

Climate crisis and new challenges for health systems: the case of floods in Rio Grande do Sul/Brazil

Maria Lucia Frizon Rizzotto¹, Ana Maria Costa¹, Lenaura de Vasconcelos da Costa Lobato¹

DOI: 10.1590/2358-28982024141EDI

THE EFFECTS OF CLIMATE CHANGE ON THE PLANET, predicted by scientists for the coming decades, have already come. In the first months of 2024, floods occurred in countries in Africa (Kenya) and Asia (Indonesia, Afghanistan), leaving hundreds dead and thousands homeless. In May, in Brazil, rain caused the biggest tragedy in the history of the state of Rio Grande do Sul, and one of the biggest in the country.

The state has a population of 10.88 billion inhabitants residing in 497 municipalities, of which 90.9% (452) were affected by floods, many of them completely destroyed. The tragedy, in addition to the incalculable material damage (destruction of houses, businesses, plantations, roads, airport, infrastructure in all areas), caused, until May 25, the death of 169 people, and 61 are still missing. Around 2.1 million people were affected, 650,000 were displaced, and 71,500 are homeless (hosted in public shelters). Furthermore, hundreds of them will no longer be able to return to their houses because they were washed away by the flood and because they are located in risk areas, making it impossible to rebuild them in the same place¹. In the health sector, more than 3 thousand health establishments were affected².

The action of the state and municipal governments had the immediate human and financial support of the federal government, which sent more than 20 thousand professionals from different Ministries to assist in the reconstruction of the state and allocated more than R\$51 billion in different programs, aimed at the productive sectors and to the affected families, seeking to alleviate the suffering of those who lost everything³.

Solidarity, demonstrated from North to South of the country, involved the most diverse sectors of society, artists, influencers, Non-Governmental Organizations (NGOs), social movements, sectors of the economy and media, with donations and direct action in civil defense, which proved fundamental in the first days of the tragedy, when the objective was to save lives, by rescuing stranded people and animals, searching for the missing and sheltering the homeless. However, this solidarity – necessary and fundamental – does not replace the role of the State as neoliberals, defenders of the minimal State, tried to make us believe. Without public investments, there is no way to recover the destroyed infrastructure (roads, bridges, airports, schools, health services etc.) nor to stimulate the recovery of the productive sector (commerce, industry, agriculture, and others), nor to guarantee the transfer of financial resources to the families.

The tragedy revealed the negligence of the administrations of the state of Rio Grande do Sul, the capital Porto Alegre, and several municipalities, which adopted policies to strangle the public sector and privatize areas of public interest. Several recommendations for preventive

¹Centro Brasileiro de Estudos de Saúde (Cebes) – Rio de Janeiro (RJ), Brasil. marialuciarizzotto@gmail.com



measures had been announced by technicians from related areas, but little or nothing was done. The most obvious example was the warning, announced in 2018, and now made public, that the pumping system in the city of Porto Alegre required urgent maintenance, without which it could fail in a likely flood – that is exactly what happened. The floodgate system also failed, which had visible maintenance weaknesses. The city mayor ignored all the warnings from municipal employees. In the face of that, journalist Leandro Demori called the capital Porto Alegre “the case-city of the minimum state”⁴. The state governor, Eduardo Leite, also a well-known defender of the minimum state, when asked about the warnings repeatedly announced about the heavy rains to come, stated that he did not invest in prevention because the state had “*other agendas*”.

In fact, the agendas were different. There were more than 489 measures taken by the administration of the state of Rio Grande do Sul, starting in 2019, the first year of the current governor Eduardo Leite’s term, which caused the dismantling of environmental legislation, such as the relaxation of environmental rules for the construction of dams for irrigation in Permanent Preservation Areas (APP)⁵ and, more recently, the failure to invest in infrastructure to protect slopes and in the recovery of the flood protection system in Porto Alegre (state capital), which, in the September flood of 2023, had already shown the need for recovery and has now “*failed miserably*”, laments Walter Collischonn, professor of environmental engineering and water engineering at the Federal University of Rio Grande do Sul (UFRGS)⁶.

Climate denialism disregards scientists’ warnings and repeats the narrative that extreme events happen from time to time, and are therefore a natural occurrence. Furthermore, they do not admit that such events are happening at a much higher rate and at a much greater intensity, a consequence of global warming caused by human action. Rio Grande do Sul itself suffered two floods within less than a year: one in September 2023, which left 47 dead and dozens homeless, and the current one, in addition to warnings for others in a short space of time.

Fighting climate change implies, in addition to reducing deforestation, carbon dioxide emissions, reducing the use of fossil fuels, mining etc., rethinking the process of urbanization and protecting populations, especially the most vulnerable, whether urban or rural.

In parallel with the population’s demonstration of solidarity, many used the tragedy for self-promotion or political dispute, using fake news that hindered the rescue work and even donations, which shows that the regulation of social networks is an urgent issue.

Health systems and climate change

Much has been analyzed about the demands on health systems in the COVID-19 pandemic, the importance of universal systems, the capacity for resilience, and preparation for future pandemics, but we know little about the health demands in cases of environmental tragedies.

The devastation caused by the floods has an obvious impact on the mental health of the more than 160,000 displaced people, as the rains immediately affect people who have lost loved ones, their homes, their way of life, and their livelihood. In these situations, there is a risk of an increase in cases of domestic violence and the consumption of alcohol and other substances. Mental suffering, combined with respiratory illnesses facilitated by collective shelters, is the first concern in terms of health. At the moment the waters begin to recede, leaving trails of sewage, putrefaction and mud in the cities, new cases of leptospirosis appear daily (one month after the start of the flood, we already have 7 deaths, 141 confirmed cases, and more than a thousand in investigation), increase in acute diarrheal diseases, parasitic

diseases, tetanus, dengue fever, hepatitis A, and bites from venomous animals, which add to the problems related to mental health, respiratory diseases, and chronic diseases of the affected population.

The complexity of the health situation and the factors that determine it mobilize different sectors in responses and emergencies that range from guaranteeing food security drastically altered by the tragedy, to the safety of girls and women exposed to the risk of sexual violence. There have been reports of sexual violence committed against women and girls in shelters, indicating that strategies for confronting climate crises require taking care of aspects associated with gender relations and vulnerability, requiring specific plans and strategies⁷. It is estimated that two thirds of Primary Care units are compromised and that many of the health professionals who work in health services (including pharmacies and laboratories) had family members and homes affected. With its hospital and Primary Care units underwater, the Unified Health System (SUS) relocated Primary Care to collective shelters and created field hospitals to operate as assistance support. To achieve this, it counted on teams from the SUS National Force and the Military Forces, in addition to volunteers who mobilized nationally to work remotely in support of the people of Rio Grande do Sul. This scenario demands urgency in reestablishing the SUS's capabilities to respond to the known and the new health problems and needs of the population.

The emergency creates some management chaos in the system that must be addressed by specific contingency plans for each event. At the same time, it is essential that states and municipalities develop disaster risk management plans, involving different sectors and actors in society – and not only on preparedness measures and responses to disasters, but also on the prevention of future risks and the mitigation of existing risks. , in addition to rehabilitation and reconstruction policies based on the Sendai Framework principle of rebuilding better and safer^{7,8}.

Rebuilding is necessary! But on what basis? The reasonable consensus is to reevaluate the scenarios and resize the risks since the tendency is to recompose risk minimization after the phase of shock caused by the tragedy. This applies not only to housing, but also to public facilities which, if rebuilt in the same locations, continue to subject populations to living in the same vulnerable conditions as they were before. In that context, it is urgent to move from reactive policies and actions to disasters to prospective and preventive policies and strategies.

The Brazilian Constitution provides for the right to an ecologically balanced environment as a common good for the people and essential “to the quality of life, with public authorities and the community having the duty to defend and preserve it for present and future generations”⁹. On the other hand, it also provides that the right to health must guarantee “social and economic policies that aim to reduce the risk of disease and other health problems and universal and equal access to actions and services for their promotion, protection, and recovery”⁹, which is qualified in the expanded concept of health in Ordinance 8,080, which regulates the SUS, in which

[...] health has as determining and conditioning factors, among others, food, housing, basic sanitation, the environment, work, income, education, transport, leisure, and access to essential goods and services; The population's health levels express the country's social and economic organization¹⁰.

These guidelines, established almost four decades ago, are more topical than ever, and it is up to society to demand them from their managers, for the safety and well-being of everyone.

All solidarity with the people of Rio Grande do Sul!

Collaborators

Rizzotto MLF (0000-0003-3152-1362)*, Costa AM (0000-0002-1931-3969)* and Lobato LVC (0000-0002-2646-9523)* have equally contributed to the elaboration of the manuscript. ■

References

1. Rio Grande do Sul. Coordenadoria Estadual de Defesa Civil, Defesa Civil do Rio Grande do Sul. Avisos e Alertas em vigor. Porto Alegre: CEDF; 2024. [acesso em 2024 maio 26]. Disponível em: <https://defesacivil.rs.gov.br/inicial>.
2. G1 RS, RBS TV, TV Globo. Cheias no RS afetaram mais de 3 mil estabelecimentos de saúde, afirma Fiocruz. G1. 2024 maio 22. [acesso em 2024 maio 26]. Disponível em: <https://g1.globo.com/rs/rio-grande-do-sul/noticia/2024/05/22/cheias-no-rs-afetaram-mais-de-3-mil-estabelecimentos-de-saude-afirma-fiocruz.ghtml>.
3. Brasil. Secretaria de Comunicação Social. Mais de 20 mil profissionais ligados ao Governo Federal atuam diretamente no auxílio ao Rio Grande do Sul. Gov.br. 2024 maio 12. [acesso em 2024 maio 26]. Disponível em: <https://www.gov.br/secom/pt-br/assuntos/noticias/2024/05/mais-de-20-mil-profissionais-ligados-ao-governo-federal-atuam-diretamente-no-auxilio-ao-rio-grande-do-sul>.
4. Demori L. Resumão do Demori #22: POA é “case” global. A Grande Guerra. 2024 maio 25. [acesso em 2024 maio 26]. Disponível em: <https://www.agrandeguerra.com.br/p/resumao-demori-22-porto-alegre-case-global>.
5. Sindicato dos Trabalhadores do Judiciário Federal; Ministério Público da União. Mais de 400 normas ambientais foram mudadas pelo governo do RS em 2019; medidas acompanham política de Sales, ministro da “passagem da boiada”. Sintajufe RS. 2024 maio 10. [acesso em 2024 maio 26]. Disponível em: <https://sintrajufe.org.br/mais-de-400-normas-ambientais-no-rs-foram-mudadas-pelo-governo-do-rs-em-2019-medidas-acompanharam-politica-de-sales-ministro-da-passagem-da-boiada/>.
6. Pontes N. Por que sistema contra cheias não funcionou em Porto Alegre. G1. 2024 maio 18. [acesso em 2024 maio 26]. Disponível em: <https://g1.globo.com/meio-ambiente/noticia/2024/05/18/por-que-sistema-contra-cheias-nao-funcionou-em-porto-alegre.ghtml>.
7. Maçulo L. Enchentes no Rio Grande do Sul e os desafios para a Saúde Pública: crise, insegurança alimentar e violência. Abrasco. 2024 maio 13. [acesso em 2024 maio 26]. Disponível em: <https://abrasco.org.br/enchentes-no-rio-grande-do-sul-desafios-para-a-saude-publica-em-meio-a-catastrofe/>.
8. Silva RF, Siqueira AM, Silveira LTC, et al. A redução de risco de desastres, a agenda dos Objetivos Sustentáveis e os princípios do SUS, no contexto da pandemia de COVID-19. Ciênc. saúde coletiva. 2023 [acesso em 2024 maio 26]; 28(6):1777-1788. Disponível em: <https://doi.org/10.1590/1413-81232023286.11272022>.
9. Brasil. Constituição, 1988. Constituição da República Federativa do Brasil. Brasília, DF: Senado Federal; 1988. [acesso em 2024 maio 26]. Disponível em: https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm.

*Orcid (Open Researcher and Contributor ID).

10. Brasil. Lei nº 8.080, de 19 de setembro de 1990. Dispõe sobre as condições para a promoção, proteção e recuperação da saúde, a organização e o funcionamento dos serviços correspondentes e dá outras

providências. Diário Oficial da União. 20 Set 1990. [acesso em 2024 maio 26]. Disponível em: https://www.planalto.gov.br/ccivil_03/leis/18080.htm.