

UNDERSTANDING INVESTMENT RISK IN THE MINING SECTOR:

BRAZIL

A LAPFF REPORT
AND RECOMMENDATIONS BASED ON
STAKEHOLDER ENGAGEMENTS IN BRAZIL

Local
Authority
Pension
Fund
Forum

↑ BRUMHADINIO DAM COLLAPSE 2019

272 PEOPLE DEAD ON THE DAY



↑ MARIANA DAM COLLAPSE 2015

19 PEOPLE DEAD ON THE DAY

Both cover images from Alamy

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Report Methodology

This report primarily reflects the information and impressions that LAPFF obtained from its visit to Conceição do Mato Dentro, Brumadinho, and Mariana, Brazil during 11 August 2022 - 6 September 2022. The visit stemmed from an invitation extended by community members affected by tailings dams safety concerns in all three areas. Consequently, the majority of the visit – two and a half weeks of the total three and a half weeks – was focused on visits with affected community members without the presence of company officials.

This report includes both community and company observations that LAPFF has deemed relevant and appropriate. Where information is not verifiable, LAPFF has attributed the statements to the party or parties that provided the information. Where the information provided reflects LAPFF's impression, the report has sought to make this clear. LAPFF's aim in taking this approach is to encourage the appropriate parties to ensure that independent assessments of allegations are undertaken and that the findings of these assessments are disclosed in a transparent manner. This is because, in LAPFF's experience, the issues arising through its stakeholder engagement process are financially material, and LAPFF would like to ensure that investors, including its members, have the greatest amount of financially material information possible in taking their investment decisions.

The first place LAPFF visited was Conceição do Mato Dentro, where Anglo American's Minas Rio mine is located. **The Minas Rio dam has not collapsed and is of a downstream construction, which is recognised in the industry as being a much safer construction than the upstream construction dams that did collapse in Brumadinho and Mariana. This is a clear distinction that must be kept in mind in reading the report.** LAPFF's observations from this visit are based on written notes from discussions with community members living in the area and photo and video footage taken by LAPFF representatives.

The second place LAPFF visited was Brumadinho, where Vale's Córrego do Feijão tailings dam collapsed on 25 January, 2019. LAPFF's observations from this visit are based on discussions with community members directly affected by this tailings dam collapse. The content of the report includes information from written notes based on discussions with these community members and photo and video footage taken by LAPFF representatives. However, at one point in this visit, it became apparent that the affected community members had security concerns, so LAPFF stopped

filming at this point and began to rely on written notes to record its meetings with affected community members.

The third place LAPFF visited was Mariana, where BHP's and Vale's joint venture Samarco dam collapsed on 5 November, 2015. LAPFF's observations from this visit are based on discussions with community members directly affected by the Fundão dam collapse. The information included in the report reflects both written notes and photo and video footage taken upon request by affected individuals. However, this video focuses primarily on property loss rather than individuals because of the security concerns that arose in Brumadinho.

The report also includes information provided by a range of Samarco and Vale representatives during three days following the community visits. Various Vale representatives accompanied LAPFF during a one day visit to Samarco, and the Vale Chair accompanied LAPFF during a one day visit to the Bento Rodrigues and Paracatu resettlements, and then a one day visit to Belo Horizonte and Brumadinho. Information from the Vale Chair and his colleagues was included in this report and reflects both written notes and photo and video footage taken at various Vale sites, including the site of the Brumadinho tailings dam collapse.

LAPFF only learned about its visit to an Anglo American-affected area upon its arrival in Brazil so was not able to set up a meeting with company officials during the visit. Anglo American has said, and LAPFF believes entirely, that the company would have made available company representatives to meet with LAPFF in Brazil. LAPFF subsequently met with both the Anglo American Chair and, later, his operational level colleagues. Their feedback has been integrated into the report as appropriate.

BHP refused to provide a BHP Brazil representative to meet with LAPFF representatives during the visit to Mariana citing conflict of interest grounds. The company has, however, provided feedback and comments on the draft report. These comments have been included, as appropriate.

Once the report was drafted, it was circulated to affected community members in all three areas LAPFF visited to ensure that (1) there was no information in the report that could or would compromise their security; and (2) that the information represented on their behalf was accurate. After the community feedback had been integrated into the report, the report was reviewed internally by both PIRC staff and the LAPFF Executive and membership. Finally, the report was sent to the three companies to ensure

that the information included was accurate. Where companies provided comment, their input was included where it was identified that there were inaccuracies and where it was felt that the company viewpoint needed to be included to provide a more balanced understanding of events or situations.

In many cases, company views were included to demonstrate the contrasting views of affected communities and companies in respect of human

rights and environmental impacts in the three areas. In many of these situations, LAPFF has no external evidence to verify either the community or company views and has requested that independent assessments be conducted and disclosed so that LAPFF, and other investors, have a clearer factual basis on which to assess various allegations and defences.



Structure destroyed by the Mariana tailings dam collapse, photo taken 27 August 2022

Brumadinho tailings dam that collapsed in 2019 and flood path where excavations continue for three missing people, photo taken 30 August 2022



LAPFF Chair's Foreword and Executive Summary

I am pleased to introduce the final report of our visit to Brazil between 11 August, 2022 and 6 September, 2022. The purpose of the visit was to understand better how three areas have been affected by tailings dams. The first part of the visit took place in in Conceição do Mato Dentro where Anglo American's Minas Rio dam has not collapsed, but despite the dam's downstream construction, which is recognised as a safer design than the upstream construction used with the recently collapsed dams in Mariana and Brumadinho, Brazil, communities surrounding the dam fear it will.

Vale's dam at its Córrego do Feijão mine in Brumadinho collapsed on 25 January, 2019, killing 272 people. Vale and BHP jointly own Samarco, whose Fundão tailings dam collapsed on 5 November, 2015, killing 19 people on the day and reportedly creating the largest environmental disaster in Brazil's history.¹ As you will see from this report, all of these situations have implications for shareholder value, and risks, associated with these three companies. In

all scenarios, these are serious financial risks, not to mention the impact on 'people and the planet', and of course reputational damage.

It was a huge privilege for me to represent LAPFF's work in addressing the serious failings resulting from decades of what is in my view poor operational performance, ultimately arising from two of the top five mining companies in the world – those being Vale and BHP. I emphasise the word "ultimately" as too often these operations go through acquisitions, mergers and dare I say it, joint ventures – therein lies a big problem!

Why was LAPFF in Brazil? Simply, in December 2019 at my first LAPFF conference in Bournemouth as LAPFF chair, members of the communities from Minas Gerais came to explain their anguish, pain, suffering, and trauma. Then, it was four years on, in respect of the Samarco dam failure (Samarco being a joint venture between Vale and BHP), and almost a year from the Brumadinho dam collapse. Today, seven and a half years and over four years respec-

¹ <https://www.theguardian.com/sustainable-business/2016/oct/15/samarco-dam-collapse-brazil-worst-environmental-disaster-bhp-billiton-vale-mining>.

tively after the dam collapses, I take the view that too little has been done.²

It has become evident there are significant financial impacts on investee companies resulting from both operational disasters. The latest estimates for the Samarco 2015 dam failure suggests the company payout will reach at least £25 billion³, not to mention the market capitalisation value impact. This is a cost that, in my view, could have been avoided had there been better governance and attention to operational procedures and dam design, but also the layout of the mine site is very important.

I am deeply saddened to have seen the site of the worker canteen at the Brumadinho mine - it was directly in front of the dam wall! 254 Vale workers were killed as a result of this mud slide, and a further 16 persons killed, including two pregnant women, in total 272 people. In addition, according to Vale and an affected community representative, as of April 2023, there are still three persons missing. There were four at the time of LAPFF's visit - I understand the remains of one have been found between our visit and the publication of this report. LAPFF will continue to be a critical friend of the mining companies and to hold the Directors of the board responsible for the reparations and improvements in the operations and delivery of the business outcomes. To date, BHP has not talked to LAPFF about the visit, and Vale rarely mentions the Samarco incident on investor calls. This we believe is in part an outcome of Samarco being a joint venture.

LAPFF engaged with communities, companies, academics, and other investors, and visited a number of areas. Whilst many people shared their experiences with us, LAPFF heard about some very basic but common issues in all of the areas visited. As the report sets out in greater detail below, community members have alleged poor communication, availability of potable water (and often not enough), contamination, and threatening behaviour and intimidation as significant concerns. (Security appeared to be predominantly a concern in Brumadinho and to a certain extent Mariana.) The estimate in respect of the Mariana/Samarco incident is there are likely over 200,000 individuals affected⁴, and we know over 600 kilometres of river was decimated, polluted all the way to the Atlantic Ocean.⁵

We spent two full days with the Chair of the board of Vale. I know of no other investor engagement to be afforded this amount of time – he is taking this very seriously. We visited the site of

the Brumadinho collapse with him and stood on a platform overlooking the “graveyard” (my term) seeing the path of the mudslide that killed 272 persons. We also saw the ongoing recovery operation looking for the four (now three) remaining missing persons. I hope you can begin to see we stopped at nothing.

What are LAPFF's ongoing concerns?

- Lack of engagement by the companies with affected community members
- Ongoing concerns about the slow pace and inadequate nature of reparations following the Mariana and Brumadinho tailings dam collapses
- Environmental impacts in all three areas, particularly compromised water sources
- Safety of the dams, including the Minas Rio dam which has not collapsed

In Conceição do Mato Dentro, we heard from communities concerned that Anglo American's Minas Rio tailings dam will collapse. They raised other concerns related to mining, including the levels of dust and the health consequences. The dust was so thick we could hardly see in front of us when we were driving. There was also a mention of noise disruption, when the mine was being detonated with explosives.

We saw the river impacted by Vale's Brumadinho dam collapse, 240km south west of Conceição do Mato Dentro. There is some doubt about the quality of water, but I cannot believe this is a normal condition – we do need to better validate this as there are clear contradictions between the accounts from the company and communities.⁶

In Paracatu, which was badly affected by the Samarco tailings dam collapse, we saw staining on the walls of the school, the church and houses, which I estimate to be at least four metres from ground level – this is how high the mudslide was! In Bento Rodrigues, another community impacted by the Samarco dam collapse, we again saw staining on the walls of the churches and houses.

We need to impress upon the companies and investors the need for much more effective stakeholder engagement. In LAPFF's view, reparations in Mariana facilitated by the Renova Foundation need to be quicker and appropriate, and we need to better understand the legal agreements in place between the companies and the prosecutors,

² Vale states that since 2015, along with BHP, it has disbursed R\$ 28 billion, and 441 housing solutions (which includes alternatives to re-building houses that were destroyed) had delivered by December 2022. The company further states that in Brumadinho, \$7.6 bn has been disbursed, along with a Global Agreement settled with Brazilian authorities and it is 58% of it was duly performed.

³ See the paragraph 1 of the introduction to the UK litigation BHP is facing in relation to the Samarco tailings dam collapse.

⁴ This is the original number of claimants to litigation BHP is facing in the UK in respect of the Samarco tailings dam collapse. The number has now risen, according to BHP and other sources, by an additional 500,000 claimants.

⁵ LAPFF saw the continued effects of this impact, which was also reported in the British media, for example here: <https://www.theguardian.com/sustainable-business/2016/oct/15/samarco-dam-collapse-brazil-worst-environmental-disaster-bhp-billiton-vale-mining>.

⁶ Vale states that it continuously monitors the water quality and sediment of the Paraopeba River and that its measurements generally align with the monitoring of the Water Management Institute of Minas Gerais (Igam)

Paraopeba river water quality index: February 2019 – 22,17, December 2019 – 45,09, December 2020 – 55,80, December 2021 – 58,36, and December 2022 – 60,70.

municipal and state officials, and of course communities.

The environmental impact is impossible to calculate.⁷ It will take decades to recover, if not generations or centuries. Seeing this devastating environmental impact emphasises the fact that these incidents can and must be avoided. We arrived back in the UK on the 6th of September, and only five days later I heard of another dam collapse failure in South Africa that killed at least three people⁸ – these are real financial risks to our investments as our investee companies could be exposed to losses of billions of pounds. There are also operational concerns. For example, the Guardian reported that BHP lost ‘£5.2 billion due to the dam collapse as well as a slump in commodity prices.’⁹ This money could have gone to investor dividends instead.

Although it is too late for Mariana and Brumadinho, I saw measures Vale is taking to prevent further collapses. Vale’s control room in Belo Horizonte is monitoring the dams 24/7. We were also pleased to learn that the Fundão and Germano dams at Samarco no longer have any wet tailings – we did not know this. Our main objective now has to be to prevent further collapses, especially given that some of the high-risk dams are very large and will have massive social and environmental impacts if they collapse – we need to keep pressure on the investee companies to remove the risk.

During our closing days in Rio de Janeiro, we met with JGP Asset Management and other investors, with Vale. This was a tough meeting, and without doubt, revolutionary. We need to do more in this space.

What can investors do? LAPFF is pleased to see

the development of the Global Industry Standard on Tailings Management (GISTM) and the procedural measures investor industry peers are taking in relation to tailings dams and mining more broadly. It is hoped that the GISTM will help improve mining impacts and outcomes around the world. In Brazil, improvements are progressing and we must acknowledge this. It is very positive that Vale is engaging with investors on Samarco. However, BHP refused to engage with LAPFF on this issue in Brazil. Individually and collaboratively investors must continue to engage with companies and communities. We must ensure commitments made by companies are being met in order that our capital, our pension members’ capital, is protected and is being used to deliver the best possible outcomes. We now have a first-hand appraisal, we have identified the areas of risk, and we need to exercise our fiduciary duty to ensure all aspects are addressed through the boards of the companies. In my view, we need to better collaborate with like-minded asset owners and managers to bring about significant changes. A lot to do, but we need to do it! We need mining, but it needs to be done responsibly and not just for short-term profit – IT CAN BE DONE!

Cllr Doug McMurdo



Chair, Local Authority Pension Fund Forum

⁷ Vale has stated that ‘According to the Brumadinho Integral Reparation Agreement, for the environmental remediation, the company’s obligation only concludes with the full remediation of the impacted area.’

⁸ <https://floodlist.com/africa/south-africa-mining-dam-jagersfontein-september-2022>.

⁹ <https://www.theguardian.com/sustainable-business/2016/oct/15/samarco-dam-collapse-brazil-worst-environmental-disaster-bhp-billiton-vale-mining>



Structure destroyed by the Samarco tailings dam collapse, photo taken 27 August, 2022

Background

LAPFF's mining and human rights engagement

It is well-accepted that the mining industry has a range of human rights concerns. Amongst these concerns is tailings dam safety. Tailings dams are where mines put their waste, and there is a long history of tailings dam collapses. Tailings dams can be built in a number of different ways. The construction that appears to be of greatest concern is the upstream dam.

Since 2018, LAPFF has been engaging with communities affected by the 2015 tailings dam collapse in Mariana, Brazil, which killed 19 people and reportedly left Brazil's worst environmental tragedy in its wake¹⁰. Both the companies involved and affected communities agree that reparations have been very slow, though in their discussions with LAPFF each party cites different reasons for the delays. After the Brumadinho tailings dam collapsed in Brazil in 2019, killing 272 people, LAPFF began engaging not just with affected community members in Brumadinho but also with other community members affected by mining operations globally.

The mining industry has become a major focus for LAPFF, both because of its size economically and financially and because of its implications for a transition to a green economy. It is clear that we will need the metals being mined by these companies to build technology allowing for carbon emissions reduction. Equally, it is clear that there are many human rights and environmental challenges associated with the mining industry that create an impediment to sustainable operations and sustainable shareholder returns.

This engagement has proved enlightening in many respects. LAPFF has learned a significant amount about the social and environmental impacts from mining operations. However, what is most notable from an investor perspective is an ever-growing clarity that the social and environmental impacts suffered by affected communities are financially material for both companies and ultimately investors.

In the cases of Mariana and Brumadinho alone, the financial cost of the disasters for the companies is staggering. A recent court ruling against BHP in relation to the Mariana dam collapse suggests that costs could exceed £25 billion.¹¹ Vale has also had

to agree to a \$7 billion settlement in Brumadinho.¹² These amounts are separate from the various other community engagement exercises the companies are having to undertake to re-build their reputations.

As LAPFF saw during its investigation, these costs do not begin to cover the damage to affected communities who will never recover their loved ones, all their natural resources, or their ancestral property. These irreversible impacts have a lasting reputational and operational impact on both BHP and Vale, which make them financially material for both the companies and investors.

Impetus for Brazil trip

In December 2019, LAPFF invited affected community members from Mariana and Brumadinho to speak at its annual conference in Bournemouth. The impacts on communities and individuals from the disasters were still extremely raw at that stage, particularly for the representative from Brumadinho who had lost her father in the dam collapse less than a year prior to the conference.

The moving and emotional testimony convinced many of the investors in the audience of the role their money could play in either preventing or facilitating such disasters. The community speakers implored investors to visit their communities to see with their own eyes the damage that had been caused.

One investor who was moved deeply was the LAPFF Chair, Cllr Doug McMurdo. After hearing this community testimony, he vowed to visit Brazil to understand the situation, and what investors could do better to prevent future disasters. Although the visit was delayed by Covid, he kept his promise and undertook a three and a half week visit in August and September 2022.

Itinerary

The itinerary was set by community representatives and covered three main geographic areas: Conceição do Mato Dentro, Brumadinho, and Mariana. LAPFF visited a range of communities within these areas. The individual communities will not be named here – although LAPFF has kept a record of them separately – because as will become clear below, some community members have security concerns which LAPFF does not want to exacerbate. For this reason,

¹⁰ <https://www.theguardian.com/sustainable-business/2016/oct/15/samarco-dam-collapse-brazil-worst-environmental-disaster-bhp-billiton-vale-mining>.

¹¹ See the paragraph 1 of the introduction to the [UK litigation](#) BHP is facing in relation to the Samarco tailings dam collapse.

¹² <https://www.reuters.com/article/us-vale-sa-disaster-agreement-idUSKBN2A41V5>. Vale has noted that this agreement was mediated by the Court of Appeals of the State of Minas Gerais.

the community representatives and their organisation are not named in the report.

The communities surrounding Conceição do Mato Dentro are affected by Anglo American's mining operations. Prior to going to Brazil, LAPFF was aware that communities were concerned about a range of issues, not least the possible collapse of the company's Minas Rio tailings dam. LAPFF also knew there were concerns about a range of other social and environmental impacts related to Anglo American's mining operations, including the company's approach to engaging with them and the method and placement of a local resettlement.

The communities surrounding Brumadinho were, and continue to be, affected by Vale's mining operations. They suffered the loss of 272 people, the majority of whom were Vale workers, in the collapse of the Córrego do Feijão dam on 25 January, 2019. Although a financial settlement has been agreed with the company and public officials following the dam collapse, the affected community members with whom LAPFF had been engaging prior to the visit had conveyed the irreparable damage they have suffered as a result of the dam collapse.

Because of prior engagement with affected communities, LAPFF was aware that the communities surrounding Mariana were continuing to wait for the completion of reparations nearly seven years after the Samarco tailings dam collapsed on 5 November, 2015, killing 19 people and reportedly causing the worst environmental disaster in Brazil's history. Although some compensation, reparation, and effort to build resettlements have been made, and these programmes continue, only a fraction of the houses had been built in the resettlements and the communities were awaiting a range of other compensatory and reparations measures so that they can start to rebuild their lives.

LAPFF had been checking monthly with both the companies and communities in relation to the number of houses built. Based on correspondence with both parties, prior to LAPFF's departure for Brazil, it could confirm from Renova and the community representatives that only 47 of 537 houses¹³ that the affected communities claimed needed to be built had been effectively completed. It is LAPFF's understanding that more houses have been built since LAPFF's visit – Renova reports on its website that 123 houses have now been completed.¹⁴ BHP has stated that as of May 2023, the first families in the Bento Rodrigues resettlement have moved into their new homes. A Bento Rodrigues community member has confirmed that five families have received keys to their new homes, but not all of them have been able to move in because of adjustments still being made to the properties. BHP, Vale, and Renova state that most of the infrastructure in the resettlements,

such as schools, have been completed but that housing completion is dependent on the agreement of the affected community members, many of whom continue to withhold their approval of their houses for various reasons.¹⁵

The community representatives also arranged for LAPFF to spend time in Belo Horizonte to attend a parliamentary hearing with affected community members and to speak with legislators, a public defender, and academics on the subject of mining companies and tailings dams.

LAPFF spent a day with staff at Samarco to understand how the company operates and what changes the joint venture has made in the wake of the 2015 tailings dam collapse. Vale Chair, José Penido, kindly gave LAPFF two full days of his time to visit locations in Mariana, Belo Horizonte, and Brumadinho, including the site of the Brumadinho tailings dam collapse, where the company continues to search for victim remains. CEO of Renova Foundation, Andre de Freitas, also joined LAPFF for a full day on a visit to the Paracatu and Bento Rodrigues resettlements.

The final leg of LAPFF's visit took place in Rio de Janeiro. The purpose of this segment of the trip was to meet with Brazilian investors concerned about Vale's social and environmental practices, particularly in relation to tailings dams. LAPFF has been partnering with Brazilian asset manager, JGP Asset Management, for the last couple of years, and has been extremely grateful for its excellent support during the community and company engagement process.

JGP staff visited Brumadinho and Mariana last year with affected community members and accompanied LAPFF on part of the visit again this year. To coincide with LAPFF's visit, JGP arranged a meeting with some Brazilian investors and Vale to set in motion a process to hold the company to account for completing existing reparations adequately and in a timely manner, and to prevent further dam collapses. The latter point is particularly important given that Vale currently has two tailings dams in Brazil that are at high risk of collapse.¹⁶ If these collapses occur, they have the potential to result in an even greater social and environmental impact than Mariana and Brumadinho. All parties involved are keen to ensure this does not happen.

Disclaimers

LAPFF has been extremely careful with names and images given the security issues that became evident during the trip. (Security appeared to be predominantly a concern in Brumadinho and to a certain extent Mariana.)

Although LAPFF sought to hear a range of views,

¹³ BHP and Vale have consistently referred LAPFF to Renova Foundation's reparations information. The last communication LAPFF received from Renova and community representatives about housing numbers was in January 2022.

¹⁴ <https://www.fundacaorenova.org/en/repair-data/>

¹⁵ This information is in private emails with LAPFF and meeting notes between the companies, Renova, and LAPFF.

¹⁶ At the time LAPFF visited Brazil, there were three high risk dams. Vale issued a [statement](#) on December 2, 2022, stating that the B3/B4 dam, located in Nova Lima (MG), was removed from critical safety condition as the emergency level was lowered from 3 to 2.

it does not claim to have met with a representative sample of community members during the trip. As such, this report does not reflect empirical research according to accepted social science or environmental methodologies. However, over 200,000 affected community members initially joined the litigation against BHP filed in the UK (a group action). BHP has noted that on 25 February 2023, a further request

was filed to add around 500,000 new claimants. The company has noted that full details of the claims have not yet been received, and the amount of damages has not yet been specified.¹⁷ Nonetheless, given these numbers, it is likely that the community views heard by LAPFF are reasonably representative of wider community views in Mariana.

¹⁷ <https://www.bhp.com/news/media-centre/releases/2023/03/update--united-kingdom-group-action>. BHP has further noted that the Group provision for Samarco is US\$3.122 billion, but given the uncertainties the company cannot provide reliable estimates of outcomes and ultimate costs. The company has said it will continue to defend the case, which it deems unnecessary as it is duplicative of Renova Foundation's existing work and legal action in the Brazilian courts that can deal with the claims. BHP notes that BHP Brazil has committed to the Renova Foundation's compensation, reparations, and resettlement work and has spent US\$5.9 billion so far, with 70 percent of the resettlement cases completed.

In an email to LAPFF, BHP has stated as follows: 'The quickest and fairest means for all those impacted to process and settle their claims is through the established and ongoing programs managed by the Renova Foundation, which is being supervised by the Brazilian courts. That system is working and paying. More than 410,000 people have received over R\$13.5bn (over US\$2.6bn) in compensation and financial assistance thus far. In terms of the impact on our provision - again their claims regarding our disclosures are highly misleading. We have appropriately included a contingent liability in respect of the UK action in our accounts for many years. Our position has not changed from what we disclosed at H1 results. [This information can be found] on pages 40-45 of the H1FY23 [Results Announcement](#), and pages 140-144 (specifically 141) of the 2022 [Annual Report](#), you will find commentary on contingent liabilities. Our contribution claim contends that if, contrary to BHP's defence, BHP is ordered to pay damages, Vale should contribute to any amount payable. This was a necessary procedural step given that Vale was not included as a defendant to the UK action.'



Mud line on a house hit by the Mariana tailings dam collapse, photo taken 27 August 2022



MAIN FINDINGS

This section presents the main findings of LAPFF's investigation into tailings dam safety in Brazil. The findings stem from engagement LAPFF undertook in Brazil with community members and groups, and company representatives, as well as with academics, politicians, and other public officials. For investor purposes, the findings below have been categorised as social, environmental, or governance impacts. However, it should be noted that these findings often fall into multiple categories. A particular focus has been placed on concerns surrounding water rights, as these concerns were repeated, significant, and consistent across all the communities visited.

Social Concerns

All the communities LAPFF visited were confronted with significant social challenges as a result of mining. They were all facing similar concerns in some respects – though sometimes to varying degrees – alongside their own specific concerns, as set out below. The primary areas of concern cover physical and mental security, stakeholder engagement practices by companies, tailings dam safety – including the ability to prevent future collapses - health, including mental health impacts, and failures by companies to consider cultural needs of affected communities.

“Vale is watching.”



Affected community members in Mariana suggested that this was a Vale CCTV camera used to watch one of the communities, photo taken 24 August 2022

Security

LAPFF had not realised until it arrived in Brazil the extent to which security concerns are a problem for some communities. Names of people and communities have therefore not been disclosed here out of respect for these issues. The concerns first manifested through requests to photograph and film LAPFF's interactions with affected community members. Although many community members wanted their stories shared and known, they were nervous about possible retribution, either from the companies involved or from other community members they felt had been coerced into working for or supporting a given company.

The security concerns were even more severe in certain communities and include allegations of intimidation and threats made by persons on behalf of Vale.

Therefore, security threats to community members affected by mining operations in Brazil are a serious concern for LAPFF. These concerns as set out above include cruel, inhuman, and degrading treatment and threats to security of person.

In response to the security issues identified here, Vale states that Renova has both an Ombudsman channel and an external Ombudsman for receiving and handling complaints, including complaints from communities, as well as an area dedicated to human rights, whose principles are included in regulations and in Vale's code of conduct. This process is also reportedly a mandatory part of all training for direct, indirect, and supplier employees. According to Vale, considering that works, mainly in resettlements, are the ones that potentially pose the greatest risk of disrespecting human rights, constant training and workshops are carried out and indicators of 'manifestations and resolutions' are monitored by the Foundation's top management.

LAPFF's view is, however, that this process appears not to be working in relation to the communities' security concerns.

Communication

There were two main communication issues that arose. The first and most significant concern related to a lack of meaningful engagement between the companies and affected communities. The second was a lack of internet access.



Sign showing strength of Brumadinho community's distrust of Vale, photo taken 18 August 2022

Stakeholder Engagement

Community concerns about lack of engagement, let alone appropriate engagement, by companies were severe in all regions LAPFF visited. Although all companies concerned – Anglo American, BHP, and Vale – are adamant that they engage adequately with affected community members¹⁸, community members with whom LAPFF met are equally adamant that the companies do not engage with them in a meaningful way. In some cases, there was such a lack of trust that even where companies have approached affected communities, community members have refused to engage with company officials at all. Although two positions on the advisory council of the Renova Foundation board were allocated for affected community representatives, these positions have never been filled. According to company representatives, the communities never proposed people for the positions. According to community representatives, they never appointed people for the positions because it was not felt that communities would have true decision-making power within the organisation.

LAPFF experienced three significant examples to support the community concerns. First, LAPFF approached BHP about meeting during LAPFF's visit to Brazil. This request was categorically denied at every level of the company on the grounds of a

conflict of interest that, in LAPFF's view, does not exist. In liaising with BHP on LAPFF's mining and human rights report, LAPFF also found in engagements the company unresponsive to concerns about its practices, particularly the impact of BHP joint ventures on environmental and social outcomes.

Second, Vale representatives did not appear to be aware of water concerns raised by affected community members in Mariana and Brumadinho,¹⁹ despite the fact that these concerns were included in the LAPFF mining and human rights report that had been shared with and reviewed by the company.²⁰

Third, community members near the Minas Rio dam stated that they had been told by Anglo American representatives that there would be 'horses and trees' where the tailings dam was built. They also stated they were promised that the dam would not be built higher, but it was. One woman with whom LAPFF spoke broke into tears, telling us that the company had not spoken to her about its plans, that she lived in constant fear that the dam would break, and that she and her family feared they would lose their lives.

Anglo American has responded that the company acquired a stake in the Minas Rio operation in 2008-2009 at a time when permitting, engagement and construction was already underway. The company has stated that the dam is modern, efficient, with an earthworks design using the very latest technology and built to the highest standards.

According to the company, the Minas-Rio dam construction is several levels of safety higher than just a downstream dam. This tailings dam is an embankment dam, built using compacted, imported earth-fill material, with carefully selected granular materials for the drainage and filter zones. The company has emphasized that tailings are not used to build the dam, and construction materials are carefully selected and placed in controlled layers.

According to the company, this is a very conservative design for a tailings dam, being designed and built as a water-retaining dam. The team at Minas-Rio has, states Anglo American, implemented a comprehensive dam safety management programme, as required by the internal Anglo American Technical Standard, applicable legislation and in line with best practices around the world. The company states that this process includes daily inspections, real-time instrument reading and geotechnical inspections at least every 15 days, in addition to quarterly inspections performed by the Engineer of Record. Furthermore, the company states that an independent Technical Review Panel, comprising three experienced specialist engineers, provides an independent review at least once a year.

Anglo American did report a couple of leaks at

“Vale wants all of this to be forgotten and takes measures to shut people up.”

¹⁸ Vale has stated that with regard to Brumadinho, the company makes available a Reparation Report every quarter. Additionally, Vale asserts that its organizational structure has 24 professionals who are specialists in community relations and they are constantly listening to the communities' necessities.

¹⁹ In response to this, Vale stated that 'Several actions are taken for the water supply, treatment, and distribution provided for in the Integral Reparation Agreement, in conjunction with actions for the water resources rehabilitation.'

²⁰ Vale has stated that in relation to Brumadinho, the company has a private channel of communication with the communities called Demands Registration System and received 129.080 demands, of which 99% have already been resolved.

a pipeline from the Minas Rio operation in 2018.²¹ However, company officials have told LAPFF that they are confident it is safe now. In relation to the tailings dam, Anglo American has categorically confirmed it has never leaked and has said the dam is up to date with all the audits that generate the stability statements required by the National Mining Agency (AMN) and the State Environmental Agency (FEAM) in Brazil. Notwithstanding this information, the community members with whom LAPFF spoke in Brazil are concerned that the dam is at risk of collapse.

There were concerns about community engagement in the other areas too. There appeared to be allegations through discussions with affected community members in Mariana and Brumadinho that the relevant companies were claiming a need for ‘emergency works’ in order to ignore community input and drive through unwanted projects.

“The company could read the community consultation protocol.”

There were additional concerns about the companies’ relationships with stakeholders other than communities. For example, given the number of workers who died in the Brumadinho tailings dam collapse, there is a concern that companies are not adequately considering the needs of, or engaging with, their workers. The needs and role of consumers was not addressed in these discussions either.

Therefore, LAPFF has concerns about the way that Anglo American, BHP, and Vale are engaging – or failing to engage – with affected communities. Anglo American has stated that it has a very detailed requirement around stakeholder engagement, including assessment of systemic vulnerabilities of communities (economics, gender, disability, etc.) and site-induced vulnerabilities (people could become more vulnerable because of Anglo American’s presence). However, this process was not evident to LAPFF during discussions with affected communities in Conceição do Mato Dentro.

In Brumadinho and Mariana, the level of trust is clearly nowhere near where it needs to be for Vale and affected community members to speak directly, let alone make adequate progress on topics such as compensation and reparations. Members of rural communities with whom LAPFF has spoken appear to have particular concerns about being overlooked in the stakeholder engagement process. It appears that many of the fundamental issues that remain could be solved if the company would engage meaningfully with the community members (and other stakeholders) and with more compassion.

Internet Access

In all three areas LAPFF visited, the affected communities stated they lacked internet access. This lack of internet impeded their ability to rectify some of the concerns they raised, such as looking for alternative properties, supporting their reparations claims, and maintaining contact with people who had been relocated due to the dam collapses and had moved to different locations. LAPFF has also noted the challenge of ensuring these community members are able to speak about their struggles on webinars, including to/with investors. Vale has stated that it is implementing a program called Digital Brumadinho.²² The program reportedly intends to develop an adequate connectivity solution for the Municipality.

Health

Health impacts in all three areas were often linked by the community members with whom LAPFF spoke to water loss through contamination, but there were more general health concerns too.

Water Contamination

BHP has said ‘the water from the Doce River can be consumed by the population after undergoing conventional treatment, as well as being used for animal watering and irrigation, according to parameters established in Brazilian Federal legislation. Samarco and [Renova](#) provide potable water to communities where there is no public water treatment system. As part of the reparation process, Renova also constructed 17 water treatment systems, 18 water pipelines and 15 alternative capture systems.’

According to Vale, the sediment from Fundão contains elements that occur naturally in soil (rich in iron, manganese and aluminum), sand (silica) and water. Vale has stated that the sediment was characterized as non-hazardous in all samples, according to the criteria of the Brazilian Standard for the Classification of Solid Waste.²³ The company has also cited reports of the Human Health Risk Assessment Studies carried out in the regions of Mariana (MG), Barra Longa (MG) and Linhares (ES), which show that the metals resulting from the rupture of the Fundão dam do not pose a risk to human health (<https://www.fundacaorenova.org/manejo-de-rejeito/>). Additionally, the company states that the water can be consumed after conventional water treatment. Nonetheless, in Mariana, there were complaints by community members with whom LAPFF spoke about lack of water for sanitation and LAPFF has stated a view that independent studies must be undertaken to resolve this disparity of views.

“The population is sick.”

²² The Digital Brumadinho program is included in the Judicial Agreement for Integral Reparation.

²³ According to Vale, the Renova Foundation has been monitoring water since 2017 at 82 points and 22 automatic stations on the Doce, Gualaxo do Norte and Carmo rivers, as well as other tributaries of the Doce River and the coastal and estuarine areas of Espírito Santo. The Renova data reportedly indicates that the water from the Doce River is suitable for consumption after proper treatment. The sewage treatment plant in Colatina, the collection network in Sem Peixe and stations and the collection network in São José do Goiabal were completed and delivered by Renova, in addition to the Governador Valadares pipeline, which is in the final stages of construction.

Dust

Dust in Mariana and Conceição is reportedly leading to sinus conditions and respiratory problems more broadly. Anglo American has suggested that Conceição do Mato Dentro is at such a distance from the Minas Rio operation that particulate matter plumes would not reach the community. The company has stated that its practices meet international norms and permitting limits and that there is an air quality monitoring program in place. However, as stated elsewhere in this report, LAPFF was acutely aware of the high levels of dust during its visit in this area and community members with whom LAPFF spoke perceived the dust to be related to mining activity.

Chronic Health Concerns

A number of community members in Mariana reported an increase in the number of cancer cases following the dam collapse.²⁴ In Brumadinho, one community leader explained that many community members were becoming diabetic because of loss of access to their traditional food sources and a growing reliance on processed foods. Mental health and children's health were other areas of great concern raised by affected community members with whom LAPFF spoke.

“The pain we feel is infinite and cannot be erased.”

Mental Health

Community members in every location LAPFF visited reported severe mental health issues stemming from their concerns about mining, and tailings dam safety in particular. These issues included anxiety and depression, among other nervous disorders. The severity of these symptoms varied by person and situation, but in every area, we encountered people who wept as they told us of the challenges they faced as a result of the tailings dam collapses, or in the case of Minas Rio, fear of its collapse, as well as their experience that the companies would not engage with them in a meaningful way to prevent, mitigate, or remediate the damage and/or their concerns. Therefore, they did not trust the companies involved or have any hope or faith that the companies would take necessary measures to rectify their concerns.

The mental health impact was particularly stark in Brumadinho, where the dam collapse had taken place less than four years before. Testimony from a range of community members spoke to living in permanent hell, having their lives destroyed, and inability to find peace or closure, among other struggles. In a session with a group of affected community members, one woman described how she had had to hold two funerals for her daughter

“There was grief as a collective community, not just individual grief.”

because more limbs and body parts were discovered over time. Another man was completely inconsolable when speaking about the loss of his daughter in the dam collapse; he repeatedly mentioned considering suicide.

Although time appears to have dampened the pain in Mariana to some extent, LAPFF met people who said they still see psychiatrists and psychologists to deal with their anxiety and depression.²⁵ Many of the people LAPFF met state that they want their lives back. However, it is hard to see how they could have their lives back after what has happened. The struggle of not being able to move on or get past what happened in 2015 appears to be impeding their ability to accept alternative options.

Even in Conceição, where the Minas Rio dam has not collapsed, people with whom LAPFF met have significant anxiety about their proximity to the dam. All three companies did note they had early warning systems in place, but the affected communities engaged do not trust these systems. Therefore, this is an area where, in LAPFF's view, companies could do more to listen, to understand community concerns, and to take measures to recognise and alleviate their anxieties surrounding tailings dams. These concerns also emphasise the need for improved early warning and evacuation procedures, as set out below.

“My daughter, who had been a straight A student, was too depressed to attend university.”

Children's Health

Community members in all the areas LAPFF visited complained of the impact of mining on children's health. In the areas where tailings dams had collapsed, these concerns included depression leaving their children unable to study, or even function in some cases in Mariana. In Brumadinho, children reportedly faced trauma from having seen the mud slide and the panicked reaction of adults and general environmental impacts from a delay in reparations and mining operations. In Conceição, the community concerns around impacts on children related largely to dust and noise from mining operations, which reportedly affects their ability to breathe and creates nervous disorders.

Anglo American states that the company has a significant ongoing monitoring and modelling network to control noise and air quality emissions. Company representatives have acknowledged that despite the fact that noise and dust levels are within legal limits, mining can be disturbing to individuals and communities. Anglo American has said this is why voluntary resettlement was offered after numerous meetings with affected community members.

²⁴ BHP has stated that ‘this is highly disputed by many scientific studies currently pending analysis by the Brazilian Federal Court.’

²⁵ BHP has pointed to the work Renova Foundation has been doing in supporting the mental health needs of people in Mariana affected by the tailings dam collapse.



Mariana school covered in mud from the 2015 tailings dam collapse, photo taken 27 August 2022

Loss of Income

Community members in all three communities spoke about a loss of income due to mining practices. In Mariana and Brumadinho, this loss was related to the tailings dam collapses. Specifically, community members in Brumadinho noted that they cannot grow fruit trees because of soil and water contamination. They report that they used to be able to sell fruit from these trees to make a living. Now, although some of the trees are growing, they are concerned about their fruit being contaminated.²⁶

In Mariana, there was a concern from the community members with whom LAPFF spoke about the steep topography of the new resettlements. BHP has stated that the location of the resettlements was chosen by the community through a public consultation process. Characteristics such as soil quality, supply and quality of water, ease of access and proximity to the road to Mariana were reportedly taken into account in this process.

Vale has stated that the site selection process was highly participative, including visits to the sites, building of models and regarding Bento, and a voting process that elected the site with 92 percent of the votes. The company also asserts that the area was chosen by the community, with Renova carrying out preliminary studies to analyse the conditions of the area. These studies reportedly included geological security, and prior knowledge was given to the community before choosing the resettlement land.

“We are now too poor to pay for our child’s university education.”

Accordingly to Vale, Renova even tried to provide earthworks to flatten the land, but the government environmental agency of the state of Minas Gerais did not authorize it.

The community members with whom LAPFF spoke explained that the original communities were flat which meant that residents could have farm animals and grow certain trees. The traditional type of agriculture is therefore not possible in the resettlements because of the steep and uneven ground. LAPFF’s concern, again, is the nature of the communication that took place between the companies and the communities in relation to determining how the resettlements would be built has been inadequate. For example, giving communities prior knowledge of the resettlement land is not necessarily reflective of a process of free prior and informed consent (FPIC) from the communities in relation to the land selection. Although FPIC applies at international law in relation to Indigenous groups, LAPFF considers that it is best practice in situations such as the one described above.

Community members in Conceição also reported lack of work opportunities in part due to property rights concerns. The community representatives with whom LAPFF spoke stated that because they were struggling to obtain titles to their properties from Anglo American, they could not sell their properties when mining activity threatened their health or livelihoods and therefore could not move to areas where they could find viable employment. Anglo American has stated that the company includes data about local procurement and employment in its annual Sustainability Report.

Vale has undertaken some economic development measures in both Brumadinho and Mariana.²⁷ In Brumadinho, LAPFF representatives saw a local park and food cooperative developed by Vale. The company is also financially supporting an internationally-renowned art museum, Inhotim, with the objective of embedding tourism as a financially viable industry for the city. In Mariana, LAPFF representatives heard from a few local farmers about support from the Renova Foundation in promoting their agricultural activities.²⁸ That said, there are two considerations for improvement. First, all parties agree that much more needs to be done more quickly to get people back on track. Second, particularly in Brumadinho, it was not clear whether the company is implementing measures in response to the needs of the local community as determined through appropriate consultation or whether it is implementing corporate philanthropy programmes not related to the fundamental needs of the communities.

According to Vale, in the Brumadinho integral reparation agreement, ‘the government of the state of Minas Gerais conducted a public consultation with

²⁶ According to Vale, in relation to Brumadinho, the company is developing the agricultural development program, the main objective of the program being to expand production capacity and generate income for farmers in Brumadinho and Mário Campos.

²⁷ BHP states that it has also undertaken some economic development measures in Mariana.

²⁸ BHP has stated that ‘fostering the local economy is one of the pillars of the reparatory measures still undertaken by the [Renova Foundation](#)’

the residents of the 26 municipalities affected by the dam failure. Affected people were able to indicate priority areas for investments in socio-economic repair projects in their cities.

The deal signed for Brumadinho provides the procedure for indicating and choosing the projects that will be developed in the municipalities affected by the rupture of the dam. In the first part, the affected people themselves, with the help of technical advice, choose the projects that they prefer to be developed, and, in the second, between those projects chosen, the State and competent justice institutions select the ones that will be undertaken by Vale. In other words, Vale does not participate in the choice of projects that will be developed in the municipalities.²⁹

The affected community members with whom LAPFF has spoken, however, state that they have not been consulted adequately, and sometimes not at all, in relation to the stated procedure and preferred repairs. Consequently, LAPFF continues to have questions about how communities and community

members are selected for engagement and how their views are integrated into company policies and practice, notwithstanding any governmental procedures and practices.²⁹

Property Issues

Property rights were raised as a particular concern in Conceição, though they were present in Mariana and Brumadinho too. In Conceição, a number of affected community members stated that they had not received property titles that would allow them to sell their houses and move to their preferred locations, both for health and comfort reasons and to seek work. They also stated that the land and property valuations provided by Anglo American are below market rates. It was reported that there is a formula for determining these rates, which appears to disadvantage the property owner.

According to Anglo American, the delays described are related to local bureaucratic administrative processes in order to register title

29 This position is in line with the Commentary to Principle 11 of the UN Guiding Principles on Business and Human Rights which states, 'The responsibility to respect human rights is a global standard of expected conduct for all business enterprises wherever they operate. It exists independently of States' abilities and/or willingness to fulfil their own human rights obligations, and does not diminish those obligations. And it exists over and above compliance with national laws and regulations protecting human rights.'



Building overturned by mud from the tailings dam collapse at Brumadinho, photo taken 18 August 2022

deeds, among other procedures. This is, according to a company representative, outside the control of Anglo American but a crucial step that the company is supporting households to pass through to certify title deeds.

Historically, Anglo American has said, there are huge tracts of land that belong to a few families. Other families are reportedly allowed to live there if they produce something on the land. This is, according to Anglo American, a common arrangement that is not fair. Consequently, the company has said that there is often little title to the land, which means that the company has to buy title from the titleholder. The Anglo American representative who spoke to LAPFF about this issue suggested that this process impacts on how the community members assess fair living standards. This is reportedly why voluntary resettlement was offered by Anglo American after numerous meetings with affected community members.

The company states that resettlement is a very complex process, and it makes all efforts to try to avoid resettlement. People's lives are being moved. There are long-standing and permanent dependencies because Anglo American is providing most services, for example.

Anglo American has stated that there was some involuntary relocation in the past, and some family members had to relocate because they lived where the tailings dam was located. The conditions offered to the families for involuntary relocation, including the compensation, was – according to the company – much more robust than because of the involuntary nature of the relocation. What Anglo American offers today is reportedly only a voluntary relocation programme.

An Anglo American representative reported to LAPFF that the condition with the resettlements is that no one will be moved to a condition worse than what they are already experiencing. According to the company, the community members have a choice of whether to be relocated collectively, individually, to an urban area, or to a rural area, and Anglo American properties are offered. In the urban areas, affected people are reportedly offered the same accommodation as Anglo American employees. If the communities don't like these choices, Anglo American states that they can look for other areas where they want to live.

When affected people go to third party areas, Anglo American states that the company checks if the location is suitable. The company has stated that the relevant team knows each family in the communities and the social and financial issues present. Company representatives have said that they ensure that the destination area is suitable for the needs of community members and is well-constructed before agreeing to the relocation.

According to Anglo American, it varies by community, but adherence to the resettlement programme ranges from 68-98 percent of families in the relevant community. People are reportedly not obliged to join; some people might prefer to remain

in their original communities. In one of the areas LAPFF visited, Anglo American has reported that 84 percent of the communities have been relocated to the places of their choice.

One particular challenge Anglo American has said it faces is that two of the communities LAPFF visited are reportedly located on the land of one very wealthy family in the region. Consequently, according to the company, the people with whom LAPFF met likely do not have title to the land.

In this process, Anglo American states that there have been over 1,100 meetings since 2017 and that these meetings take a number of forms. In addition, the company reports that about 25 full-time Anglo American employees deal with community engagement. The company states that it also has a lot of guidance around access and resettlement aligned with international standards.

The company has said that there are a number of contractors and companies who provide training and agricultural support, among other support, that is needed to provide a proper, respectful process. The relevant Anglo American representative with whom LAPFF spoke stated that his team knows all the communities and every person in the communities. Anglo American states that it monitors these families on a regular basis but that some people take longer to find a suitable location.

Company officials state that when people choose a location, it is often land that belonged to a great grandparent left to children, and there are a lot of descendants with a claim to the land so it takes many years to sort out ownership. There is reportedly legal support to sort this out. According to Anglo American, today, 64 percent of this land is being 'regularised' but the fact that the process is not complete does not prevent access to social services. The company has stated that there are services, training, psychological assistance, and other support for the relocations. Many people reportedly use social services, including locally appointed lawyers and independent technical advisors.

In terms of outcomes, the company reports that the average income has increased 64 percent compared to the original locations. Anglo American surveys suggest that 76 percent of the resettled people were happy or very happy with the relocation. With the remaining 24 percent, Anglo American states that it has undertaken engagement to understand why the people who relocated weren't happy. The company acknowledges that there is room for improvement.

According to Anglo American, there is a range of factors impacting resettlements at Minas Rio. For example, the company states that it takes a long time to get a title deed so some of the resettled households in the rural option are awaiting their documents. The company has stated that its valuations were not below the market rate and were at replacement rate.

For urban properties, Anglo American states that it brings in independent assessors and compensates people with 150 percent of the property value. The

company believes that there should therefore be enough compensation to find equal or better land wherever people should choose to go. There was a system called PMS that was applicable for the involuntary resettlement. Because of the involuntary nature of the programme, the criteria established for PMS tended to be more favourable than the current system, PLO, which is the voluntary resettlement programme.

Notwithstanding Anglo American's efforts, community members with whom LAPFF engaged in Conceição state that they are struggling to obtain appropriate property and housing. They also reportedly continue to struggle to find appropriate employment.

In Brumadinho, a number of community members stated that silting from the dam collapse had caused the river to overflow its banks and flood their houses and gardens during and following heavy rainfall.

In Mariana, affected community members

appear to have the rights to their properties in the resettlements we saw (in other words, they own the houses that have been built for them and can sell them to buy other properties if they wish to do so), but the topography in the relocation area does not suit their traditional lifestyles³⁰ and the houses are severely delayed. In many cases, their old properties have also been completely destroyed.

BHP states that 'In these cases families are receiving one of four compensation methods – community resettlement (Bento Rodrigues or Paracatu), individual (familiar) resettlement, letter of credit or cash payment to purchase a new property, or in some cases, a combination.'

Vale has said that 'as required by the TTAC [the legal reparations agreement], the community participated in the site selection process and established criteria such as soil quality for planting and animal husbandry and water supply and proximity to springs. The site selection process was designed

30 Please see BHP's and Vale's comments on this issue from p. 22. As noted by both companies, the site selection process was highly participative and conducted in line with public participation protocols. Vale states that 'the property where the resettlement has been built was chosen by the affected families with the support of the State Public Prosecutor in Mariana.'



House floor covered in mud from river flooding, Brumadinho, photo taken 19 August 2022



A house destroyed by mud in Mariana. As we descended the hill, the marks got higher and higher up the sides of the buildings until it was clear that the buildings had been covered by the mud, photo taken 27 August 2022



Paracatu resettlement with Vale and Renova, photo taken 29 August 2022 (nearly seven years after the Samarco tailings dam collapse)



Paracatu resettlement with Vale and Renova, photo taken 29 August 2022 (nearly seven years after the Samarco tailings dam collapse)



Water where Mariana houses reportedly used to be, photo taken 27 August 2022

to comply with IFC Performance Standards, with community participation in the design and layout of replacement housing and social amenities.’

However, LAPFF has been told that the community members are being bullied by the Renova Foundation into accepting compensation that doesn’t suit them because they believe their preferred option will never be delivered. A recent conversation with community representatives suggests that a number of people feel they face retaliation for speaking up about this issue, and that this pressure and retaliation has reportedly become worse since LAPFF’s visit.

Community members in all three areas complained of structural impacts to their houses. In Mariana and Brumadinho, houses were completely destroyed by the tailings dam collapses and others were damaged beyond repair, particularly in Mariana. LAPFF also saw the mud lines on these houses and on the churches in the affected communities.³¹

In Conceição, community members in a resettlement LAPFF visited showed us serious cracks in the wall of their new house which they told us was caused by heavy trucks shaking the ground as the trucks passed by. Furthermore, LAPFF heard that the design and layout of the houses often did not reflect people’s cultural needs and/or expectations.

Cultural Impacts

Protection of cultural rights and heritage was a fundamental concern for many of the community members with whom LAPFF spoke. For example, in both Conceição and Mariana, people having houses built in resettlement areas complained that although

“The companies show no humility.”

the houses are stylish, the house design was not properly discussed and agreed with them. In both places, people complained that the houses were not designed to meet their cultural needs. In contrast, Renova has stated that the houses were designed by architects to reflect the requirements of individual households. According to Anglo American, the recent resettlement process in Conceição involved significant engagement about the location of replacement housing and household level consultation on layout.

According to BHP and Vale, not only the design, but the layout and also materials in Mariana are intensively discussed with the families with the assistance of architects, and all the choices are made by the families who sign off on the designs. According to BHP, it is guided by principles of collaboration and the families drive the decisions, including timing, and Renova cannot move to build a property until the family has signed off that it is happy with the design. Vale states that the meetings often take place with the presence of a member of the independent technical advisory that should, in case of disagreement, advise the families in their best interests and that most of the houses have traditional firewood ovens.³² This process of agreeing sites and designs was said to make the development process longer. This disparity between the community and company accounts again reflects the need for improved engagement between communities and corporate entities. It is clear, regardless of either position, there is not always firm agreement.

One common complaint was that the new houses too often contained enclosed kitchens and



New house in Bento Rodrigues resettlement with Vale and Renova. “The only thing people have asked for in seven years is a house... the new houses are beautiful but non-functional.” photo taken 29 August 2022

³¹ Vale has stated the following: ‘Renova provides constant repair of the roads and assets that are affected by the reparation works. But we understand that, regarding the houses, there are some cases that are in legal dispute and are still pending on the judge’s decision. In addition to the previous renovation works made by Renova, a large number of houses have been inspected. Renova also provides housing for the families in which their houses are at some kind of risk.’

³² Vale states in addition that ‘The State Prosecutor of Mariana has established 81 different rules that the Renova Foundation should observe in order to deliver the projects. There was massive participation of the affected families in this whole process, where they are able to choose even the materials in the construction. The projects also have to observe criteria of the city permit.’



Mud line in church in Mariana, photo taken 25 August 2022

affected individuals needed – and are used to - open air kitchens to cook in their traditional manner.³³ In Brumadinho and Mariana, community members explained that the effect of the dam collapses on their water sources meant they could no longer use the water for the recreational purposes as they had used them previously. In Mariana, affected community members from Bento Rodrigues and Paracatu were extremely upset about the way in which the

companies and Renova had dealt with preserving and restoring their respective churches. The company responses were not, they felt, in line with their religious beliefs and practices.³⁴ Based on what LAPFF saw, LAPFF would agree. The companies explained that their practice was in line with ‘authorities’ requirements. However, LAPFF found the approach was very insensitive to the communities’ customs and traditions.

33 BHP has noted that in Renova resettlements open air kitchens are a very common feature (in addition to closed kitchens). If houses do not have open kitchens, BHP states that families have worked with architects on the design of the houses and have signed off on those designs.

34 Vale has stated that ‘Renova Foundation runs a structure that guards and restores almost 1.000 archaeological pieces found in the affected communities. More than 90 percent are from the churches and belong to them. The restoration of the pieces must be approved by the cultural and material heritage federal organism (IPHAN), which contributes to the delay of the process. Also, the final destination of the pieces must be agreed with the Church and community once the new churches are completed. The same procedure applies to the restoration of the original churches.’

Environmental Concerns

“Environmental degradation and losses of life is [the companies’] legacy.”

Environmental concerns of the affected community members with whom LAPFF spoke are closely linked to social concerns. In some cases, they are the cause of the social concerns. For example, right to livelihood was deemed to be compromised by contaminated water sources and soil. Environmental impact revealed the greatest disparity in opinion between companies and communities, so it is clear there is an urgent need for independent social and environmental impact assessments as a point of departure for appropriate remediation.

Water

Water was a major concern in all the communities LAPFF visited. According to General Comment 15 on the UN’s International Covenant on Economic, Social, and Cultural Rights, ‘[t]he continuing contamination, depletion and unequal distribution of water is exacerbating existing poverty’ and ‘[t]he human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.’³⁵ Deficiencies in all of these areas were evident during LAPFF’s visit. The concerns ranged from water quality to adequate amounts of potable water (which was said to be exacerbated by climate change) to being able to use water sources for recreation.

BHP refers to empirical studies such as the Newfields Report prepared for the State Health Department of Minas Gerais in November 2019, which it states concluded that the levels of metals in areas of the municipalities where the tailings passed in November 2015 did not exceed the levels permitted by

CONAMA Resolution 420/2009 and did not recommend limiting farming, water consumption (provided water is treated) or the removal of residents from the affected area. However, a major concern voiced by the community members with whom LAPFF spoke is that the company contractors are not independent and that the experiences of community members do not match the findings of the company-commissioned reports. Therefore, LAPFF would like to see independent investigations into water quality and also into other environmental impacts.

Availability

“The water supply for each person must be sufficient and continuous for personal and domestic uses. These uses ordinarily include drinking, personal sanitation, washing of clothes, food preparation, personal and household hygiene... Some individuals and groups may also require additional water due to health, climate, and work conditions.”

(UN CESCR, General Comment 15)

Tap water in Brazil is generally not potable. For example, LAPFF representatives had to drink bottled water during their trip. Therefore, drinking water from a tap is not available for the entire population. However, there appear to be particular water needs and concerns in the communities LAPFF visited because of the overlap between mining and agricultural practices in the area.

All communities LAPFF visited were concerned about lack of water. They believed that mining in their respective areas was diminishing the amount of usable water available to them for both personal and domestic uses, including drinking and washing. These uses included water for animals and crops in both the original settlement areas and the resettlements being built.³⁶

In Conceição, this concern was expressed by descriptions of water bottles being shipped in by Anglo American because of the shortage of potable water for the communities. This arrangement took place notwithstanding the number of water sources in the area that the communities believe are clean at their sources, and the community members spoken to suggested they did not have confidence that the bottled water being provided was of adequate quality.

“The last communication was that the river is safe and there is no contamination, but we know this is not right because blood tests show otherwise – nausea, vomiting, nose bleeds – this never happened before.”

³⁵ Paragraph 2 of CESCR General Comment 15.

³⁶ According to Vale, since 2019, in Brumadinho and Paraopeba basin 136 water treatment system and 52 drilled artesian wells to capture potable water were delivered, and drilling of 115 artesian wells is on going. The company also states that it has delivered 785,000,000 liters of water for animal consumption in this area.

According to Anglo American, the land owners did not allow the company to enter to sort the water issue in one of the communities LAPFF visited. It reportedly took the company years to enter the land ‘to clean up what had happened before.’ Anglo American states that it had wanted to do the right thing but needed the legal system to gain access, and the company wasn’t allowed on the land. The company acknowledges that the water situation in the community in question is not good and states that Anglo American is trying to fix it.

In Brumadinho and Mariana, community members appear to feel that availability of water is compromised by diminished quality due to the tailings dam collapse and mining more generally, as below. Community members in Mariana also referred to bottled water needing to be shipped in to meet their needs after the tailings dam collapse.³⁷

Quality

‘The water required for each personal or domestic use must be safe, therefore free from micro-organisms, chemical substances and radiological hazards that constitute a threat to a person’s health. Furthermore, water should be of an acceptable colour, odour and taste for each personal or domestic use.’

(UN CESCR, General Comment 15)

In Conceição, LAPFF representatives were shown a river outside a family home that the family stated had been contaminated by leakage from the Minas Rio dam and could no longer be used for fresh water. Anglo American has stated that no rivers have been contaminated by the Minas Rio dam.

In Brumadinho, affected community members

³⁷ Vale reiterated here that Renova Foundation has a monitoring program for the quality of the Rio Doce and recent studies show that the conditions of the waters of the Rio Doce are similar to those before the Fundão tailings dam collapse. The company also restated that ‘Renova has paid water indemnification to more than 320,000 people.’ BHP reiterated that ‘In the case of Mariana, Renova has constructed or renovated 20 completed water treatment systems in 11 municipalities, 18 water pipelines and 15 alternative capture systems.’

The Federal Government of Brasil has stated that the biggest issue relating to the quality of water of the Rio Doce is untreated sewage, which is an historical problem.’



Muddy river at Brumadinho, photo taken 19 August 2022



Drinking fountain at Inhotim museum in Brumadinho, photo taken 19 August 2022

with whom LAPFF spoke stated that their water had been contaminated by the Córrego do Feijão dam collapse in 2019. LAPFF was shown a very muddy river and was told that apart from being uncertain of its cleanliness for drinking and growing crops, the community members could no longer use the river as a recreational source. Vale disputed this claim, stating that the river had run with undrinkable water prior to the dam collapse.

LAPFF has heard a similar claim from Glencore in Peru and Anglo American in Colombia where community members claim that mining is contaminating their water sources, and the company states that the water is naturally undrinkable. It is LAPFF's view that an independent test of the water is necessary. Vale has requested that this review assesses the impact of the tailings dam collapse. However, if mines were contaminating, and continue to contaminate, the water, assessments need to take account of all mining activity.

Accessibility

*"Water and water facilities and services have to be accessible to everyone without discrimination, within the jurisdiction of the State party."
(UN CESCR, General Comment 15)*

This category covers physical accessibility, economic accessibility, non-discrimination, and information accessibility.

LAPFF was alerted to an internationally-renowned outdoor art museum in Brumadinho called Inhotim, to which Vale contributes significantly from a financial perspective. This museum had lush green lawns and many drinking fountains with potable water. While LAPFF representatives were impressed with Vale's contribution to this cultural attraction, including as a means of economic development for

the surrounding community, it did raise the question of why the company devoted a significant amount of money to this museum apparently without having met the stated needs of the victims of the tailings dam collapse.

Vale has said that the amount invested in the museum does not impact what is being done by Vale in meeting the needs of the affected communities. The company explained that the partnership between Inhotim and Vale had been in place for 10 years in 2022, and Vale has made investments with the aim of developing the region in the cultural and social sphere and developing local tourism as well. While encouraging Vale's support for the arts and economic development, LAPFF is concerned that the perceptions around this spending while local water needs continue to go unmet could exacerbate existing trust deficits between the company and the affected community.

In Mariana, the community concerns are similar to those in Brumadinho. The allegations are that the Samarco tailings dam collapse contaminated the local water sources thus depriving affected communities of safe, sufficient, water that is physically accessible and affordable for personal and domestic use. Community members with whom LAPFF spoke believe that mining continues to contaminate their water.

BHP has stated that the Rio Doce is monitored at 92 points and the data is publicly available. According to the company, the Government has declared that the biggest issue on the river is raw sewage being dumped along the river length, a historical problem. BHP notes that the [Renova Foundation](#) has – as part of a separate legacy fund – made available about R\$720 million for sanitation projects, of which R\$600 million is for treatment and sanitary sewage and R\$120 million is for proper disposal of solid urban waste in the 39 municipalities.

LAPFF notes BHP's contribution but again would like to see the results of independent monitoring. Furthermore, LAPFF is concerned that spending does not equal outcome. Investors have a legitimate concern that companies are spending money that is having no or little real positive impact. That means that the money is being wasted when it could have gone to operational improvements or dividends. There is an additional concern that BHP, Vale, and Renova Foundation have created new water sources that are inappropriately located for the affected communities. (see photo on p. 22)

In terms of physical accessibility concerns, LAPFF representatives were shown a river in Paracatu in which silting had prevented its flow. The affected community members to whom LAPFF spoke attributed this silting to mining practices and the Mariana tailings dam collapse. LAPFF pointed out the problem to the company representatives with whom the river was visited at a later point in the trip and suggested a solution given that the LAPFF Chair has knowledge in this area. As BHP was not present with LAPFF in Brazil, the company has stated in

response to this report that it has technical evidence to the effect that all tributary rivers impacted by the Fundão dam failure were already recovered, as attested by the environmental regulators. The company states that silting occurs naturally in the region given its geographical characteristics and that there is no technical evidence on river siltation due to the dam failure after tributaries were recovered. The LAPFF Chair has suggested there was a fairly easy, relatively inexpensive fix; the issue was who would take accountability and responsibility for fixing the flow issue. It is not known at this point whether the problem has been resolved.

In terms of economic accessibility concerns, if affected communities are forced to use bottled water rather than natural water sources for their personal and domestic uses, they have an added cost to gain access to water. This cost compromises their economic accessibility.

In LAPFF's view, the example of Inhotim above suggests that Vale may be prioritising clean and accessible water use for wealthier consumers (it was not cheap to gain access to Inhotim) rather than all residents. The economic accessibility concerns therefore also raise concerns for non-discrimination in relation to access to water.

Information accessibility regarding water was linked to a broader concern raised by all affected community members to whom LAPFF spoke that the companies did not communicate appropriately, if at all, with the communities about any human rights or environmental issues affecting them. This lack of communication included water issues.

Air Quality

Mining areas are by their nature extremely dusty because of mining activities. It is therefore no surprise that all affected community members with whom LAPFF spoke complained about air quality, often linked to dust. In Conceição, the dust was so thick that LAPFF representatives could often not see the road in front of them whilst being driven. The foliage at the side of the road was also caked in thick red-orange dust. This dust cover was in contrast to the negligible dust levels LAPFF representatives experienced when driving through a local nature reserve in the area. In Brumadinho and Mariana, one LAPFF representative chose to wear a mask when visiting certain communities because the dust was so thick it was uncomfortable to breathe.

Community members suggested that the dust resulted in part from mining trucks driving past their houses. In one instance in Mariana, a truck drove by on a couple of occasions to water the road as a means of damping the dust down. However, the communities noted that this practice does not happen as a matter of course and question if this was an increased exercise during LAPFF's visit.

“The soil is dark now because of contamination – it didn’t used to be dark... before it was sand, not mud.”

Soil

Soil contamination was another concern for affected community members with whom we spoke, particularly those in Brumadinho and Mariana. These community members were concerned that the tailings dam collapses have contaminated their soil in such a way that their health and livelihoods have been put at risk. In Brumadinho, a number of affected community members pointed to how the soil sparkles as evidence that the mining deposits have caused contamination. They believe that this contamination has led to increased rates of illness and has compromised their ability to grow fruit trees which they previously cultivated to provide an income. Vale has claimed that based on on-going studies it has commissioned the soil is clean and can be used to grow crops.³⁸ LAPFF was shown an example of some managed woodland, in the mud path, where a farmer stated that the soil was not contaminated. However, it is LAPFF's understanding that these studies are disputed by some parties.

In Mariana, there were similar concerns about contamination from mining deposits, particularly from gold mining community members LAPFF representatives met.³⁹ However, it was not clear whether their concerns stem from mining more broadly or specifically from the tailings dam collapse.

Climate Change

In all the regions LAPFF visited, there were concerns about the impact of climate change, particularly on water resources. It was generally felt that the relevant companies were not accounting for climate change in how they were using water and how this use was impacting affected communities. This lack of consideration has knock-on effects on whether affected community members can grow crops and maintain livestock as needed to maintain their livelihoods and ways of life.

That said, Samarco has changed its method of water use quite significantly so that, company representatives report, it is recycling around 87 percent of the water it uses back through its operational system. BHP has clarified that through Samarco's filtration program, tailings are filtered and dry stacked and the water is then recirculated into the operations.

³⁸ See Vale's prior comment on soil contamination on p. 19.

³⁹ BHP has stated that it is not involved in gold mining in Mariana.

Governance Concerns

“The mud looked like chocolate cake before baking it, taking everything with it.”

The abovementioned social and environmental findings from LAPFF’s visit are, in LAPFF’s view, largely a result of some poor governance practices by Anglo American, BHP, Vale, Samarco, and Renova Foundation. LAPFF acknowledges tensions between the agreements in relation to the Mariana/Samarco outcomes. However, it is evident that there are underlying common practices. These practices include continued concerns about tailings dam oversight and safety, a lack of accountability and responsibility for social and environmental impacts of mining operations, poor organisational leadership including significant conflicts of interest within leadership teams, and questionable sustainability processes.

Tailings Dam Oversight and Safety

Tailings dam safety was a concern in all regions LAPFF visited. There was, however, a large difference

in the nature of the concerns. First, in Conceição, the communities surrounding the Minas Rio dam were concerned about a possible burst, but the dam has not collapsed, as the dams had in Mariana and Brumadinho. Second, as noted above, Minas Rio is a dam of downstream construction while the Fundão and Córrego do Feijão dams were of a more worrying upstream construction. It was apparent, though, that the fact that the Minas Rio dam has not collapsed gives surrounding community members no comfort.

Their discomfort stems in part from the fact that the community members with whom LAPFF spoke state that the dam has leaked in the past. While an Anglo American press release from 2018 confirms there were a couple of leaks from the export pipeline related to Minas Rio, the company categorically states that the tailings dam has never leaked. LAPFF cannot confirm if the community member was referring to the pipeline leaks or another incident that they believed to be a leak from the tailings dam.⁴⁰

Anglo American has suggested that the dam is safer than the Mariana and Brumadinho dams that collapsed because unlike the latter two it is a downstream rather than upstream construction. Dams

40 <https://www.angloamerican.com/media/press-releases/archive/2018/03-04-2018#>



Sign at Brumadinho with the photos of all the people killed in the 2019 tailings dam collapse, photo taken 16 August 2022



Site of Antonio Preto's death from 2015 Samarco tailings dam collapse. He had reportedly been found in fetal position, his arms covering his head, dead from the tailings mudslide, photo taken 27 August 2022

with an upstream construction are now banned under Brazilian law.⁴¹

It was very evident to LAPFF that there were remedial (significant) engineering works being carried out on at least two sides of the Minas Rio mine site - one at or near the dam wall and the other on the mine face. From community members, LAPFF understands there to be a significant risk/occurrence of debris in the river on the south side of the mine wall/face. However, Anglo American states that there is no significant risk of debris from the dam.

According to Anglo American, the company employs best-practice standards and manages its tailings dams to these standards with the utmost care through rigorous governance and stewardship. The company states it is advancing additional analyses, including identifying appropriate laboratory and field testing, to enhance its understanding of its upstream-constructed tailings dams and respective materials. Anglo American also states it is equipping these facilities with state-of-the-art instrumentation systems to provide an additional line of defence. The learnings and data acquisition gathered will reportedly be incorporated into the procedures for stability and deformation analyses for its tailings storage facilities (TSFs) and to define appropriate risk-mitigation measures where required.

Anglo American states that its tailings dam inspection requirements, as specified in the Group Technical Standard, meet or exceed regulatory requirements in all jurisdictions where it operates. The company has reported that it conducts daily and fortnightly inspections, with quarterly site inspections performed by specialised consulting firms. There are also reportedly annual inspections

performed by the Engineer of Record that are subject to independent, external reviews.

Anglo American states that it involves the world's foremost technical experts in the design, construction, monitoring, inspection and auditing of its tailings facilities to ensure adherence to its rigorous Group Technical Standards across its managed operations. The company further states that in its FutureSmart Mining™ programmes, investigating innovations and new technologies, it is looking at dry stack tailings, where water is basically eliminated from the stack – this helps water recycling rates and makes dams safer.

Lack of Clarity on Evacuation Procedures

Community members in Conceição do not appear to have confidence in the dam despite its downstream construction. This lack of confidence appears to relate in part to a reported lack of clarity on safety zones where people should go if there is a siren warning of a dam collapse and because of a reported lack of effective consultation on resettlement options.

Anglo American has stated that engagement and consultation related to a potential resettlement of communities downstream of the dam has been ongoing since 2016. Consultation on this issue will reportedly continue in 2023 in a manner that is not rushed and appropriate to properly well-thought out planning. According to Anglo American, there was a voluntary relocation programme established in 2017 offered to the communities in question.

Regarding evacuation procedures, the company states that it wants to engage the communities to help identify and monitor impact and that there are specific guidelines on emergency response. Minas Rio reportedly conducts a live drill at least annually and consults on the emergency preparedness and response plans related to potential tailings dam collapse with communities at least annually. Anglo American adds that it engages with local stakeholders to develop emergency response plans in relation not only to tailings disasters but other disasters that could take place.

The company has also referred to its role in establishing the Global Industry Standard on Tailings Management (GISTM) which was launched in 2020. All three companies in this report have stated that they are working to adhere to this standard. Further detail on Anglo American's approach to tailings management can be found on the company website and in its annual reporting.

While LAPFF notes these processes, there did seem to be shortcomings in their implementation. For example, LAPFF has video footage of one evacuation zone that appears to be behind a locked gate in one of the areas near Minas Rio. This could be thought of as equivalent to a fire escape being locked.

In relation to Mariana and Brumadinho, community members reported that the companies involved

41 <https://www.fastmarkets.com/insights/upstream-tailings-dams-banned-in-brazil-following-vale-incident>; <https://www.reuters.com/article/us-vale-sa-disaster-idUSKCN10718C>

had not provided clear evacuation instructions. In Mariana, affected community members stated that the companies had also not alerted them to the dam collapse. In Brumadinho, community members alleged that Vale had known about the likelihood of the collapse for some time and had not taken steps to warn affected people or prevent the loss of life that occurred.

“People are suffering twice for fear of another dam collapse.”

Vale states that it has emergency plans (PAEBM) that are shared with the communities, which contain procedures to be followed in case of an incident or escalation of probability of a dam breach or actual rupture. The company also states that it conducts evacuation drills with communities on a regular basis. However, LAPFF representatives observed that evacuation signs were often confusing and missing in all three locations. According to one Brumadinho resident, she saw the dust from the dam collapse and her neighbour told her to run, but she didn't know where to run because there were no signs – and there still aren't.

“All of the people were there to die; they just didn't know it.”



Fallen evacuation sign in Mariana, photo taken 27 August 2022

Prevention of Future Collapse

At this stage, Vale is clearly taking steps to both improve dam safety and ensure that people and the environment are not affected as they were by the 2015 and 2019 dam collapses. Both Samarco and Vale now have in place geo-monitoring facilities to assess weaknesses in the dams. These facilities operate 24 hours a day, seven days a week and constantly provide information to the companies' control rooms for them to use in assessing dam safety. Vale also undertakes its dam decharacterisations (where the

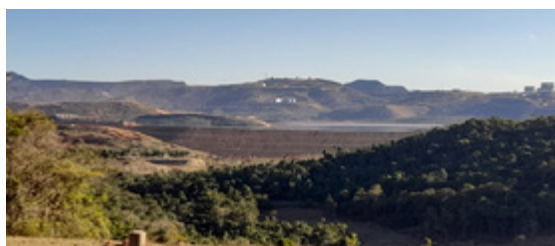
tailings are being dried out and put back into the earth) in Minas Gerais virtually from a control centre where staff use robots to do the high-risk work. It is understood this operation is in place for Vale's dams only in Minas Gerais presently, and at two of the high-risk dam structures.

LAPFF's concern is about the pace of decharacterisation. It is positive that the company has disclosed its decharacterisation plan with timelines and that it is prioritising the riskiest dams. However, Vale has two high risk dams that could rupture at any moment and cause even greater devastation than that caused by Mariana and Brumadinho – see note above. The company has said it has to be careful in decharacterising the dams not to exacerbate the problem and create additional risks of liquefaction. This process therefore takes time.⁴²

Furthermore, Vale states that it has built backup dams downstream of the dams that have the capacity to contain the tailings if needed and that 100 percent of the population close to risk areas were removed on a preventive basis. LAPFF accepts that this is the case but remains concerned that communities have reported that the backup dams would trap them if



Vale control room at Belo Horizonte, photo taken 30 August 2022



Minas Rio tailings dam, photo taken 15 August 2022

⁴² The de-characterization of an upstream structure is a complex process, with specific challenges for each structure that, if left untreated, can affect the conditions of geotechnical stability, and increase the risk of the works. Therefore, de-characterization requires time, intensive care with safety and customized solutions. The de-characterization projects include detailed engineering studies for each structure included in the program, with reinforcement works when applicable. <https://www.vale.com/web/esg/de-characterization-program>

there were a water breach and that the population resettlement does not address a number of the social and environmental impacts of a dam collapse, such as water contamination. LAPFF also remains concerned that the current pace of progress creates a great risk of another dam collapse. This concern is exacerbated by concerns about the lack of clear safety routes and evacuation procedures in a number of communities, as mentioned above.

“Vale has not paid enough reparations considering the amount of suffering.”

Accountability

LAPFF has a general concern that Anglo American, BHP, Vale, Samarco, and Renova Foundation have not accepted an appropriate level of accountability and responsibility for the impacts of their business practices on a range of stakeholders, including affected communities. This lack of accountability surfaced in three main areas as set out below. First, the companies are reportedly failing to recognise some people affected by tailings dams. In Brumadinho and Mariana, these concerns were raised in relation to the tailings dam collapses. In Conceição, the community members with whom LAPFF spoke stated that there was a failure to recognise people in tailings dam risk zones. Second, safety concerns, including lack of adequate evacuation procedures, were raised in all three areas. Third, legal agreements reportedly do not assign acceptable levels of responsibility to companies for reparations in Mariana and Brumadinho, and protection of personal assets in all three areas. LAPFF also has significant concerns about accountability gaps in joint venture structures



LAPFF Chair, Cllr Doug McMurdo, with Renova Chair (to Doug's far right) Vale Chair, José Penido (to Doug's right) a member of Vale's IR team (to Doug's left) and Renova Foundation CEO, Andre de Freitas (to Doug's far left) at the old Paracatu. The mud from the 2015 Samarco tailings dam collapse is shown in the background at about 1.5 metres high, photo taken 29 August 2022

used by all three companies. The companies have a belief they are doing well. However, it is clear they could do better. There is a clear lack of trust, and as time goes on, this can only deteriorate further. Several observations LAPFF made were received well, and LAPFF will continue with its dialogue with Vale and Anglo American. BHP has a lot to do in respect of the Mariana/Samarco incident in LAPFF's view.

Exclusion of Victims

One of the striking aspects of the visit was the apparent lack of accountability by the companies and their associated entities for the impacts of their activities on surrounding communities. This was visible in the inadequate stakeholder engagement mentioned above. It was also evident through the many claims by affected community members of being excluded from qualifying for compensation and reparations. In fact, a number of affected community members and outside commentators pointed to a 'divide and conquer' approach by the companies to undermine victims' claims. That said, while the impact on certain excluded individuals is clear, it is very difficult to determine the various degrees of impact on other affected individuals, which appears to contribute to this problem of exclusion.

In both Mariana and Brumadinho, community members with whom LAPFF representatives met complained that they had been affected in some way by the tailings dam collapses but had not been recognised as victims of the disasters. One particularly striking case was two individuals who do not live in Brumadinho but whose children had been hiking in Brumadinho when they were caught by the tailings mud slide. These individuals lost both children and their unborn grandchild to the mud – and they are not deemed to be 'affected individuals.'⁴³

Apart from a reported lack of apology from the companies, it appears that there is a divergence of views between the companies and communities about who qualifies as a victim to whom reparations and compensation are due. According to BHP, one of [Renova's pillars](#) is to identify all affected people and register them to receive compensation. However, according to the affected communities, the company approach has been to limit the number of people it considers affected. The affected community members clearly have a much broader definition of who should be considered affected. They point to a matrix of affected individuals compiled by a non-governmental organisation that recognises nearly twice as many affected people as the company matrix.

“Out of 78 people [in one community], only 22 benefit from recognition.”

⁴³ Vale states that 'the parameters of the term of commitment entered into with the Public Defender's Office of the State of Minas Gerais to pay compensation to the affected persons are not limited to those who lived in Brumadinho, including also those who lost fathers, mothers, children, brothers, spouses or partners due to the rupture of the dam.' It is still not clear, however, why these people – who were clearly affected – have been excluded from the category of affected individuals.

There are clearly different levels of impact. For example, some people have lost loved ones. Others lost houses. Others have had their land affected by the tailings thus affecting their ability to grow crops or keep animals. These differences in impact would seemingly need to be considered in any reparations and compensation, and Vale notes that the different impacts are considered in the Brumadinho reparation plan in which the affected people are differentiated in terms of their compensation depending on whether they lost a loved one or their property or cannot carry on their previous economic activity.

According to BHP, *Renova* evaluates each damage caused and pays compensation accordingly. Each case is treated on its own merits – there is no blanket approach in the case of Fundão. In Mariana, under the original mediated indemnity programs run by *Renova*, individuals could claim and receive Court-approved compensation amounts in respect of a highly specific list of losses. For example, someone could receive payment for a destroyed fishing boat, and also housing damage.

As this process took some time to administer, a simpler route was introduced in addition, namely the Novel System. Here, affected people can receive compensation (based on their profession and the likely impact) without even needing to prove their loss (simply that they live in the area). Settlements under the Novel System are all individually ratified by the 12th Federal Court. In Novel alone, more than 75k people have been compensated in approximately BRL 9 billion (USD 1.8 billion).’ However, as noted above, it is not always clear how these differences in impact might inform whether people are considered ‘affected’ or not, and the community members with whom LAPFF spoke state that people who should be included continue to be excluded.

In Conceição, community members reported a strange contradiction of some communities having sirens and meeting points provided by Anglo American but not being recognised by the company as communities affected by the Minas Rio dam. The communication failures cited ranged from the company not asking about where to locate sirens, meeting points, or the tailings dam to actively misrepresenting their intentions.

Anglo American has stated that the contents of the emergency preparedness and response plan are updated annually and subject to consultation with stakeholders at least annually. However, the company noted some particular challenges in relation to emergency preparedness. One area LAPFF visited is, according to Anglo American, unusual in a way because the community is not included in the self-rescue zone, but the company has offered to engage and has had many discussions with the community over time. Community members LAPFF met in the relevant community asked why, if this is the case, Anglo American had not included the community within the self-rescue zone.

In this case, by the nature of the situation,

the safety zone must be up a hill. Anglo American representatives stated that the last drill was two or three months ago and over 80 percent of the community participated and moved safely to meeting points; the one up the hill is only one of these points. One of the other points LAPFF saw appeared to be locked. According to Anglo American, there are discussions about how to improve this process and community members needing extra support have been provided with this extra support, according to the company.

The siren location is also a challenge, according to the company. This location is reportedly not random; it must be where the acoustics are optimal and can reach all of the community. Consequently, Anglo American has stated that there is not a huge choice in where to locate the sirens.

“There was never a process to hold Vale and other mining companies to account.”

Legal Agreements

The disagreement about who is considered an affected person is related in part to problems with legal agreements stemming from the tailings dam collapses. In Mariana, the primary concern is the Transaction and Conduct Adjustment Term (TTAC), the agreement between BHP, Vale, and Brazilian authorities that established the *Renova* Foundation.

Vale has explained that ‘the TTAC and the TAC-Gov established the external governance structure for the *Renova* Foundation. Besides two seats in *Renova* Board of Trustees dedicated to community members, the TTAC and TAC-Gov agreements foresee affected people participation in many governance bodies –

- (i) the Advisory Board, to give opinion on plans, programs and projects, in addition to indicating proposed solutions for the damage caused by the dam breach);
- (ii) Local Commissions for project formulation (within the limits of the programs), with the support of Technical Advisors (TAs);
- (iii) Regional Chambers, that are forums for discussion, participatory organization and to create new programs and projects outside the TTAC, during the renegotiation; and
- (vi) Technical Chambers, to assist IFC attributions.’

According to Vale, ‘a very comprehensive and flexible compensation system was implemented in 2020 to serve the informal public, based on the concept of rough justice. Most of this public would not have chances in common legal proceedings, due to lack of proof and evidence. Because it is so simple, there are even reports of fraud by the ones alleged affected. The simplified system has already compensated more than 74,000 people.’

BHP has seconded Vale’s account. It states that ‘participation of affected communities in decision making is guaranteed by several agreements signed with Brazilian authorities after TTAC (Framework

Agreement).⁴⁴ BHP notes that affected people did not nominate their representatives. They are entitled to two positions and public authorities are also entitled to positions. However, as noted previously in the report, the community members with whom LAPFF has spoken stated that the community positions were not taken up because of the inherent power imbalance they perceive between company interests and community interests within the Renova Foundation.

BHP has also stated that the affected communities have been particularly involved in the resettlement program. However, LAPFF suggests that participation and involvement are not the same as decision-making, which is the international standard and which, in LAPFF's view, makes for much smoother and less costly operational, reputational, legal, and financial impact. According to the affected community members with whom LAPFF has engaged, in addition to allegedly facilitating the exclusion of many affected individuals, this agreement set in motion a convoluted process through the Renova Foundation that effectively excludes affected community representatives from decision-making related to the resettlement, compensation, and reparations that affect them. Consequently, no community members took the seats on the Board of Trustees because it was felt that the structure of the Renova Foundation was inherently biased against community participation.

According to Vale, 'Renova Foundation has an [advisory board](#) composed of members from the society. The reparation programs executed by the Renova Foundation follow a process of involvement, participation, and joint construction with several stakeholders (affected people, experts, authorities and public agents, including society representatives).' However, one need only look at the organisational structure on the Renova website⁴⁵ that makes clear the decision-making capacity resides with a committee comprising BHP and Vale representatives but no community representatives. Community representatives only feature in an advisory role.⁴⁶

A replacement agreement is reportedly being negotiated but has seen many delays, not least

because of the presidential elections that took place in Brazil in 2022 according to the companies LAPFF spoke to. However, there is also a suggestion that the delay has been caused by company positions that were unacceptable to the public authorities.⁴⁷ Community members with whom LAPFF has engaged have pointed out that they are not being included in the negotiation of this new agreement and that they therefore do not have much faith that it will be an improvement on the old one.

Vale is keen to point out that a legal settlement was reached in Brumadinho much more quickly than was the case in Mariana.⁴⁸ This is true. However, affected community members with whom LAPFF met still point to the inadequacy of the settlement and exclusion of a number of individuals from the agreement. Therefore, it is not clear at this stage whether there will be further legal agreements or litigation requiring Vale to pay more compensation for the damage caused. In any case, the company is having to undertake a significant number of community development projects that cost a lot of money in order to re-build its reputation in Brumadinho, including a community park, a food cooperative, and investment in the Inhotim museum to bring new industry to the city.



A park at Brumadinho funded by Vale, photo taken 30 August 2022

44 BHP has cited Preliminary Adjustment Term (TAP) signed in January 2017: clause 2 (public hearings and traditional communities' participation). [termo-de-acordo-preliminar-caso-samarco \(mpf.mp.br\)](#); Amendment to TAP (ATAP) signed in November 2017: clauses 6 and 7 (public hearings, preliminary consultation of affected people and technical assistance provided to affected people). [aditivo-tap \(mpf.mp.br\)](#); Governance agreement (TAC-Gov) signed in June 2018: clauses 3-7 (governance and participation), 8-18 (local commissions of affected people), 19-28 (observers forum), 29-35 (local chambers), 62-67 (financial resources for participation of affected people). [tac-governanca \(mpf.mp.br\)](#).

45 <https://www.fundacaorenova.org/en/participating-parties/>

46 [Participating Parties - Renova Foundation \(fundacaorenova.org\)](#) Vale has stated that Renova Foundation's programs are monitored by the Interfederative Committee (CIF), composed of representatives from the Union, the Minas Gerais and Espírito Santo governments, the impacted municipalities, the Public Defender's Office and those affected people. However, the affected communities with whom LAPFF spoke noted that community representatives have no decision-making power in the process.

47 The English version is on p. 2: https://defensoria.mg.def.br/wp-content/uploads/2022/09/press_release_v2.pdf.

48 According to Vale, in the case of individual compensation for those impacted by the Fundão dam breach in Mariana, the difficulties of proving the economic damages on the part of those affected, mainly those whose professional activity took place in the informal sector, were overcome by the creation of the Simplified Indemnity System that compensated more than 73.6 thousand people until November 2022. Other programs, executed by Renova, also addressed impacts on individuals, notably Program 17, which recovered rural structures and productive areas impacted by the breach. In addition, the other reparatory and compensatory programs address collective demands through various actions, from the publication of public notices for the execution of community projects, renovation and improvements in public libraries, partnerships with universities to provide training courses, specialization, master's and doctorate degrees in environmental education, among other actions. However, affected community members have told LAPFF on numerous occasions that this process was not participatory and that they only accepted the Simplified Indemnity System because the process was so slow that they believed that they would never get their houses and could not wait any longer.

Joint Ventures

There are accountability concerns with all three of the tailings dams LAPFF heard about – Minas Rio, Córrego do Feijão, and Fundão. Two of these dams – Minas Rio and Córrego do Feijão – are wholly owned; Minas Rio is owned by Anglo American⁴⁹ and Córrego do Feijão is owned by Vale. However, Fundão is operated by Samarco, which is a joint venture between BHP and Vale, each of which own 50 percent of Samarco.

Whilst recognising that wholly-owned projects can have accountability problems, LAPFF is especially concerned about the accountability gaps in joint venture projects. Non-operated joint venture partners have a particular opportunity to renounce accountability for project impacts. In the Brazilian context, these gaps can be seen through Samarco's failed oversight of the Fundão dam collapse and Renova Foundation's delayed and questionable rollout of reparations and compensation to affected persons in Mariana after the collapse of the Fundão dam. Nearly seven years after the dam collapse, the end of these reparations and compensation is nowhere in sight. Consequently, affected community members have suffered for over seven years, and the companies and investors continue to accrue costs associated with the delayed provision of reparations and compensation.

Vale has said it is working to improve its non-operated joint ventures. 'Vale started to monitor our JVs [joint venture] processes in a closer manner, as permitted by their governance, specially to verify if they comply with Vale's ESG standards. In 2022, a self-assessment questionnaire on human rights was applied in order to identify compliance with minimum requirements by these companies (Samarco, amongst others) and we defined an action plan to address the priority points identified.' Additionally, in 2022 Vale states that it started a pilot project to assess its JVs regarding ESG practices. The project consisted of an assessment of the ESG standards and metrics of two selected strategic JVs of Vale's portfolio. Such evaluation was conducted by Vale specialists and was based on several questionnaires answered by the JVs management teams. Based on these answers Vale specialists suggested specific action plans that will be monitored throughout 2023. The intention is to expand this project to other relevant JVs not operated by Vale.

LAPFF acknowledges the repeated statements made by both companies (BHP & Vale) that they are constrained by the agreement made between the various parties. This, in LAPFF's view, should not deter, nor preclude either/or both companies driving forward the reparations faster and more effectively.

BHP states that the company has had senior management committed to these issues since day one. The company states that senior executives and Board members of BHP have visited Brazil on several

occasions and that BHP formed the non-operated joint venture (NOJV) business unit as one of the learnings from Samarco's dam failure. BHP notes that it has been on the Renova Board since 2016 and this is part of the governance structure. The company explains that it created a separation in accountabilities in 2021 that led to the appointment of the VP Brazil Non-Operated JV, however it previously had an Asset President Non-Operated Joint Ventures.

LAPFF's main concern with joint venture accountability is that because of the way joint ventures are structured, they allow each joint venture partner, and/or including the operator (depending on whether the operator is one of the joint venture partners), to assign accountability and responsibility to other joint venture participants. For example, when challenged on its role in the Mariana reparations, BHP – a 50 percent joint venture owner in Samarco – has consistently told LAPFF that it is the responsibility of the Renova Foundation to carry out the reparations and compensation. In LAPFF's view, the company refuses to take appropriate accountability and responsibility for its role in the tailings dam collapse and the failures of the consequent reparations and compensation, stating merely that it has allocated sufficient funds to Renova Foundation in this regard.

There is, as mentioned above, litigation facing BHP in the English courts in respect of its responsibilities for the Samarco dam collapse. It is understood that BHP faces a lawsuit of up to £5 billion for its part in the disaster in Mariana; this is an ongoing case which LAPFF believes will be defended. In any event, given the slow rate of progress on reparations and community discontent shared with LAPFF, it is not clear that those funds already identified as being spent on reparations are being spent in either the affected communities' or investors' interests.⁵⁰

In LAPFF's view, there are three main problems with deferring responsibility exclusively to joint venture operators. First, it is morally reprehensible. Second, it does not align with the UN Guiding Principles on Business and Human Rights to which both BHP and Vale are committed. Third, it leads to disasters such as the Fundão dam collapse which has destroyed lives and led to severe financial consequences for both the companies involved and investors.

“Renova does not actually want to solve problems but creates them instead.”

Organisational Leadership

LAPFF has long had concerns about organisational leadership, particularly in relation to possible conflicts of interest on the Vale board. For example, the

49 Anglo American has stated that it recognizes the increasing expectations in terms of using influence at non-operated joint ventures and have taken steps to ensure there is an understanding of the group's expectations in relation to these operations.

50 BHP has stated that the Renova Foundation's Repair Data [website](#) is updated every month with details of spend and progress on each program.

former Vale board chair was the CEO at Previ, Vale's main investor at the time. It is welcome that Vale has taken measures to rectify some of these conflicts and is working to diversify its board in a number of ways. However, there are still significant concerns about the organisational leadership of Renova Foundation, which in LAPFF's view has both conflicts of interest and skills gaps.⁵¹ Indeed, even today, the decision-making body of the board is comprised of representatives of Vale, BHP and Samarco alongside representatives from Interfederative Committee (a body formed of representatives of public agencies from the two affected states and the federal government), notwithstanding the discussion on pp. 47 and 48.

Also, the Renova Foundation does not appear to have a competent skill set to deliver the needs of all stakeholders. LAPFF recognises some of the positive impacts that have been made, including some improvements to environmental impacts. However, it is considered that housebuilding at scale and interpersonal / communications skills may require further improvement. Housebuilding is the part of the process that communities have asked LAPFF to focus on as particularly problematic. Community members with whom LAPFF spoke also state that Renova did not plan adequately for the full scope of compensation and reparations at the outset, an allegation which precedes Mr. de Freitas' tenure as CEO. However, these shortcomings do not appear to have been rectified. Given these structural concerns with Renova and its slow pace of reparations, it is hardly surprising that the community for the most part has little faith in the organisation's leadership.

"The company believes it is God."

Apart from these problems with Vale and Renova Foundation, LAPFF is concerned about the seeming culture of impunity at BHP. LAPFF approached the company on a number of occasions requesting a meeting in Brazil. BHP continued to cite a conflict of interest in engaging with LAPFF on Samarco that, in LAPFF's view, does not exist. It seems to LAPFF that BHP is happy to engage with investors when it can do so on its own terms. However, when challenged and provided with constructive feedback, the company deflects and refuses to take accountability for its actions, or even acknowledge stakeholders' views. It is LAPFF's view, therefore, that this approach stems from a culture set by the company board and senior management team, and that it would behove the company and its investors to re-visit this cultural trait, especially in light of allegations of sexual misconduct by staff and contractors in Australia⁵² (which the company has acknowledged, apologised for, and addressed on its website, numerous investor calls, and webinars).

"Vale knew if they had built 100 feet higher we wouldn't be in this situation."

Due Diligence Processes

As mentioned, one concern is that the companies involved appear to have established processes and structures to deflect accountability and responsibility (not least joint ventures) rather than accept accountability and responsibility. There are technical areas where Vale and Samarco appear to have improved – such as geotechnical monitoring – but the overall monitoring of their social and environmental practices appears to need significant work still. This work needs to come particularly in the areas of stakeholder communication and the establishment of systems to respect the human and environmental rights of affected community members and other stakeholders.

Monitoring

Both Samarco and Vale have instituted high-tech geo-monitoring stations since the Samarco and Brumadinho tailings dams collapses. These facilities monitor the stability of dams and mining operations and reportedly alert the companies and communities to any concerns, though affected communities dispute the efficacy of these procedures. Vale is also introducing mining machinery operated by remote control. This method is currently less efficient than having people on site but improves safety and the company is working on efficiency.

While these developments are positive, Vale has still acknowledged that the company has two high risk tailings dams in Brazil. Although the dams are being decharacterised, they could still rupture at any time. LAPFF heard from community representatives that at least one of these dams is three times the size of the Córrego do Feijão dam at Brumadinho and could cause significantly more damage than either



Vale's geomonitoring centre in Belo Horizonte, Minas Gerais, photo taken 30 August 2022

51 A historical example is that the former Chair of Renova Foundation was general counsel at Vale fourteen years ago so was not independent. Vale notes that discussions concerning the organization of Renova Foundation are already being handled in Court (Procedural Incident n° 1011729-52.2021.4.01.3800).

52 See, for example, this Sydney Morning Herald article: <https://www.smh.com.au/business/companies/bhp-deeply-sorry-as-staff-report-103-sexual-harassment-cases-in-a-year-20220816-p5ba80.html>. See also the company website: <https://www.bhp.com/sustainability/safety-health/sexual-harassment>.

the Brumadinho or Mariana dams.

Vale has said that although it recognises this problem, it is moving as quickly as it can with the decharacterisations so as not to cause additional safety issues. LAPFF accepts the position that the company is taking time to be careful in decharacterising the dams. However, it would like stronger assurances that the company is moving as quickly as it possibly can in undertaking the dam decharacterisations and is taking appropriate measures to mitigate any damage that might be caused by a collapse. People downstream from these two dams have been relocated in the event they do collapse. Nonetheless, this relocation does not prevent the potential impact on water sources, such as those in Belo Horizonte which is Brazil's third most populous city. Vale has stated that it completed the construction of containment structures (back-up dams) downstream of those dams, with the objective of retaining 100 percent of the dams' volume in an extreme hypothetical scenario of rupture, preventing tailings from reaching the Secondary Safety Zone of the municipalities. However, as mentioned above, the community members with whom LAPFF spoke suggested that if this rupture were to occur, the containment structures would trap them in place and leave them unable to escape.

The time Mr. Penido spent with LAPFF is, we believe, a testament to his commitment to transforming Vale into a sustainable mining company. There is clearly a long way to go. Mr. Penido himself admits that. Still, there are indications that in some respects, such as with geo-monitoring, the company is moving in the right direction.

Communication with Stakeholders

Another concern about process is, as mentioned above, a failure by the three mining companies in question to engage meaningfully and appropriately with affected community members and other stakeholders. Affected community members in all three areas report poor quality engagements with company representatives and subcontractors where any engagement happens in the first place. One of the great disappointments for LAPFF is that many community members spoke of having looked positively on Vale prior to Mariana and Brumadinho and having been proud to work for the company. Now, their overwhelming sentiment is negative toward the company.

For example, when LAPFF approached Vale about the abovementioned backup wall issue on a number of occasions, company representatives refused to acknowledge, let alone address this concern. It does not appear that the company has spoken to affected communities about the issue.

More generally, Vale has stated that 'although in the case of the Fundão dam breach dialogue

"There is no contact – the company runs away when the community tries to speak to them."

and communication are Renova's responsibility, Vale has sought to establish mutual aid forums to share experiences, challenges, and opportunities for engagement and improved communication in territories where both Renova and Vale operate. A weekly meeting is held with the participation of both Renova and Vale's community engagement employees to exchange and share information and perceptions, in addition to improve communication with the community. The relationship with the Krenak, Tupiniquim and Guarani Indigenous people also has specific discussion forums with the analysts responsible for the relationship with these communities in order to share the understanding and perception of the territory.' The information LAPFF received from community discussions during its visit does not match Vale's account of community engagement.

Some community members with whom LAPFF engaged felt that BHP effectively withdrew from community engagements at the time that some affected community members started traveling to London to communicate with British investors in 2018, though BHP has said it was agreed with public authorities that Renova should be responsible for engaging directly with communities regarding reparation measures. It is LAPFF's view, however, that just because it was agreed with public authorities that Renova Foundation should be responsible for engaging directly with communities regarding reparations measures, this agreement does not absolve BHP and Vale from doing so and from taking responsibility for any necessary remedial measures too. Community representatives in Conceição reported a lack of engagement with Anglo American altogether and poor quality engagement, for example over house design and cultural needs, where there had been discussions with the company.

That said, LAPFF also has concerns that the companies involved are not communicating their true steps forward adequately. As with Samarco, there is a concern that Vale is not communicating all its improvements since 2019 to affected community members, particularly those who are highly critical of the company.

In LAPFF's view, effective stakeholder communication is necessary not just in terms of meeting stakeholder needs and expectations but also to ensure that operations are carried out in a financially efficient manner. Therefore, LAPFF would like to see improved company-community relations as a high priority.

Houses destroyed by the Mariana tailings dam collapse, photo taken 27 August 2022



WHERE DO WE GO FROM HERE?: CONCLUSIONS AND RECOMMENDATIONS

Concluding Investor Meeting

In a meeting at the end of the visit with Vale and Brazilian investors, LAPFF agreed to focus on three main areas in driving forward a plan to improve company responses to Mariana and Brumadinho. These areas are: (1) human rights, and particularly stakeholder engagement; (2) environmental protection; and (3) prevention of further dam collapses. LAPFF is continuing to engage Vale, and to the extent possible BHP, on these areas.

Under the human rights and community heading, there was a strong emphasis on the need for BHP and Vale to listen more to communities.⁵³ The topic of joint ventures also featured quite prominently, with one of the Brazilian investors reinforcing LAPFF's concern about these structures. Community engagement surfaced again as a difficult point under the environmental heading where it was proposed that third party, independent assessments of issues such as water contamination were necessary.

The prevention of further dam collapses is a topic to be discussed in more detail. Although Vale has put a number of measures in place to decharacterise tailings dams and monitor failing dams, as noted, the company still has two high risk dams that are much larger than Brumadinho – which was a relatively small dam – and their failure would be absolutely devastating both socially and environmentally. As we investors have seen from both Mariana and Brumadinho, the financial impact for both the companies and investors would also be huge. LAPFF understands that work to decharacterise two of these dams is well underway, but it needs to be sure that the work happens properly and fast enough to prevent further collapses.

In short, although there are signs of progress both culturally and operationally from Vale, there is still a very long way to go. This trip and the JGP meeting were only the start of an earnest multistake-

holder process to hold the company to account. It is important to note, though, that the issues Vale needs to address are those faced by most, if not all, mining companies. It is just that Vale has had the dam collapses to make the issues very real. Therefore, LAPFF will continue its work, both on its own and through its new-found partnerships, to ensure that real changes are made and that both the companies and communities see the changes they need to move forward.

LAPFF has now met with Anglo American's Chair to discuss the findings in Conceição do Mato Dentro, and he requested more information to investigate the community concerns. LAPFF has worked with the company to convey more detail on its findings.

What LAPFF saw and heard in Brazil was enlightening but all too rarely heartening. LAPFF undoubtedly witnessed signs of progress. It was particularly welcome that Vale afforded LAPFF its leaders' time to discuss the issues and encouraging to see how seriously its chair was taking the situation. It was, however, disappointing and worrying that BHP did not approach engagement with shareholders in the same way. More worrying still was what LAPFF heard from community members. It is always likely that there will be problems given the circumstances and scale of the challenges, and there will inevitably be tensions and resentment given the disasters were caused by the mining companies. However, the scale of the issues has to be a serious cause of concern for shareholders. Evidently, there is much that needs to be done to improve the situation for communities; these improvements will also protect shareholder value. The following section sets out how we as investors can do more, the step change needed from companies, and our request to communities to keep engaging with us as shareholders to help ensure issues are addressed and to avoid future disasters.

⁵³ Vale has stated that it 'understands and recognizes that in its activities, due to the inherent characteristics of the extractive sector and the regions where it operates, there are numerous challenges regarding respect for Human Rights. That is why the company is committed to the UN Guiding Principles on Business and Human Rights and is aligned with international principles and standards.' However, LAPFF notes that a commitment is not enough. This commitment must be acted on in practice and produce acceptable outcomes.

Recommendations

For Investors

- Investors should engage meaningfully with affected workers and communities.
- Asset owners should engage with asset managers on stakeholder concerns, including affected stakeholders.
- Investors should understand that environmental, social, and governance practices are financially material.

In relation to the first point, investors should engage with workers and affected community members to gain knowledge about the environmental, social, and governance impacts of their investments. LAPFF has found that the information provided by affected parties is critical to understand better how companies operate, and therefore the potential for the creation or destruction of shareholder value. For example, the areas where affected workers and communities present information that contradicts information presented by companies indicates that investors need to investigate these areas further. These investigations invariably lead to the discovery of financially material information, such as whether a company project is operationally viable or sustainable.

To the second point, asset owners should liaise with their asset managers to ensure that managers are incorporating stakeholder input into their financial analyses. This input includes worker and community input but is broader. For example, supplier, customer, and consumer views should be incorporated too. This wider engagement helps shareholders understand investee companies from a wider perspective and to triangulate data to ensure that no single skewed view is influencing either human rights and environmental outcomes or financial outcomes.

To the third point, the more LAPFF engages with affected workers and communities, the more evident it becomes that investee company environmental, social, and governance practices are financially material. Additionally, we as investors have a responsibility both to respect human rights under the UN Guiding Principles on Business and Human Rights and to uphold our fiduciary duties under the UK Companies Act – and other relevant domestic corporate law – in respect of these practices. The cases of Mariana and Brumadinho are particularly good examples of this link, as investors have seen BHP and Vale pay out, and continue to pay, billions of dollars (investor income or capital for company

investment) in compensation and reparations for their environmental, social, and governance failures. LAPFF has seen evidence of this link in most of its engagements. In LAPFF's view, there is no excuse at this stage for investors to fail to recognise and investigate environmental, social, and governance outcomes linked to their investments. Such a failure is just poor investment due diligence.

For Companies

- Companies must take responsibility and accountability for their social and environmental impacts.
- Companies must engage meaningfully with workers and communities affected by their operations.
- Companies must ensure that their joint venture structures do not create accountability gaps for ESG impacts.

LAPFF does believe companies have started to take their environmental, social, and governance responsibilities more seriously. In relation to mining companies specifically, LAPFF has seen more board level engagement on human rights issues and greater discussion with investors about human rights impacts and outcomes. This improved awareness is to be commended.

That said, there are three areas of particular concern for LAPFF after this visit: lack of corporate accountability for environmental and social impacts, lack of effective stakeholder engagement, and joint venture structures. All these areas can and must be improved for better environmental, social, and governance outcomes that lead to the creation of better investment value. In particular, companies should map their stakeholders properly. They should also allow independent social and environmental impact assessments of their activities and use these assessment findings as the basis for operational decision-making. These measures will both create the basis for a way forward on reparations and alert companies to any additional concerns early so that future disasters can be prevented. LAPFF also has the impression that the companies in the present case will face further fines on the environmental impact of the disasters. Studies are quoted but are also disputed by others, so independent assessments will help to draw a financial line under what has happened.

In relation to lack of corporate accountability, there are two concerns. The first is that in some

cases, companies are not acknowledging that they have any level of accountability. This aspect is particularly worrying in relation to joint ventures as discussed previously. The second concern is that some companies are acknowledging that they are accountable but are not acting on this accountability. In LAPFF's view, companies must both accept accountability where they should and act on this accountability in good faith.

All the communities LAPFF visited in Brazil stated that there were serious problems with how mining companies engage with them. In some instances, there were reports of no engagement at all. In other cases, it appears that companies do meet with affected communities but that they don't listen (with sincerity), they don't hear, and they don't act on community requests and input. This is not to say that all community requests and input are actionable. However, LAPFF's impression was that company representatives are not currently able to identify the root cause issues of concern and overriding needs of communities that do need action. In LAPFF's view, this state of engagement between companies and communities is not only unacceptable, but it is also untenable for companies operationally and reputationally. It creates legal risks for the companies and financial risks for both the companies and investors, including a threat to shareholder value.

Joint ventures appear to exacerbate existing environmental, social, and governance risks and financial risks. As explained, their current structures create governance gaps that allow owner companies to deflect accountability and responsibility for environmental, social, and governance impacts and outcomes. Therefore, if they are to continue, there must be a protocol or framework that ensures these structures assign and enforce accountability by shareholding and operating entities for the environmental, social, and governance impacts and outcomes they produce. This solution is likely a consideration of contract drafting. If this change is not instituted, it is LAPFF's view that companies should not enter joint ventures, notwithstanding the benefits they can provide in terms of cost- and risk-sharing. Right now, the risk-sharing burden is falling disproportionately on affected workers, communities, and other stakeholders rather than the shareholding companies. It is also not clear that the costs resulting from ESG failures are outweighing alleged cost savings from joint investments. Such arrangements are not right and create risks for shareholder value in the long-term.

For Communities

- **Communities should continue to engage with investors where they are comfortable doing so and where this engagement is useful for them.**
- **Communities should continue to update investors on their material needs so that investors can engage with investee companies to improve company responses.**
- **Communities should keep investors up to date with information that could help to prevent future disasters related to tailings dams or other impacts.**

It was clear that the community members with whom LAPFF met in Brazil were taking a risk in speaking out. The risks ranged from the potential of losing a job or a negotiating position to the potential of life-threatening situations. LAPFF, thankfully, cannot imagine what it must be like to face these risks on a daily basis but is extremely grateful to the community members for their time and openness in sharing their experiences. Only the communities themselves can know what level of comfort they have in continuing to engage with investors, but LAPFF has greatly appreciated their engagement so far and would encourage continued engagement if these communities find it feasible and helpful.

What was particularly striking during LAPFF's visit was the irreparable damage caused to so many communities and individuals by both the tailings dam collapses and mining practices more generally. For example, people have had to leave their homes and be resettled, forcing them to have not just new houses but new geographies, new neighbours, and new communities. On top of losing loved ones in some cases, this process has meant leaving their ancestral land or houses. These experiences have created deep emotional ruptures for them. Even if their original communities are rebuilt, it will not be the same.

To this, LAPFF can only say that it is working to ensure investors (1) understand the environmental, social, and governance impacts of their investments and (2) work to prevent their investments leading to these outcomes in future.

In time, affected community members will no doubt come to terms with what they have lost and the magnitude of their losses, but it is clear they will never fully heal. Therefore, to the extent that affected communities can continue to set out their material needs that still need to be addressed, LAPFF will continue to work with the companies to meet those needs, and push other investors to do so also, understanding that this does not begin to cover the full extent of the communities' losses.

Finally, the prevention of future disasters was a strong theme that emerged from speaking to affected community members in Brazil. LAPFF would

strongly encourage affected community members to approach companies and investors with information that can prevent future disasters, or even negative impacts and outcomes. It is clear that many company grievance mechanisms are currently inadequate for this purpose, especially due to the accountability

gaps raised earlier. However, LAPFF is finding that both asset owners and asset managers are increasingly open to stakeholder input, including input from affected workers and communities, particularly as they better understand the financially material implications of this stakeholder input.



Mud covering the city of Mariana. November 7, 2015

WHEREAS
RECOGNITION OF
THE INHERENT
DIGNITY AND OF
THE EQUAL AND
INALIENABLE
RIGHTS OF ALL
MEMBERS OF THE
HUMAN FAMILY IS
THE FOUNDATION
OF FREEDOM,
JUSTICE AND
PEACE IN THE
WORLD

UN DECLARATION OF HUMAN RIGHTS

