“Mud Feet” - Displacement and Prejudice After Environmental Disaster in Brazil

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Abstract

This opinion piece is about the internally displaced persons generated by what is considered the greatest socio-environmental disaster in Brazilian history and the largest in the world involving tailings dams. The rupture of the Fundão dam, located near the center of Mariana/Minas Gerais, occurred in the afternoon of November 5th, 2015. Most of the human victims of the disaster - those who have not lost their lives in the disaster - lost their homes, which they had to abandon and to which they wish to return. Currently, the internally displaced persons of this disaster experience prejudice and mistrust in Mariana, since their children are called "mud feet" in school and they are discriminated as if they were the cause of the tragedy that hit the municipality. The subject under study has its relevance justified by the need to face the real consequences of the environmental accident that occurred in Mariana/Minas Gerais. I argue that internally displaced persons suffer the effects of the crisis that triggered their migration before, during and after their displacement, and thus present specific vulnerabilities and special protection needs, across both international and domestic scales.

Keywords
Forced Migration, Internally Displaced Persons, Brazil, Samarco Accident, Case Study

Introduction

This opinion piece is a case study about internally displaced persons generated by what is considered the greatest socio-environmental disaster in Brazilian history, and the largest in the world involving tailings dams: the rupture of the Fundão dam. The Fundão dam is located in the sub-district of Bento Rodrigues, a thirty-five kilometer distance from the center of the Brazilian municipality of Mariana/Minas Gerais. In the afternoon of November 5, 2015, the dam failed. The Fundão dam was controlled by a joint venture of the world's largest mining companies, Brazil's Vale S/A and the Anglo-Australian BHP Billiton. Most of the human victims of the disaster – at least, those who did not lose their lives in the disaster - lost their homes, which they had to abandon and where most of them wish to return. The majority of internally displaced persons are children and women who are vulnerable to specific types of violence. They suffer the effects of the crisis

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that triggered their migration before, during and after their displacement, and thus present specific vulnerabilities and special protection needs, demanding both international and domestic regulations. Currently, the internally displaced persons of this disaster seem to experience prejudice and mistrust in Mariana, since they are discriminated against as if they were the cause of the tragedy that hit the municipality, while their children are called "mud feet" in school.

This topic is important because there is a need to understand the real consequences of the environmental accident in the Municipality of Mariana/Minas Gerais from multiple angles - not only from an environmental point of view, but also from a human rights perspective regarding those affected by the disaster. As such, this article aims to analyze the rupture of the ore tailings dam from the perspective of the various homeless and displaced people resulting from the tragedy.

**Background: Disaster Facts**

On November 5, 2015, Brazil experienced its worst ecological disaster when an iron mine dam (Fundão dam) collapsed in the municipality of Mariana within the State of Minas Gerais (MG), releasing metal-rich tailings waste in concentrations that endangered human and ecosystem health. Imprudent management practices by the mining company Samarco (co-owned by the Brazilian Vale and Australian BHP Billiton) caused a breach that discharged from fifty-five to sixty-two million metres cubed of iron ore tailings slurry directly into the Doce River watershed. Vale is a mining company incorporated and headquartered in Brazil, and is the world's largest producer of iron ore and iron ore pellets, as well as the second largest producer of nickel. The Fundão tailings dam breach can be considered as one of the worst in the last century regarding the volume of tailings released to the environment and the magnitude of socio-economic and environmental damages. The interwoven ecological and socio-economic impacts have affected hundreds of thousands of people in forty-one cities across the Doce River basin.

Samarco Mineração S.A., a mining company which is a part of the prior mentioned joint venture, was launched in 1977 as a symbol of the modernization of the Brazilian mineral sector in order to supply the global market. The three pipelines that depart from the Germano Unit are among the largest of their kind in the world. Since 1996 the company has accumulated nineteen infractions notified by the environmental agencies in charge, including FEAM-MG (“Fundação Estadual do Meio Ambiente de Minas Gerais” - State Environmental Foundation of Minas Gerais), IEMA-ES (“Instituto Estadual do Meio Ambiente e Recursos Hídricos do Espírito Santo” – State Institute of Environment and Water Resources of Espírito Santo) and IBAMA (“Instituto Brasileiro de Meio Ambiente e dos Recursos Naturais Renováveis” – Brazilian Institute of Environment and Renewable Natural Resources). The most serious cases related to pulp leaks from the pipeline, that contaminate water courses and seriously compromise human consumption. Samàrco judicially challenged most of the assessments of the supervisory bodies. Even when fined, these costs did not represent any significant threat to the company's profits, operations, reputation, and economic viability. Even when fined, these costs did not represent any significant threat to the company's profits, operations, reputation, and economic viability.

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4 Fernandes, Goulart, Ranieri, Coelho, Dales, Boesche, Bustamante et al., "Deep into the Mud,” 35-45.
or social position and, therefore, did not constitute effective disincentives to the company's corporate practices.5

In 2014, Samarco started the operation of its third pipeline, which caused a 37 percent increase in production capacity.6 In that year, the prices of iron ore in the international market fell sharply. The company responded to the adverse price situation by significantly increasing production and, consequently, the amount of tailings generated. Even with the drop in prices in 2014, twenty-five million tons of ore were produced, representing a 15 percent increase in production and a 5 percent increase in sales compared to 2013.7 It seems that Samarco increased the volume of tailings in the dams due to the increase in quantity and quality of iron ore pulp destined for transportation by the three pipelines. Every ton of processed ore generates almost equal volume of tailings. In addition to the tailings from the Germano mine, the Fundão dam also received tailings from Vale's Alegria mine.8

The breach of the Fundão dam marks the end of the commodity mega-cycle that occurred during the first decade of the 2000s in Brazil. However, data indicates that there is a structural relationship between tailing dam rupture events and mining economic cycles.9 There is evidence of an increased risk of dam breakage in the new post-boom cycle of ore price.10 This trend seems to be associated with the acceleration of the environmental licensing processes and increased pressure on licensing agencies in the phase of high prices, as well as the intensification of production and pressure for cost reduction during the period of price reduction.

It is quite surprising to acknowledge that the company, structured as it was supposed to be, failed to comply with dam safety legislation regarding the implementation of a sound alarm system and the provision of trained personnel to assist the community in emergency situations.11 Without an effective emergency plan, the population of Bento Rodrigues organized itself autonomously to try and move to a safe place. According to Gleison Alexandrino Souza, a contractor who worked at the dam and lived in Bento Rodrigues when the dam collapsed, Samarco “never conducted any training with the community for emergency situations” and “did not issue any statements or warnings to the community near the rupture.”12 At first, the families were referred to the gymnasium of Mariana and were only accommodated in hotels by the company after the intervention of the public prosecutor who considered the space inadequate for families. The tailings mud contaminated the Doce river, causing several municipalities to interrupt river water abstraction, and created a crisis of water supply in several regions. Even seven days after the event, Samarco did not implement a drinking water supply plan for the affected municipalities.

7 Ibid.
8 Ibid.
9 PoEMAS, “Antes Fosse Mais Leve a Carga.”
10 Ibid.
Consequences of the Disaster

The mudslide killed nineteen people; destroyed districts like Bento Rodrigues, Paracatu de Baixo, Paracatu de Cima, Campinas, Borba, Pedras e Bicas and Barra Longa; devastated rivers like Do Carmo and Gualaxo; razed small properties and left hundreds of family farmers without subsistence conditions along the Doce river. It also took away the labour possibilities and livelihood of hundreds of fishermen and sand collectors; interrupted the productive activities of large and small companies; affected forty-one cities along the Doce river and left more than 500,000 people without drinking water.

Regarding the displaced population, their reterritorialization led to a weakening of their local links and symbolic references. Thus, in addition to the negative effects on the environment and tangible ecosystem services, impacts also included loss of intangible and cultural values, such as spiritual and aesthetic traditions, processes, and landscapes. The places affected, including colonial and ethnic heritage sites, recreational parks and sport and subsistence fishing sites, have represented a significant source of income and well-being for local communities. This impact on tourism and relational values will last for generations after the resettlement of the affected human population and recovery of damaged habitats.

People lived for over a month in the hotels offered in the city of Mariana and in boarding schools that had limitations on mobility. The check-in and check-out times were strict, as were the controls and timetables put in place for visitors. Later, by the end of 2015, families were transferred to rented houses, often distant from one another, creating difficulties for their social life. This physical distancing also had an impact on victims’ ability to reflect on what had happened to them, as well as the potential to organize themselves for the pursuit of their rights.

Given its peculiarities, the Samarco disaster gave rise to the expression of environmental racism. This expression of racism can be ascertained from the fact that the communities affected were mostly those with a predominantly black population who lived in proximity of the iron ore mining and tailings dams. Bento Rodrigues, for instance, with an approximately 85 percent black population, was just over six kilometres from the ruptured tailings dam and two kilometres from the Santarém dam. Paracatu de Baixo, with an 80 percent black population, was located at a distance of about forty kilometers downstream of the ruptured dam (following the course of the Gualaxo do Norte river). The town of Gesteira, about sixty-two kilometres away from the dam, has a 70 percent black population, and the city of Barra Longa, with a 60 percent black population, is about seventy-six kilometres from the dam. Above all, black communities were the ones who suffered the most from human and material losses and experienced symbolic and psychological impacts of the disaster. In this sense, the presence of political minorities and economically vulnerable ethnic groups, with fewer opportunities to have their demands heard in the public sphere, can be understood as a central element in the location of tailings dams, as well as in their overload.

The lack of state control, the disregard for the implementation of sound alerts and

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14 Ibid.
15 Fernandes, Goulart, Ranieri, Coelho, Dales, Boesche, Bustamante et al., "Deep into the Mud," 35-45.
16 The Brazilian Racial Atlas, launched by UNDP, offers us disturbing data. For instance, it reports that 65 percent of the poor and 70 percent of the indigenous communities are black. The infant mortality rate is 66 percent higher among black children. If a black child survives past their first year, that same child will have their average life expectancy
emergency plans, and the way in which care was given to victims - all of this could be explained as signs of environmental racism.18

When considering the issue of prejudice between victims and the urban population of Mariana, it is important to acknowledge a very interesting initiative of a local newspaper organized by affected communities. The local newspaper “A Sirene” is a regular publication created by those affected by the disaster, some members of the catholic church of Mariana, journalists and teachers. The newspaper, running to sixteen pages per issue, has a regular circulation of 2,000 copies, which are distributed, free of charge, among the affected communities. The name “A Sirene” (the Siren) makes a clear reference to the lack of a siren or warning on the day of the disaster, referencing the fact that the newspaper would have been able to alert and guide the population as a siren if it had been in place prior to the disaster. In some issues, however, it is possible to read some sad reports of prejudice from the population of Mariana towards those affected by the disaster: “Some people say that those affected are ‘living a good life,’ ‘swimming in money,’ having a lot more than they used to have. This is a huge misconception of the story. Our children are called ‘mud feet’ in school. Old people feel rejected. The saddest thing is to hear that the mud should have come at night and killed everyone.”19

**Human Rights Categorization**

It is important to consider this population’s legal status and the specific vulnerabilities they face in terms of human rights. The directly affected population face setbacks such as forced displacement from their residence and origin, together with the forcible abandonment of their personal and material assets, as well as the impairment of personal and community memory. This sense of having been forcibly and traumatically uprooted affects identity formation and development. It further places those affected in the category of internally displaced persons. The “Guiding Principles on Internally Displaced Persons,” established in 1998, defines internally displaced persons as:

> Persons or groups of persons who are forced to flee or leave their homes or places of habitual residence, particularly as a result of or in order to avoid the effects of armed conflict, situations of widespread violence, human rights violations or natural or human-made disasters, and who have not crossed an internationally recognized state border.20

Another possible categorization leads to qualifying former residents as an environmental displaced population: “Persons who are displaced within their country of habitual residence or who have

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18 PoEMAS, “Antes Fosse Mais Leve a Carga.”
crossed an international border and for whom environmental degradation, deterioration or destruction is a major cause of their displacement, although not necessarily the sole one.”21,22

Legal Consequences

Shortly after the disaster, the United Nations Working Group on Business and Human Rights held a ten-day visit to Brazil and stated: “The scale of the environmental damage is the equivalent of 20,000 Olympic swimming pools of toxic mud waste contaminating the soil, rivers and water system of an area covering over 850 kilometers.”23 This meant that while Samarco is responsible for repairing the damage caused, the state remains the primary duty bearer to uphold human rights of affected communities. In Brazil’s legal system, twenty-one people are now answering qualified homicide charges for their alleged involvement in the Samarco mine disaster. They face sentences of twelve to thirty years if convicted. They have also been charged with environmental crimes.

Almost four months after the disaster, on March 2, 2016, an agreement (Termo de Transação e de Ajustamento de Conduta, 2016) was signed between the Companies, the Union (Brazil’s government), government agencies and the states of Minas Gerais and Espírito Santo. Among other provisions, this agreement creates a foundation under the following terms:

FOUNDATION: non-profit foundation of private law (…), to be instituted by SAMARCO and SHAREHOLDERS with the objective of elaborating and executing all the measures provided for by the SOCIO-ENVIRONMENTAL PROGRAMS and SOCIO-ECONOMIC PROGRAMS.

Regarding the compensation to be paid by the company, the agreement establishes the following provisions:

CLAUSE 226: SAMARCO shall make annual contributions during the years 2016, 2017 and 2018, in the amounts defined below, (…): 2016: (…) two billion reais; 2017: (…) one billion two hundred million reais; 2018: (…) one billion two hundred million reais.

There was some heavy criticism of the agreement, especially due to the fact that there was a lack of effective participation by affected people in the negotiations. Neither was there any prior consultation with the indigenous population, even though it is required by the International Labour Organization (ILO) in its Article 6 of Convention 169 (Indigenous and Tribal Peoples Convention, 2001).


22 There is some criticism regarding the expression “climate refugees,” due to three key issues: 1) This category does not make a clear distinction between those who are forced to flee and those who voluntarily do so; 2) There is also no distinction between those who move within their countries and those who move beyond the borders of its territory; 3) The "environmental cause" is not encompassed or predicted by the 1951 Refugee Convention, as a reason for refuge.

Another problem was the lack of accountability of the Brazilian government and its agencies, and the lack of clarity regarding degrees of responsibility since it was the foundation that eventually legally responded first to the disaster rather than the companies involved. It is also important to note that the numbers presented on Clause 226 are related to what can be accommodated within the company’s profits and not to the actual social and environmental recovery needs. The agreement was contested, under jurisdictional issues, and was temporarily suspended by court. Nevertheless, the Foundation that had been created, Renova Foundation, was still performing its activities.

On May 2, 2016, federal prosecutors (Ministério Público Federal) filed a lawsuit naming the defendants SAMARCO, Vale and BHP, Brazil’s government and its governmental agencies. The amount charged in the lawsuit was R$ 155 billion (US$ 29,81 billion) and democratic hearing methods were used, meaning that the ILO’s requirement for consultations with the indigenous population were respected. Public hearings, where the affected population was engaged, were also conducted. Nevertheless, the lawsuit was not free from criticism. It was feared that its effectiveness may not be decisive, and it may become just another unproductive lawsuit. This is because, in less than thirty days from the date of the disaster, there were more than 100 lawsuits pending in the judiciary on the subject, totaling, after one year of the disaster, more than 35,000 cases; under the jurisdiction of Espírito Santo alone, there were approximately 17,950 lawsuits. Collective actions were also proposed in the cities of Brasília/DF, Belo Horizonte/MG, Mariana/MG, Vitória/ES, Colatina/ES and Linhares/ES.25 There were also some criticisms regarding the amount of compensation demanded in the lawsuit.

On June 25, 2018, a new agreement was signed between the Federal Public Ministry, the public ministries of the states of Minas Gerais and Espírito Santo, the public defenders of the states and the Union, and nine more public bodies, in addition to the companies Samarco Mineração, Vale and BHP Billiton Brasil, which changed the governance of the Renova Foundation. The new agreement, titled by the Public Prosecutor’s Office as Governance Agreement, provided for the creation of new structures to guarantee the effective participation of those affected by the rupture of the Fundão dam. The main change brought about by the new agreement, in terms of the participation of people affected in various decision-making and advisory bodies, was the creation of Local Commissions, Regional Chambers and an Observers Forum, as well as the recognition of the right to be supported by technical advisory services.

Regarding the restructuring of Renova’s governance and participation system, there was an evolution between the first agreement and the so-called Governance Agreement, with the expansion of the institutional spaces of participation for those affected. It is important to note, however, that there was still a disparity in representation of those affected in relation to the companies involved. This is what happened in the Board of Trustees of the Renova Foundation, for example, which has nine members, two chosen by the Regional Chambers among those affected and six selected by the companies. In addition, the broad structure created with the new governance system, including the Local Commissions, Regional Chambers and Observer Forum,

among others, had the potential to further complicate the process, promote excessive bureaucratization and overburden the work of technical advisors. Last, but not least, the Governance Agreement had its planning problems, since the implementation of the agreement did not have a clearly specified timeline or method, and the absence of such elements can significantly compromise the results to be achieved. This further increased the challenges of implementing such a complex structure.

Current Situation (2019)

There is still no reason to celebrate. The displaced population has not yet been definitively relocated or compensated. Many people, especially women, struggle to be classified as affected by the disaster in order to access the socio-economic programs developed by the Foundation. In addition, Brazilian internal regulation is still incipient when dealing with internal displacements and involuntary resettlements, since the legislative acts are merely punctual and casuistic, responding to specific disasters and lawsuits as they occur in a disjointed and ad-hoc manner. Above all, these are nothing more than legal milestones arising exclusively from requirements of International Financial Institutions (IFIs) that fund projects which could potentially cause involuntary displacement. This is the case of District Law No. 5,782/2016, which provides for measures and guidelines to be adopted in the cases of compulsory and involuntary resettlement of occupants of areas affected by the implementation of the Landmark Policy of Social Interest of the Federal District. This policy was financed by the Inter-American Development Bank. Federal Law No. 12,340/2010 provides for transfers of federal resources to the organs and entities of the states, federal district and municipalities for prevention actions disaster response and disaster recovery in risk areas and the National Fund for Public Disasters, Protection and Civil Defense. Such laws, however, are far from complying with the Guiding Principles on Internally Displaced Persons.

Despite the high recurrence of natural and man-made disasters, and the high number of displaced persons (an average of 357,000 people a year in Brazil alone), integrated prevention, response and reconstruction strategies are still scarce. However, there have also been important advances, such as the approval in 2012 of Law 12,608, which directs efforts to create a national culture of disaster prevention. The law gave rise to the National Policy on Protection and Civil Defense (PNPDEC), which defines the objectives and instruments for risk management and disaster response in Brazil.

This process of legislative and governmental awareness of the need to prevent and mitigate causes of ecological catastrophe in the country is of indisputable relevance. Accordingly, Law 12,608 / 2012 proposes of a “risk management circle,” composed of the following strategies: mitigation, emergency response, reconstruction and compensation which should permeate the practice of law, politics and governmental actions in a constant, circular, preventive and committed way.

26 In many cases, because they are not considered heads of household, women do not have access to socioeconomic programs developed.
27 According to official data, until 2013 only 526 (9 percent) of Brazilian cities had a Municipal Disaster Risk Reduction Plan. For more information see Mayara Folly, “Migrantes Invisíveis: A Crise de Deslocamento Forçado no Brasil,” Instituto Igarapé (2018), accessed April, 2020, https://igarape.org.br/wp-content/uploads/2018/03/Migrantes-invis%C3%ADveis.pdf
A number of challenges remain, however, so that policy advances can be translated into durable and effective public policies. The lack of coordination among different federal entities, for example, contributes to the fact that both disaster prevention and reconstruction activities in the affected areas are insufficient and ineffective. Residents of hazardous areas and displaced persons are highly affected by the scarcity of adequate disaster management policies. The greatest challenge is the difficulty or, in many cases, the impossibility of having their right to housing assured. Although this is a right provided for by the federal constitution, the lack of housing and resettlement programs that guarantee a definite alternative for residents of risk areas and those already displaced leads many of them to return to or to remain and live in precarious and insecure places, even when alerted to the possibility of natural disasters. As a result, the number of forced displaced persons has remained high over the years in Brazil.

Sadly, at the time this article was written, on January 25, 2019, the dam of Feijão (in Brumadinho, Minas Gerais), ruptured killing 197 people. Further, 111 people went missing and the Paraopeba river, one of the tributaries of the San Francisco river - the fifth largest river in the country, was contaminated.

**Conclusion**

Given the lack of internal normative requirements regarding internally displaced persons, the populations that had their districts decimated by the rupture of the dam may not acquire much from the company or even state entities. With their bargaining power practically nil, they are forced to accept resettlement procedures as determined by the company. As observed in the Mariana disaster, there is a lack of clear answers regarding compensation of properties of the internally displaced. This highlights the need to have an abstract normativity of institutional designs that can strengthen and prepare the Brazilian legal framework for disaster risks and forced displacement caused therein. However, legal instruments are not in and by themselves capable of modifying realities or dictating behaviors. For the effective protection, consolidation and socioeconomic stabilization of internally displaced persons in Brazil, a real construction of social infrastructures represented in national public services and even civil society is required. While this path requires legislation, legal frameworks are not the only need of the hour.

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