the Annual Budget process. The evaluation will be conducted against a set of indicators that will be developed by IUCN and agreed with the Renova Foundation and ISTAP. The independent agency will make recommendations on how the performance might be improved and the recommendations will be made public.

(c) IUCN will, in consultation with ISTAP and the Renova Foundation, determine to what extent the recommendations arising from 11 (a) and 11 (b) (above) are to be adopted and implemented. IUCN will have the final decision regarding adoption and implementation of such recommendations. IUCN will clearly identify and document specific recommendations (i) where they were/will be accepted and/or implemented or (ii) where they were not/will not be accepted and/or implemented (including a clear explanation therefore). IUCN will ensure that these TOR are amended, if and as necessary, to reflect the accepted recommendations.

12. PARTICIPATION OF INTERESTED PARTIES

12.1. Advisory Council

The Foundation's Advisory Council (which incorporates input from affected communities) will have the opportunity to:

- a) Nominate candidates for membership in the ISTAP.
- b) Provide IUCN with information on issues within the scope of these TOR and important for the ISTAP to consider in carrying out its mandate. IUCN will relay the information it receives to the ISTAP Chair, so that it may be placed on the agenda for the successive ISTAP meetings.

12.2. Inter-Federative Committee

The Inter-Federative Committee (IFC) will have the opportunity to:

- a) Nominate candidates for membership in the ISTAP.
- b) Provide IUCN with information on issues within the scope of these TOR and important for the ISTAP to consider in carrying out its mandate. IUCN will relay the information it receives to the ISTAP Chair, so that it may be placed on the agenda for the successive ISTAP meetings.

12.3 Civil Society

Civil society will have the opportunity to:

- a) Nominate candidates for membership in the ISTAP:
- b) Provide IUCN with information on issues within the scope of these TOR and important for the ISTAP to consider in carrying out its mandate. IUCN will relay the information it receives to the ISTAP Chair, so that it may be placed on the agenda for the successive ISTAP meetings.

12.4 Academic Institutions

Academic Institutions will have the opportunity to:

- a) Nominate candidates for membership in the ISTAP:

b) Provide IUCN with information on issues within the scope of these TOR and important for the ISTAP to consider in carrying out its mandate. IUCN will relay the information it receives to the ISTAP Chair, so that it may be placed on the agenda for the successive ISTAP meetings.

12.5 Coordinator of the Prosecutor's Office and Curator of Foundations, Public Ministry of Minas Gerais

a) Nominate candidates for membership in the ISTAP:

b) Provide IUCN with information on issues within the scope of these TOR and important for the ISTAP to consider in carrying out its mandate. IUCN will relay the information it receives to the ISTAP Chair, so that it may be placed on the agenda for the successive ISTAP meetings.

13. TERM

The ISTAP is to be established for an initial period of five years. This term may be extended for further periods as necessary and useful, subject to agreement between IUCN and the Renova Foundation.