

ENVIRONMENTAL DISASTERS: SUCCESSES AND FAILURES OF A NEW REPAIR MODEL IN THE SAMARCO CASE

Lyssandro Norton Siqueira¹

Escola Superior Dom Helder Câmara (ESDHC) |

Elcio Nacur Rezende²

Escola Superior Dom Helder Câmara (ESDHC) |

ABSTRACT

The rupture of the mining tailings dam, called Fundão, owned by the mining company Samarco, in the municipality of Mariana in 2015, caused one of the biggest socio-environmental disasters in Brazilian history. The objective of this article is to analyze, from the perspective of Civil Environmental Responsibility, the successes and failures in imputing legal responsibility to those who caused those damages, with the main aim of pointing out how the environmental command and control system must be improved to prevent the occurrence of new tragedies, as well as for society to see a relentless response to degraders. A legal-theoretical methodology and a deductive reasoning procedure were applied, using a doctrinal and jurisprudential research technique to achieve its objectives. The result achieved was in the sense that it cannot be said that the legal system did not reach the maximum expected effectiveness considering the magnitude of the tragedy. On the other hand, positive lessons can be learned from the applied solutions. It was concluded, therefore, that, between successes and failures, what happened led to an improvement of the institutions that are in charge of the noble task of environmental protection.

1 Postdoc in Theory of the State and Constitutional Law from the Universidade Federal de Minas Gerais (UFMG). Doctor in Law from the Pontifícia Universidade Católica do Rio de Janeiro (PUC-RIO). Master in Business Law from the Faculdade de Direito Milton Campos (FDMC). Consultant. Attorney. Minas Gerais State Attorney (State Attorney General). Professor of the Master's and Doctorate Program at Escola Superior Dom Helder Câmara (ESDHC). Lattes Curriculum: <http://lattes.cnpq.br/9263657919218752> / ORCID: <https://orcid.org/0000-0003-2530-0272> / e-mail: lyssandro.norton@gmail.com

2 Postdoc in Law from the Universidade de Castilla-La Mancha (UCLM) and the Università degli Studi di Messina (UNIME). Doctor and Master in Law from the Pontifical Catholic University of Minas Gerais (PUC-MINAS). Professor at Escola Superior Dom Helder Câmara (ESDHC). Attorney at the National Treasury. Lattes curriculum: <http://lattes.cnpq.br/7242229058954148> / ORCID: <https://orcid.org/0000-0002-2369-8945> / e-mail: elcionrezende@yahoo.com.br

Keywords: environmental disaster; mining; transaction; consensual conflict resolution; environmental responsibility.

DESASTRES AMBIENTAIS: ACERTOS E DESACERTOS DE UM NOVO MODELO DE REPARAÇÃO NO CASO SAMARCO

RESUMO

O rompimento da barragem de rejeitos de mineração, denominada Fundão, de propriedade da mineradora Samarco, no município de Mariana em 2015, provocou um dos maiores desastres socioambientais da história brasileira. O objetivo deste artigo é analisar, sob o enfoque da Responsabilidade Civil Ambiental, os acertos e desacertos na imputação da responsabilidade jurídica aos causadores daqueles danos com o desiderato maior de apontar como o sistema de comando e controle ambiental deve se aperfeiçoar para inibir a ocorrência de novas tragédias, bem como para que a sociedade constate uma implacável resposta aos degradadores. Foi aplicada metodologia jurídico-teórica e procedimento de raciocínio dedutivo, utilizando-se de técnica de pesquisa doutrinária e jurisprudencial para atingir seus objetivos. O resultado alcançado foi no sentido de que não se pode afirmar que o sistema jurídico na alcançou a efetividade máxima esperada diante de magnitude da tragédia. Por outro lado, podem ser colhidas lições positivas das soluções aplicadas. Concluiu-se, portanto, que, entre acertos e desacertos, o ocorrido provocou um aperfeiçoamento das instituições que se encarregam da nobre tarefa da proteção ambiental.

Palavras-chave: *desastre ambiental; mineração; transação; solução consensual de conflitos; responsabilidade ambiental.*

INTRODUCTION

Almost 7 years ago, on November 5, 2015, the rupture of the Fundão dam, part of the mining complex of Samarco Mineração, located in the district of Bento Rodrigues, Municipality of Mariana, in Minas Gerais, caused the biggest socio-environmental disaster in Brazilian history, until then.

The rupture caused a wave of mining tailings, completely destroyed the Bento Rodrigues district, killed 19 people, and continued to cause multiple socio-environmental and socio-economic damage along the Doce River Basin, for almost 600 kilometers to the mouth.

The only reason the disaster was not worse was because, in the course of the mud, about 100 km from Mariana, the reservoir of the Risoleta Neves Hydroelectric Power Plant (Candonga) was located, which ended up retaining part of the tailings. The plant, however, has since then been without generating electricity, with serious losses for the municipalities in the region, for the State of Minas Gerais and for the Federal Government.

The disaster awakened the legal community to discuss issues related to environmental responsibility, especially considering that the company responsible for the tragedy has the two largest mining companies in the world as partners: Vale and BHP.

The problem that is now faced in this article is to answer the question: almost 7 years after the disaster, can it be stated whether the Brazilian legal system adequately responded to the event from the point of view of Environmental Civil Liability?

Therefore, this work is justified by the need to bring reflections on the legal system of responsibility for environmental damage, in the light of the evolution of Environmental Law, highlighting the consolidation of legal instruments for environmental accountability, from the perspective of protection of the fundamental right to an ecologically balanced environment.

Next, we discuss the application of the law to the case of the collapse of the Samarco dam, with the analysis of the implemented legal solutions. Then, some positive and negative aspects of the proposed actions and agreements entered into between the Government and the companies Samarco, Vale and BHP will be examined.

This work was developed with a legal-theoretical methodology and a deductive reasoning procedure, using doctrinal and jurisprudential research techniques to achieve its objectives.

2 SOCIAL AND ENVIRONMENTAL DISASTERS AND THE TRIPLE ENVIRONMENTAL RESPONSIBILITY IN BRAZIL

The Constitution of the Republic of 1988 provides for a triple responsibility for those who cause environmental damage, as is extracted from the provisions of its article 225, paragraph 3, which expressly states: “[...] § 3 Conduct and activities considered harmful to the environment will subject offenders, whether individuals or legal entities, to criminal and administrative sanctions, regardless of the obligation to repair the damage caused” (BRASIL, 1988).

This means that the person causing the environmental damage will be charged with an administrative sanction, such as a fine, suspension of activities or embargo on works, and another criminal sanction, such as detention or imprisonment. All this, without prejudice to the obligation to fully repair the damage, environmental civil liability.

Full repair of the damage must be sought primarily through restoration or environmental recovery. If it is not technically possible, only in this case the adoption of compensatory measures, including pecuniary compensation, is admitted.

After the constitutionalization of the subject, especially in the last 2 decades, Brazilian jurisprudence established important guidelines for environmental civil liability. Therefore, today, it is stated that environmental civil liability, according to the jurisprudence of the Federal Supreme Court and the Superior Court of Justice, is objective, guided by the theory of full and imprescriptible risk.

Among these characteristics, strict liability has a legal basis. Since the Civil Code of 1916, the general system of civil liability in Brazil has been subjective, requiring, in order to hold the perpetrator responsible, proof of guilt for the unlawful act, in addition to proof of damage and the causal link.

With the advent of Law no. 6.938/81, which instituted the National Environmental Policy, objective environmental civil liability was established, that is, the investigation of culpability is waived, and liability is based on the proof of the anti-legal act, the damage and the causal link, pursuant to the provisions of art. 14, paragraph 1:

Art. 14. [...]

§ 1º Without impeding the application of the penalties foreseen in this article, the polluter is obligated, regardless of the existence of guilt, to indemnify or repair

the damage caused to the environment and to third parties, affected by its activity. The Public Prosecutor's Office of the Federal Government and the States will have legitimacy to propose civil and criminal liability actions for damages caused to the environment (BRASIL, 1981).

Along with its legal regulation, civil environmental liability is certainly one of the most debated topics in Environmental Law, with a vast doctrinal production and various manifestations of our courts, especially the Superior Court of Justice.

The Superior Court of Justice also understood that strict liability is guided by integral risk. In the theory of integral risk, the damage, the fact and the causal link between them represent sufficient elements for liability, not applying any exclusion to the causal link. See the understanding of the Superior Court of Justice in judgment under the rite of the provisions of art. 543-C of the CPC (repetitive resource):

CIVIL LIABILITY FOR ENVIRONMENTAL DAMAGE. SPECIAL FEATURE REPRESENTATIVE OF CONTROVERSY. ART. 543-C OF CPC. DAMAGE ARISING FROM DAM RUPTURE. ENVIRONMENTAL ACCIDENT OCCURRED, IN JANUARY 2007, IN THE MUNICIPALITIES OF MIRAI AND MURIAÉ, STATE OF MINAS GERAIS. THEORY OF INTEGRAL RISK. CAUSAL nexus.

1. For the purposes of art. 543-C of the Code of Civil Procedure: a) liability for environmental damage is objective, informed by the theory of integral risk, with the causal link being the unifying factor that allows the risk to be integrated into the unit of the act, the invocation being inappropriate, by the company responsible for the environmental damage, of exclusions of civil liability to remove its obligation to indemnify [...] (BRASIL, 2014).

The Rapporteur's vote is highlighted:

In fact, in relation to environmental damage, the theory of integral risk applies, hence the objective character of responsibility, with express constitutional (art. 225, § 3, of the FC) and legal (art. 14, § 1, of the Law n. 6.938/1981) provision and, therefore, the allegation of exclusions of responsibility is unreasonable, being enough, for that, the occurrence of harmful result to man and the environment arising from an action or omission of the person responsible. For all, Annelise Monteiro Steigler teaches that, in accordance with the provisions of article 14, § 1, of Law no. 6938/1981, liability for environmental damage is objective, assuming the existence of an activity that entails risks to health and the environment, with the causal link being "the binding factor that allows the risk to be integrated into the unit of act that is the source of the obligation to indemnify", so that the one who exploits the "economic activity puts oneself in the position of guarantor of environmental preservation, and the damage that concern the activity will always be linked to it"; therefore, the invocation, by

the person responsible for the environmental damage, of excluding civil liability is improper [...] (BRASIL, 2014).

Despite understanding that the jurisprudential position is “technically mistaken”, Farias, Braga Netto and Rosenvald (2015, p. 908) do not believe that there will be no reversal of the trend and this would be a “politically correct” option.

The adoption of the integral risk theory, by not admitting exclusions of responsibility, such as acts of God or force majeure, favors the attribution of responsibility to those responsible for the undertaking potentially causing environmental damage.

In addition, on the grounds that the right to an ecologically balanced environment is essential to a healthy quality of life and, therefore, a fundamental right, being included among the unavailable rights, our courts consolidated the guidance that the claim to repairing environmental damage would be imprescriptible. In this sense, the understanding of the Federal Supreme Court:

EXTRAORDINARY RESOURCE. GENERAL REPERCUSSION. THEME 999. CONSTITUTIONAL. ENVIRONMENTAL DAMAGE. REPAIR. IMPRESCRIPTIBILITY.

1. In these records the debate is whether the principle of legal certainty, which benefits the author of the environmental damage in the face of the inertia of the Government, should prevail; or whether the constitutional principles of protection, preservation and repair of the environment, which benefit the entire community, should prevail.
2. In our legal system, the rule is the prescription of the reparation claim. Imprescriptibility, in turn, is an exception. It depends, therefore, on external factors, which the legal system deems irrevocable by time.
3. Although the Constitution and ordinary laws do not provide for the statute of limitations for the repair of civil environmental damages, **the stipulation of a period for claiming compensation being the rule, the constitutional protection of certain amounts imposes the recognition of imperceptible claims.**
4. The environment must be considered the common heritage of all humanity, in order to guarantee its full protection, especially in relation to future generations. All conduct by the Government must be directed towards full internal legislative protection and adherence to international pacts and treaties protecting this 3rd generation fundamental human right, to avoid prejudice to the community in the face of an allocation of a certain good (natural resource) for an individual purpose.
5. **Repairing damage to the environment is an unavailable fundamental right, and it is imperative to recognize the imprescriptibility with regard to environmental damage restoration** (BRASIL, 2020).

In our recent past, however, this robust system of civil liability has not shown a good record in resolving the problem of effective socio-environmental damage repair. See, for example, the case of the rupture of the tailings dam of the Cataguases de Papel Industry, which occurred on March 29, 2003, allowing approximately 500,000,000 (five hundred million) liters of lye to flow, causing flooding of areas and destruction of agricultural enterprises.

The lye reached Córrego do Cágado, Rio Pomba and Rio Paraíba do Sul, reaching the Atlantic Ocean and causing environmental damage in cities of Minas Gerais, Espírito Santo and Rio de Janeiro. Two years after the disaster occurred, the Federal Public Prosecutor's Office filed a public civil action for indemnity and compensation for ecological damage, combined with a claim for compensation for nonpecuniary moral damage. To demonstrate the total lack of effectiveness of the judicial provision, it should be noted that the process, even today, more than 17 years after the disaster, is in the appeal phase of the 2nd instance, without any act of environmental reparation, resulting from the jurisdictional relief³.

Given the existence of constitutional and infra-constitutional norms for the requirement of environmental reparation, the problem cannot be ascribed to mistaken norms or legislative gaps. Likewise, in the last 40 years, with the strengthening of instruments for the protection of nonpecuniary and collective rights, such as the Public Civil Action Law (Law no. 7,347/1985) and the Popular Action Law (Law no. 4,717/1965), access to the Judiciary for the defense of the environment and for the solution of controversies involving environmental causes has improved. The problem of weakness in full environmental repair does not seem, therefore, to be a deficit in the legal framework, on the contrary, it seems to be in the effectiveness of norm enforcement.

Civil actions for environmental liability are very complex, since the diagnosis of the damage, the investigation of the causal link and the determination of mitigating and repairing measures demand a technical transdisciplinarity, which must be immediate. Imposing, in some cases, the action even when the damage occurs. In addition, the multiplicity of legitimate parties to bring the actions can end up causing an undesirable competition of mismatched actions and with dissonant objectives.

Thus, an unprecedented disaster, such as that of Samarco, obviously

³ 2nd Federal Court of Campos, Judicial Section of Rio de Janeiro, Process No. 0001143-73.2005.4.02.5103. Judgment of 02/17/2016.

did not find the bodies that make up the Justice System prepared for a quick response. In the first hours following the disaster, there was a lot of disagreement in the performance of the public bodies of the Executive Branch and institutions of the Justice System. The disconcerted action of some entities, in the moments following the rupture, caused legal uncertainty, with situations that indicated the damming of the tailings and others indicating the release for it to reach the mouth.

In order to avoid contradictory actions and in view of the national proportions of the disaster, the federal entities directly involved, the Federal Government, the State of Espírito Santo and the State of Minas Gerais, sought administrative alignment regarding the exercise of police power and decision-making. Some issues, however, were beyond the limits of self-enforcement of administrative acts, which also motivated a concerted action by public authorities.

Without prejudice to this administrative action, it was necessary to ensure that those responsible adopted precautionary measures and did not shy away from recovering the environmental damage still in progress, guaranteeing pecuniary full compensation for the damage. Therefore, concerted judicial action was necessary as a means of initiating the search for consensual solutions.

3 LEGAL SOLUTIONS ADOPTED IN THE CASE OF THE SAMARCO DAM RUPTURE: SUCCESSES AND FAILURES

In the judicial sphere, the Advocacy General of the State of Minas Gerais – AGE/MG, filed a public civil action against Samarco, Vale and BHP, in November 2015, with preliminary injunctions granted, which required companies to adopt emergency measures, under penalty of a daily fine in the amount of R\$ 1,000,000.00 (one million *reais*). The preliminary decision also determined that the defendant should provide a suitable guarantee in the amount of BRL 1,000,000,000.00 (one billion *reais*) to guarantee the reparation of damages and also the fulfillment of the preliminary measures within 10 (ten) days, under penalty of blocking said amount (MINAS GERAIS, 2015). In addition, in view of the emergency expenses borne by the State of Minas Gerais, it determined the judicial deposit by Samarco of R\$50,000,000.00 (fifty million *reais*) to ensure the repair of damages caused to the state entity (MINAS GERAIS, 2015).

Since the day the dam broke, public forces have been forced to act

in concert to identify the damage and adopt mitigation measures. As the damage affected the Rio Doce Basin as a whole, the Federal Government, the State of Minas Gerais and the State of Espírito Santo, competent for administrative action, pursuant to art. 23 of the 1988 Constitution, sought to integrate their respective technical and legal areas. In this sense, there was an alignment of the federated entities to propose a new action, in which the requests common to them were concentrated. Thus, in November 2015, the Attorney General of the State of Minas Gerais – AGE/MG, together with the Attorney General of the Federal Government – AGU and the Attorney General of the State of Espírito Santo – PGE/ES, filed a public civil action against Samarco Mineração SA (operator of the structure) and its parent companies (Vale SA and BHP Billiton Brasil Ltda.) (BRASIL, 2015).

A few weeks later, in December 2015, with competence established for processing the action, the Judge of the 12th Federal Court of Belo Horizonte granted a preliminary injunction ordering the companies to implement a series of emergency measures and deposit, as a guarantee of compliance, R \$2,000,000,000.00 (2 billion *reais*) in court. The decision also prevented Samarco Mineração SA from distributing dividends, interest on equity, share bonuses or any other form of remuneration to shareholders:

- a) grant a precautionary measure so that the company Samarco Mineração S/A, within a period of 10 days, prevents (or proves that it has already stopped) the leakage of the volume of tailings that are still in the ruptured dam, proving the safety measures taken for the safety of the Fundão and Santarém dams; b) grant a precautionary measure so that the defendant companies, within a period of 10 days, hire companies that can immediately start evaluating the contamination of fish by inorganic substances and the risk potentially caused to human consumption of these, as well as carry out the control of proliferation of synanthropic species (rats, cockroaches, etc.), capable of creating a risk of disease transmission to men and animals in areas affected by mud and tailings; c) grant a precautionary measure so that the defendant companies, within 15 days, prepare studies and adopt measures to prevent the volume of mud released into the Doce River from reaching the Rio Doce lagoon system and the protection of water sources minerals mapped by DNPM; d) grant a precautionary measure so that the defendant companies, within a period of 20 days, carry out mapping studies of the different resilience potentials of the 1,469 ha directly affected, with the aim of ascertaining the thickness of the mud cover, the granulometry, the potential presence of heavy metals, and the PH of the material, as well as the immediate adoption of measures for removing the volume of mud deposited on the banks of the Rio Doce, its tributaries and adjacent to its mouth; e) grant a precautionary measure so that the company Samarco Mineração S/A, within a period of 30 days, makes an initial judicial deposit of two billion *reais*, to be used in

the implementation of the plan for full recovery of the damages to be prepared by the defendants; f) decree, based on article 7 of Law 8.429/92, combined with art. 461, §5, of the CPC, the unavailability of existing mining concession licenses on behalf of the defendant companies, according to documents on pages 304/308, as well as the rights arising therefrom, and the authors must provide the necessary annotations of the unavailability now decreed; g. 1) grant advance relief to determine that the defendant companies, within a period of up to 45 days, present g) a global socio-environmental recovery plan for the Rio Doce Basin and the entire degraded area, complying with the determinations and parameters of the competent environmental authorities, with details of the actions to be developed, execution schedule and disbursement of resources, and g. 2); a global socioeconomic recovery plan to serve the populations affected by the disaster, within 30 days, in compliance with the determinations and parameters of competent authorities, with details and particulars of the actions to be developed, execution schedule and disbursement of resources (BRASIL, 2016a).

The preliminary decision, in order to ensure full compliance with court orders, set the daily fine for non-compliance with each of the measures set at BRL 150,000.00 (one hundred and fifty thousand *reais*), without prejudice to other sanctions. With the granting of this new injunction, a period of negotiations between Plaintiffs and Defendants began, aiming at a consensual solution to the conflict. These negotiations culminated in the conclusion, in March 2016, of the Term of Transaction and Adjustment of Conduct – TTAC, having as premises the full repair of the environment and socioeconomic conditions, the conviction that the agreement is the quickest and most effective way to resolve the controversy and guarantee the execution of what was being agreed (SIQUEIRA; COSTA, 2018).

Recognizing the incompetence of the conventional system for executing condemnatory judicial decisions, the TTAC created an unprecedented model for executing reparations. The TTAC provided for 42 socio-economic and socio-environmental programs and aimed to regulate in a centralized, articulated and effective manner the full repair of socio-environmental and socio-economic damage resulting from the dam rupture. Due to the difficulties in quantifying the damage resulting from the biggest environmental disaster in Brazilian history, a judicial composition was chosen in which obligations were foreseen for the formulation and execution of socio-economic (BRASIL, 2016b)⁴ and socio-environmental (BRASIL,

⁴ Term of Transaction and Adjustment of Conduct entered into in the records of Public Civil Action no. 0069758-61.2015.4.01.3400 pending at the 12th Federal Court of the Judiciary Section of Minas Gerais. Clause 08: The thematic axes and respective SOCIOECONOMIC Programs to be prepared, developed and executed by the Foundation to be instituted, detailed in a separate chapter, are the following: I. Social Organization: Program for surveying and registering those affected; Reimbursement and compensation program for those affected; Program for the protection and recovery of the quality of life of indigenous peoples; Program for the protection and recovery of the quality of life

2016b) restoration and compensation programs⁵.

The programs started to be executed by Fundação Renova, a Private Law Foundation constituted by the three companies, with entirely private management, which should act independently and transparently. Unlike the Government, the Renova Foundation would, in theory, be quicker to carry out reparatory acts and private contracts, due to its private nature. The institution of the Foundation would not exempt companies from liability. All studies, diagnoses, programs, projects and actions would have to be carried out by companies with recognized technical training and notorious professional experience in the market. All activities carried out by the Foundation will also be subject to independent external auditing.

of other peoples and traditional communities; Social Protection Program; Communication, Participation, Dialogue and Social Control Program; and Animal Care Program. II. Infrastructure: Program for the reconstruction, recovery and relocation of Bento Rodrigues, Paracatu de Baixo and Gestora; Reservoir program for the UHE Risoleta Neves Reservoir; and Recovery Program for the other impacted Communities and Infrastructures between Fundão and Candonga, including Barra Longa. III. Education, Culture and Leisure: Program for the Recovery of Schools and Reintegration of the School Community; Historical, Cultural and Artistic Memory Preservation Program; and Program to support tourism, culture, sport and leisure.

IV. Health: Physical and Mental Health Support Program for the Impacted Population.

V. Innovation: Research Support Program for the Development and Use of Socioeconomic Technologies Applied to Impact Remediation. VI. Economy: Aquaculture and Fishing Activities Resumption Program; Agricultural Activities Resumption Program; Regional Economy Recovery and Diversification Program with Industry Incentive; Recovery Program for Micro and Small Businesses in the Trade, Services and Productive Sector; Local Hiring Stimulus Program; Emergency Financial Assistance Program for those impacted; and Reimbursement Program for extraordinary public expenses of the parties; VII. Action Plan Management: Management program for socioeconomic programs.

5 Term of Transaction and Adjustment of Conduct entered into in the records of Public Civil Action no. 0069758-61.2015.4.01.3400, pending at the 12th Federal Court of the Judiciary Section of Minas Gerais:

Clause 15: The thematic axes and respective Socio-environmental Programs to be prepared and executed by the Foundation, detailed in a separate chapter, are the following:

Waste management and recovery of water quality. Tailings management program resulting from the rupture of the Fundão dam, considering conformation and *in situ* stabilization, excavation, dredging, transport, treatment and disposal; Program for the implementation of tailings containment systems and *in situ* treatment of impacted rivers. Forest restoration and water production: Environmental Area 1 recovery program in the municipalities of Mariana, Barra Longa, Rio Doce and Santa Cruz do Escalvado, including bioremediation; Recovery Program for Permanent Preservation Areas (APP) and recharge areas of the Doce River Basin control of erosion processes; Springs recovery program Biodiversity conservation: Aquatic biodiversity conservation program, including freshwater, coastal and estuarine zones and the impacted marine area; Program to strengthen screening structures and reintroduction of wild fauna; Terrestrial fauna and flora conservation program. Water Security and Water Quality: Sewage collection and treatment and solid waste disposal program; and Program to improve water supply systems. Education, Communication and Information: Program of environmental education and preparation for environmental emergencies; Information program for the population of Environmental Area 1; and National and international communication program. Environmental Preservation and Safety: Environmental risk management program in Environmental Area 1 of the Rio Doce Basin; and Investigation and monitoring program for the Rio Doce Basin and estuarine, coastal and marine areas impacted. Sustainable Land Use and Management: Conservation Units Consolidation Program; and Program to encourage the implementation of CAR and PRA's in Environmental Area 1 of the Rio Doce Basin. Action Plan Management Environmental recovery plan management program for the Rio Doce basin, estuarine, coastal and marine areas.

The Government constituted an Interfederative Committee for permanent dialogue with the Renova Foundation, being responsible for validating, accompanying, monitoring and inspecting all actions⁶. In addition, the creation of an Advisory Board was planned with the objective of listening to legitimate associations for defending the rights of those affected, as well as establishing channels for civil society participation, and able to convene specific meetings and listen to interested organizations. The Board would be composed of experts, members of civil society and impacted communities.

The agreement had the great merit of ruling out any legal discussion regarding the liability of Samarco and its parent companies for full compensation for damages. Based on the then existing precedents of lawsuits for repairing environmental damage, it would take a few decades to obtain a definitive court order, forcing companies to perform reparation obligations.

In addition, the TTAC brought together, as parties, the federal and state public authorities, responsible for directing the remedial measures, avoiding contradictory decisions and promoting greater synergy in the determination of remedial actions. Decisions would be taken through an Interfederative Committee, creating an environment of legal certainty in relation to the reparation procedure.

After almost 7 years of signing the agreement, some TTAC numbers are worth highlighting. Two billion *reais* (R\$2,000,000,000.00) were invested in 2016. In the following years, an annual budget of R\$1,200,000,000.00 (one billion, two hundred million *reais*) was ensured, with no limitation on global expenses for the comprehensive repair. One billion five hundred million *reais* (R\$1,500,000,000.00) were also provided for the adoption of sanitation and solid waste measures in the Rio Doce Basin. As compensatory measures for irreversible damage, BRL 240,000,000.00 (two hundred and forty million *reais*) per year, over 15 years, were assured. Regarding homogeneous individual rights, by 2020, R\$2,500,000,000.00 (two billion and five hundred million *reais*) had already been disbursed in compensation and financial aid (BRASIL, 2016b).

On the other hand, in opposition to the successes, the positive points, such as high amounts made available and several successful reparation actions, this new model of reparation, conceived to be agile and efficient,

6 Available from: <http://www.meioambiente.mg.gov.br/component/content/article/13-informativo/2891-sisema-no-cif-comite-interfederativo-c>.

faced, from the beginning, criticism and obstacles to the its perfect execution, making some mistakes.

From the beginning, there were several criticisms of the new reparatory model, some unfounded, due only to resistance to innovative solutions, and others with reason. The main one was related to the lack of participation of the people affected in the signing of the TTAC. In fact, the public institutions, signatories of the TTAC, sought to quickly and definitively establish the legal responsibility of Samarco, Vale and BHP for repairing all damages resulting from the dam rupture. The major concern was the perpetuation of legal discussions about this accountability, as in other precedents in Brazilian law. It was in this sense that several and intense meetings were held for a quick legal solution, in March 2016 (the disaster, remember, happened in November 2015). This need for speed in the search for a legal solution imposed that the public institutions, signatories of the TTAC, take the decision to enter into the agreement, postponing the participation of the affected people for its execution, which, in fact, prevented a prior and wide discussion of the subject with all the institutions of justice and with all the people affected, which would have been practically impossible at that time. The TTAC created participation instruments in its execution, but, due to the speed with which it was signed, it was not possible to carry out public consultations.

Trying to address this criticism and seeking, once again, a consensual solution to conflicts, a new negotiation front began in 2016, aimed at improving the TTAC. Thus, after 2 years of new legal discussions and at least 54 meetings, including companies, public authorities and institutions of the Justice System, in August 2018, the Term of Adjustment of Governance Conduct (TAC-GOV) was signed providing for 2 new pacts: the improvement of the governance process foreseen in the TTAC for the definition and execution of programs, projects and actions that are destined to the full repair of the damages resulting from the rupture of the dam and the improvement of the mechanisms of participation of the affected people in all stages and phases of the programs foreseen in the TTAC.

In addition to the participation of the original signatories of the TTAC (Federal Government, State of Minas Gerais, State of Espírito Santo, Samarco, Vale and BHP), the TAC-GOV was discussed and signed by practically all the representative institutions of the Justice System: Federal Public Ministry, Public Ministries of Minas Gerais and Espírito Santo, Public Defenders of the Federal Government, Public Defenders of Minas Gerais

and Espírito Santo. It is, therefore, an unprecedented agreement in the Judiciary, whether due to the involvement and articulation of all institutions, or due to the amounts involved.

Unfortunately, however, the gears of the new reparation model, even after being perfected by the TAC-GOV, presented some flaws and divergences and delays began to appear in the Renova Foundations compliance with the Interfederative Committee's deliberations. There was a need to speed up compliance with obligations relating to programs, projects and actions provided for in the TTAC.

One of the sensitive points in the execution of the agreement consists of the confrontational technical positions on the best repair strategy in the most diverse areas: tailings management, health, monitoring, studies of risk to human health and the environment, analysis of contamination, prohibition of fishing and sanitation, among others. These technical divergences provoked a veritable war of technical reports.

In addition, the Renova Foundation, designed to be efficient and fast, has not served its purpose. In the years that followed its constitution, the Foundation began to have a large number of employees and began to operate in the most diverse technical areas, losing efficiency in the fulfillment of the most diverse obligations under its responsibility, becoming excessively bureaucratic and slow.

Thus, in 2019, after identifying priority demands arising from technical differences and delays by the Foundation, the institutions of the Justice System filed requests for compliance with obligations related to programs and projects that were not being sufficiently met. The judgment of the 12th Federal Court determined that the claims be organized into 12 priority thematic axes currently in progress and already producing results: 1) Extra and intra-channel environmental recovery; 2) human health risk and ecological risk; 3) Resettlement of affected communities; 4) Infrastructure and development; 5) Operational return of the Risoleta Neves Hydroelectric Power Plant; 6) Performance measurement and monitoring; 7) Registration and indemnities; 8) Resumption of economic activities; 9) Water supply for human consumption; 10) Hiring of technical advisors; 11) Health actions; 12) Prohibition of fishing in the Rio Doce basin and a last axis (13) to analyze the performance of the Renova Foundation itself.

In each of these thematic axes, judicial expertise was designated that could subsidize the Judgment of the 12th Federal Court of Belo Horizonte in decision-making. With this provocation by the Judiciary Branch, the

aim was to resolve technical conflicts, orienting repairs based on judicial definitions supported by expert reports.

It turns out that the progress of the expert work was greatly impaired by the pandemic period, starting in March 2020, which made it impossible to carry out the technical steps essential to the preparation of reports. In addition, it is clear that the provocation of the Judiciary, instead of pacifying and settling technical conflicts, has increased litigation. Practically all the interlocutory decisions taken in the conduct of the aforementioned thematic axes have challenged resources. Decisions on setting expert fees, presenting requirements, defining a work plan and partial reports are all questioned before the courts.

This new repair model lacks the definition of a mechanism to resolve technical conflicts with assertiveness and speed. The lack of understanding about the best technical solution to be adopted in the specific case delays the reparation process, perpetuating the socio-environmental and socio-economic damages, transmitting to society the feeling of frustration before the Justice System. The improvement of the model passes, in our opinion, through the introduction of a kind of technical arbitration, with professionals accredited by those involved in the repair procedure and accredited before public institutions.

CONCLUSION

The grandeur and complexity of the socio-environmental damage resulting from the rupture of the Samarco dam, in Mariana, obliged the Government to confront an unprecedented disaster, in a different way.

Although for years the jurisprudence of the Superior Court of Justice and the Federal Supreme Court has consolidated a robust system of attributing Environmental Civil Liability to the degrader, with the adoption of the Integral Risk Theory, imprescriptibility and solidarity, the practical application of this legal system has not brought the expected efficiency. The analysis of past cases revealed that in environmental disasters that occurred in the remote past, repairing the damage suffered would still be far from becoming a reality.

It was therefore necessary to create a new reparative model. The great merit of the entities was the inter-institutional articulation between the Federal Government, the State of Minas Gerais, the State of Espírito Santo and practically all the representative institutions of the Justice System:

Federal Public Ministry, Public Ministries of Minas Gerais and Espírito Santo, Public Defender of the Federal Government, Public Defenders of Minas Gerais and Espírito Santo. There are no precedents in Brazilian law for an agreement such as the one signed in this case, either by the involvement and articulation of all institutions, or by the amounts involved. The pioneering integration of the various bodies that make up the Justice System has demonstrated the enormous gain in efficiency in the results achieved.

However, the new reparatory model conceived faced some problems in execution. The breadth and complexity of each of the points placed as thematic axes shows that, although much has already been done, there is still much to be done. If there are failures in the execution of obligations by the Renova Foundation, the criticism should be directed towards improving the model and not the destruction of this unprecedented repair system.

In response to the problem presented, it can be said that there were many successes and mistakes committed by the Brazilian legal system in that tragedy. It is concluded, therefore, that it is extremely urgent to improve the state's organicity, so that Environmental Civil Responsibility is imputed as a way of ensuring society an effective response to environmental tragedies, as it happened in the case analyzed. On the other hand, it can be said that it is necessary to create an efficient mechanism to resolve technical conflicts and enable the participation of the people affected in the reparation procedure.

REFERENCES

BATISTA JÚNIOR, O. A.; SILVA, F. A. G. A função social da exploração mineral no estado de Minas Gerais. *Revista da Faculdade de Direito da Universidade Federal de Minas Gerais*, Belo Horizonte, n. 62, p. 475-505, jan./jun. 2013. Available from: <https://www.direito.ufmg.br/revista/index.php/revista/article/view/P.0304-2340.2013v62p475/258>. Access on: Nov. 28, 2022.

BRASIL. Supremo Tribunal de Justiça. Recurso Especial n. 1.120.117 – AC (2009/0074033-7). Administrativo e Processo Civil – Direito Ambiental – Ação Civil Pública – Competência da Justiça Federal – Imprescritibilidade da Reparação do Dano Ambiental – Pedido Genérico – Arbitramento do Quantum Debeatur na Sentença: revisão, possibilidade – súmulas

284/STF e 7/STJ. Recorrente: Orleir Messias Cameli e outro. Recorrido: Ministério Público Federal. Relatora: Ministra Eliana Calmon; 10 nov. 2009. Available from: https://ww2.stj.jus.br/processo/revista/inteiroteor/?num_registro=200900740337&dt_publicacao=19/11/2009. Access on: Feb. 23, 2017.

BRASIL. Supremo Tribunal Federal. Recurso Extraordinário n. 654.833 Acre. Recurso Extraordinário. Repercussão Geral. Tema 999. Constitucional. Dano Ambiental. Reparação. Imprescritibilidade. Recorrente: Orleir Messias Cameli e outro(a/s). Recorrido: FUNAI – Fundação Nacional do Índio. Relator: MIN. Alexandre de Moraes; 20 abr. 2020. Available from: <https://redir.stf.jus.br/paginadorpub/paginador.jsp?docTP=TP&docID=753077366>. Access on: Oct. 4, 2022.

BRASIL. Presidência da República. Casa Civil. Subchefia para Assuntos Jurídicos. Lei n. 6.938, de 31 de agosto de 1981. Dispõe sobre a Política Nacional do Meio Ambiente, seus fins e mecanismos de formulação e aplicação, e dá outras providências. *Diário Oficial da União*: seção 1, Brasília, DF, p. 16509, 2 set. 1981. Available from: http://www.planalto.gov.br/ccivil_03/leis/l6938.htm. Access on: Oct. 4, 2022.

BRASIL. Lei Complementar n. 140, de 8 de dezembro de 2011. Fixa normas, nos termos dos incisos III, VI e VII do caput e do parágrafo único do art. 23 da Constituição Federal, para a cooperação entre a União, os Estados, o Distrito Federal e os Municípios nas ações administrativas decorrentes do exercício da competência comum relativas à proteção das paisagens naturais notáveis, à proteção do meio ambiente, ao combate à poluição em qualquer de suas formas e à preservação das florestas, da fauna e da flora; e altera a Lei n. 6.938, de 31 de agosto de 1981. *Diário Oficial da União*: seção 1, Brasília, DF, p. 1, 9 dez. 2011a. Available from: http://www.planalto.gov.br/ccivil_03/leis/LCP/Lcp140.htm. Access on: Feb. 18, 2017.

BRASIL. Ministério do Meio Ambiente. Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis. *Instrução Normativa 4, de 13 de abril de 2011*. Estabelece procedimentos para elaboração de Projeto de Recuperação de Área Degradada – PRAD ou Área Alterada, para fins de cumprimento da legislação ambiental, bem como dos Termos de Referência constantes dos Anexos I e II desta Instrução Normativa. Brasília, DF: Ibama, 2011b. Available from: <http://www.ibama.gov.br/>

component/legislacao/?view=legislacao&legislacao=118064. Access on: Nov. 28, 2022.

BRASIL. Supremo Tribunal Federal (2ª Seção). Recurso Especial n. 1374284/MG. Responsabilidade Civil por Dano Ambiental. Recurso Especial Representativo de Controvérsia. Art. 543-C do CPC. Danos decorrentes do rompimento de barragem. acidente ambiental ocorrido, em janeiro de 2007, nos municípios de Mirai e Muriaé, estado de Minas Gerais. Teoria do Risco Integral. Nexo de Causalidade. Relator: Ministro Luis Felipe Salomão; 27 ago. 2014. Available from: [https://scon.stj.jus.br/SCON/pesquisar.jsp?i=1&b=ACOR&livre=\(\(%27RESP%27.clas.+e+@num=%271374284%27\)+ou+\(%27REsp%27+adj+%271374284%27\).suce.\)&thesaurus=JURIDICO&fr=veja](https://scon.stj.jus.br/SCON/pesquisar.jsp?i=1&b=ACOR&livre=((%27RESP%27.clas.+e+@num=%271374284%27)+ou+(%27REsp%27+adj+%271374284%27).suce.)&thesaurus=JURIDICO&fr=veja). Access on: Nov. 28, 2022.

BRASIL. Tribunal Regional Federal da 1ª Região. 12ª Vara Federal da Seção Judiciária de Belo Horizonte/MG. Ação Civil Pública n. 0023863-07.2016.4.01.3800. Petição inicial. Belo Horizonte: TRF1, 2015. Available from: http://www.brasil.gov.br/meio-ambiente/2015/12/confira-documentos-sobre-o-desastre-do-rio-doce/acao_inicial_agu_es_mg_samarco.pdf. Access on: Feb. 23, 2017.

BRASIL. Tribunal Regional Federal da 1ª Região. 12ª Vara Federal da Seção Judiciária de Belo Horizonte/MG. Decisão liminar proferida na Ação Civil Pública n. 0023863-07.2016.4.01.3800 pelo Juiz da 12ª Vara Federal da Seção Judiciária de Belo Horizonte/MG). Belo Horizonte: TRF1, 2016a. Available from: http://www.agu.gov.br/page/content/impimir/id_conteudo/425989. Access on: 24 fev. 2017.

BRASIL. *Termo de Transação e de Ajustamento de Conduta*. Brasília, DF, 2016b. Available from: <http://www.fundacaorenova.org/wp-content/uploads/2016/07/TTAC-FINAL-ASSINADO-PARA-ENCAMINHAMENTO-E-USO-GERAL.pdf>. Access on: Feb. 23, 2017.

COSTA, B. S. *O gerenciamento econômico do minério de ferro como bem ambiental no Direito Constitucional Brasileiro*. São Paulo: Fiúza, 2009.

FARIAS, C. C.; BRAGA NETTO, F. P.; ROSENVALD, N. *Novo tratado de responsabilidade civil*. São Paulo: Atlas, 2015.

MACHADO, P. A. L. *Direito Ambiental Brasileiro*. 23. ed. São Paulo: Malheiros, 2015.

MARTINS, J. *et al.* *Setor mineral: rumo a um novo marco legal*. Brasília, DF: Edições Câmara, 2011. (Caderno de Altos Estudos, v. 08). Available from: <http://www2.camara.gov.br/a-camara/altosestudios/arquivos/setor-mineral-rumo-a-um-novo-marco-legal/setor-mineral-rumo-a-um-novo-marco-legal>. Access on: Jan. 31, 2016.

MINAS GERAIS. Tribunal de Justiça do Estado de Minas Gerais. 2015. Decisão liminar proferida na Ação Civil Pública n. 6123882-60.2015.8.13.0024, pelo Juiz da 2ª Vara de Fazenda Pública Estadual da Comarca de Belo Horizonte/MG. Belo Horizonte: TJMG, 2015a. Available from: http://www4.tjmg.jus.br/juridico/sf/proc_movimentacoes2.jsp?listaProcessos=10000150987196000. Access on: Feb. 20, 2017.

REIS NETO, A. F.; SILVA, L. J.; ARAÚJO, M. S. B. Relatório de passivo ambiental: estudo de caso à luz da legislação, da doutrina e da jurisprudência ambientais brasileiras. *Veredas do Direito*, Belo Horizonte, v. 13, n. 26, p. 141-166, out. 2016. Available from: <http://www.domhelder.edu.br/revista/index.php/veredas/article/view/590>. Access on: Mar. 01, 2017.

SILVA, F. A. G.; SIQUEIRA, L. N. A maldição dos recursos naturais sob a perspectiva dos danos ambientais. *In*: COSTA, B. S.; SANTIAGO, M. R. (coord.). XIV Congresso Nacional do CONPEDI – Direito e Sustentabilidade I. Florianópolis: CONPEDI: 2015. Available from: <http://site.conpedi.org.br/publicacoes/66fsl345/ndtl7u8l/0H8d4I9BHDw5FqW7.pdf>. Access on: Nov. 28, 2022.

SIQUEIRA, L. N. *Qual o valor do meio ambiente? Previsão normativa de parâmetros para a valoração econômica do bem natural impactado pela atividade minerária*. 2. ed. Rio de Janeiro: Lumen Juris, 2022.

SIQUEIRA, L. N.; COSTA, B. S. A internacionalização da proteção ambiental e a necessidade de maior efetividade das ações de reparação por danos ambientais: o caso de Mariana. *Nomos: Revista do Programa de Pós-Graduação em Direito-UFC*, Fortaleza, v. 38, n. 2, p. 653-668, jul./dez. 2018. Available from: https://repositorio.ufc.br/bitstream/ri-ufc/43936/1/2018_art_Insiqueira.pdf. Access on: Nov. 28, 2022.

STOCO, R. *Tratado de responsabilidade civil*. 7. ed. rev. atual. ampl. São Paulo: Revista dos Tribunais, 2007.

Article received on: 10/13/2022.

Article accepted on: 11/29/2022.

How to cite this article (ABNT):

SIQUEIRA; L. S.; REZENDE, E. N. Environmental disasters: successes and failures of a new repair model in the Samarco case. *Veredas do Direito*, Belo Horizonte, v. 19, n. 45, p. 293-312, sep./dec. 2022. Available from: <http://www.domhelder.edu.br/revista/index.php/veredas/article/view/2456>. Access on: Month. day, year.