Disaster Risk Reduction Working Group

Issue Note

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1. Context

In an international context of increasingly frequent climate emergencies and extreme events, with relevant and unevenly distributed social, environmental, and economic impacts among populations already facing conditions of extreme poverty, the G20 decided to establish the Disaster Risk Reduction Working Group in 2021.

Faced with the need for proactive action in risk mitigation and swift response to disasters through the implementation of comprehensive and collaborative strategies, G20 countries aim to ensure the safety and well-being of their populations, fostering sustainable development and resilience against future challenges. The initiatives and priorities established by the G20 Disaster Risk Reduction Working Group should equally align with the goals and priorities embraced by countries within the scope of the Sendai Framework. The primary purpose of the Sendai Framework is to enable a significant reduction in disaster risk and losses in lives, livelihoods, and health, as well as economic, physical, social, cultural, and environmental assets of individuals, businesses, communities, and countries.

The Sendai Framework sets forth four priority actions to prevent new risks and reduce existing ones: (i) understanding disaster risk; (ii) strengthening disaster risk governance for effective management; (iii) investing in disaster reduction to foster resilience; and (iv) improving disaster preparedness, enabling an effective response and a more robust recovery, focused on the concept of "Build Back Better."

Monitoring the Sendai Framework, through reports based on eleven indicators, is directly linked to SDGs 1, 11, and 13, aligning the Working Group's agenda with the 2030 agenda. Despite the global consensus around these ambitious agendas, the pace of risk generation persists, increasing in various regions due to the impacts of climate change.

The significance of the Sendai Monitor lies in the fact that disaster risk reduction is essential for the security and sustainable development of communities and countries. Through its continuous monitoring, it is possible to assess progress, identify gaps and challenges, and take corrective measures to strengthen resilience and response capacity. It promotes transparency, knowledge sharing, and collaboration among countries, contributing to a safer and more resilient world.

The 2023 Mid-Term Review (MTR) of the Sendai Framework highlighted uneven progress toward its goals, underscoring distinct challenges for less developed countries and small island states, impeding the advancement in achieving the Framework's objectives. Additionally, the MTR emphasized the need to

strengthen governance mechanisms at all levels, an issue that became apparent during the COVID-19 pandemic.

The COVID-19 pandemic has brought a new perspective on vulnerabilities to biological disasters, especially in the socio-economic context. In G20 countries, comprising the world's largest economies, the importance of taking action to prevent risks, as well as to mitigate and respond promptly to disasters, became evident. The pandemic had devastating impacts on the global economy, resulting in a collapse and economic contraction that highlighted the fragility of societies, underscoring the urgency of effective strategies to address risks and disasters.

Within the G20 context, discussions on risks and disasters, including preventive strategies, have intensified, leading to the implementation of policies and international collaboration initiatives. Member countries are working together to share effective practices, enhance their response capabilities, invest in resilient infrastructure, and raise awareness about risks, aiming to promote a culture of prevention.

Furthermore, it is important to take into account that the increase in urbanization and the growth of unplanned and peripheral urban structures can contribute to the rise in disaster risk. Brazil, specifically, faces significant challenges related to water resources, linked to a higher number of disaster occurrences. Brazil's experience in this field can be beneficial for the group, providing an opportunity for mutual learning.

a. The G20 Disaster Risk Reduction Working Group

In light of the information gathered through the Sendai Framework for Disaster Risk Reduction 2015-2030 monitoring, India proposed, as part of its G20 presidency, the establishment of the G20 Disaster Risk Reduction Working Group (DRRWG). This initiative recognizes the urgency of reducing disaster risk and underscores the crucial role that G20 nations can play in assisting not only themselves but also other countries in achieving the goals of the Sendai Monitor.

Under the leadership of the Indian Presidency, G20 Member States agreed to establish the Disaster Risk Reduction Working Group (DRRWG), holding its inaugural formal meeting in March 2023. During this gathering, the implementation of the Sendai Monitor was discussed, along with the outcomes and products that could contribute to addressing its challenges.

b. Important Legacy Left by India

The Disaster Risk Reduction Working Group (DRRWG) was established to promote knowledge sharing; enhance common understanding to harness the benefits of disaster risk reduction and address challenges arising from these risks; enrich and revitalize progress in implementing the Sendai Framework for Disaster Risk Reduction; and provide an opportunity to deepen specific priorities, exchange views, and share knowledge and practices.

Furthermore, five key areas were identified by G20 Members as points where the DRRWG could add value, establishing commitments for the future. These guidelines, which take into account national circumstances, needs, and priorities, are:

a) Global coverage of Early Warning Systems for all hydro-meteorological disasters;

b) Expanded commitment to make infrastructure systems resilient to disasters and climate change;

c) Stouter national financial structures for disaster risk reduction;

d) Strengthened national and global disaster response systems to address the consequences of the increased frequency and intensity of disasters; and

e) Increased application of ecosystem-based approaches to disaster risk reduction.

The goal is to make G20 countries more resilient to disaster risk through the sharing of knowledge and insights, seeking a deep understanding of necessary policies, and establishing mechanisms for resilient, sustainable, and inclusive growth and development. Special emphasis should be placed on the most vulnerable sections of society, while also aiming to mitigate risks for investments in participating economies, advancing towards the United Nations' Sustainable Development Goals (SDGs) in their three dimensions of economic, social, and environmental aspects.

Additionally, the G20 DRRWG could work in the following directions, including but not limited to:

1. Honoring commitments and mandates from previous Leaders' Summits and Sherpas' Meetings.

2. Recognizing the transversal nature of disaster risk reduction and acknowledging that other G20 bodies already discuss various aspects of DRR within their respective mandates, with the DRRWG focusing on topics related to disaster risks.

3. Cooperating and collaborating with engagement groups, international organizations, and other G20 working streams, avoiding duplication of work in other G20 bodies, to advance the DRR agenda considering the priorities of G20 Presidencies.

c. Brazilian Perspective for the Disaster Risk Reduction Working Group

During its mandate, Brazil commits to fostering dialogue and actions addressing essential issues affecting the global community.

One of Brazil's priorities is the sharing of best practices for disaster prevention and damage mitigation through early warning systems and resilient infrastructure.

Mitigating and adapting to climate change are urgent and complex challenges that require a collaborative approach and mutual learning. Thus, there is a need to encourage the exchange of successful experiences among G20 member countries to strengthen capacities for prevention, preparation, and response to adverse events. The sharing of knowledge and technologies in this field is crucial to protecting lives, preserving infrastructure, and promoting the resilience of communities through concrete actions to address the environmental and socio-economic challenges impacting the planet.

Federative countries, such as Brazil, with significant economic and social diversity within their territory, often face challenges in having their realities adequately reflected in large international forums. These countries must be included in the processes of constructing indicators that influence the pricing of public works and other services offered by the international community. Brazil believes in the need to consider the specificities and peculiarities of federative structures to ensure adequate representation and fair and inclusive decision-making.

Brazil is committed to playing a proactive role in the G20, seeking to build bridges among member countries, respecting their diversities, and valuing constructive dialogue. This commitment should be guided by the promotion of sharing best practices, reducing vulnerability, adapting to climate change, and strengthening the participation of federative countries in defining indicators that reflect their internal realities.

2. Brazilian Scenario of Risks and Disasters

Brazil faces a complex scenario of disaster risk characterized by a variety of physical and potential risks. Its vast geography and diverse ecosystems present additional challenges in the comprehensive management of disaster risk. Some of the most common disasters in Brazil include:

- Floods: Floods and inundations are frequent disasters in different parts of the country, especially in regions prone to heavy rainfall and where rivers, canals, and drainage systems overflow. These situations can result in material damage, loss of lives, displacement of individuals, and disruption of basic services.
- Landslides: Brazil has areas with rugged topography and unstable slopes, increasing the risk of landslides, especially during periods of intense rainfall. These disasters can lead to burying, destruction of homes and infrastructure, and fatalities.
- Droughts and Dry Spells: In some regions of the country, particularly in the Northeast, prolonged periods of drought and dry spells occur. These events can cause water scarcity, harm agriculture and livestock, lead to shortages, impact the local economy, and cause health problems.
- Forest Fires: Brazil has extensive forested areas, such as the Amazon and the Cerrado, and forest fires are a recurring problem. These fires can be caused by human action, such as uncontrolled burnings, or by natural events like lightning and extended periods of drought. They have a significant impact on biodiversity, air quality, and the health of local populations.
- Storms and Tempests: Severe storms with strong winds, lightning, and heavy rainfall are common in different regions of Brazil. These events can result in roof damage, tree falls, power outages, and infrastructure damage, and pose risks to people's lives.

In addition to these, other disasters such as earthquakes, tsunamis, structural collapses, industrial accidents, and environmental pollution can also occur, although less frequently or in specific regions.

Biological risks from vector-borne diseases such as malaria, dengue, and Zika compromise the resilience of communities and strain healthcare systems. The COVID-19 pandemic has further exposed the cascading impacts of biological risks, both domestically and internationally.

Inequality is a critical aspect of the disaster risk profile. Socioeconomic disparities, inadequate infrastructure, and limited access to essential services create disparities in the vulnerability of the population to disasters and their ability to prepare for and recover from risk events.

Indigenous populations and rural communities face heightened vulnerabilities due to their reliance on natural resources and limited access to healthcare and education. In these areas, inhabitants confront additional risks related to deforestation and forest fires stemming from human activities and climate change, posing significant threats to the environment and society.

On the other hand, dense, informal, and rapid urbanization continues to be a critical challenge. Coastal cities like Rio de Janeiro face issues related to informal settlements in flood-prone areas, making them particularly vulnerable to emerging risks associated with climate change, such as tropical storms and sea-level rise.

While Brazil has made strides in promoting urban resilience, climate change is further exacerbating the risk context. It becomes imperative to implement comprehensive policies and measures for disaster prevention, preparation, and response, aiming to mitigate adverse impacts, safeguard the population, and preserve the environment. However, the nature and severity of disasters require continuous attention and substantial investment in risk management and adaptation strategies to extreme weather events.

3. Brazilian Pro Tempore Presidency – 2024

To initiate an effective discussion within the G20 DRRWG, it is essential to contextualize how the theme is addressed in the national scenario of the current pro-tempore Presidency. This will provide other states with a fundamental starting point to understand the line of reasoning that will be developed. This approach not only establishes a foundation for more informed discussions but also promotes stronger cooperation, enabling group participants to comprehend the specific particularities and challenges faced by countries with similar profiles to the current presidency. By providing a clear overview of the existing national strategies, this approach contributes to a more productive and aligned dialogue with the collective interests of the G20 concerning disaster risk reduction.

a. National Policy for Protection and Civil Defense

Civil Defense comprises actions of prevention, mitigation, emergency preparedness, response, and recovery. These activities are carried out continuously at the state, municipal, and federal levels to prevent disasters and minimize their effects, with the implementation of the National Policy for Protection and Civil Defense (PNPDEC) being the responsibility of the Union, as established by Federal Law No. 12,608 of 2012.

The PNPDEC, the foundation of Brazil's approach, establishes the guidelines and objectives for the execution of actions covered by Civil Defense. It defines the competence of federative entities so that they

act in a coordinated manner, with the main goal of ensuring safety and preserving life. It is oriented towards both response and recovery actions in areas affected by disasters and the prevention and mitigation of disaster risks, integrated with other sectoral policies, to ensure sustainable development.

Moreover, the PNPDEC is aligned with the policy of environmental and public and private property preservation in disaster situations, as well as in assisting victims, restoring essential public services, and rebuilding infrastructure. The central agency for this policy is the National Secretariat for Protection and Civil Defense (Sedec), an organization linked to the Ministry of Integration and Regional Development.

The Policy is systematically and integrally structured, defining specific competencies for each federative entity and establishing the creation of municipal, state, and federal bodies responsible for coordinating actions in this field. In addition to promoting organized and integrated action among different levels of government, it encourages greater participation from civil society, including the private sector, to achieve a faster, more efficient, and more effective response in abnormal situations.

PNPDEC places a strong emphasis on prevention through the implementation of risk reduction measures, encouraging constant mapping of vulnerable areas, monitoring natural phenomena, inspecting high-risk activities, and issuing alerts to the population. Furthermore, it establishes guidelines for preparing families and communities through awareness campaigns, training, and simulated exercises.

Regarding disaster response, the Policy defines procedures for emergency response, mobilizing human, material, and financial resources for victim relief, humanitarian assistance, and the restoration of affected areas. It also envisions the creation of emergency operation centers and the deployment of specialized teams for rescue and assistance to people at risk, taking into account the special needs of the elderly, children, and people with mobility difficulties.

Concerning post-disaster recovery, the policy sets guidelines for the reconstruction of affected areas, the recovery of damaged infrastructure, the rehabilitation of affected individuals, and socio-economic support actions. It aims to promote the resumption of activities and the necessary reconstruction for affected communities, seeking both to reduce the impacts of disasters and to build a more resilient society better prepared to face adversities.

In summary, the Brazilian National Policy for Protection and Civil Defense has fundamental principles of society participation, transparency, integration among different stakeholders, federative cooperation, and sustainability. Its ultimate goal is to ensure the safety and well-being of the Brazilian population in the face of natural and technological adversities, seeking to reduce impacts and increase the country’s capacity to respond and recover in disaster situations.

b. National System for Protection and Civil Defense

The Brazilian Civil Defense, structured in local systems in each federative unit, operates continuously and permanently, requiring institutional competencies from public and private entities, along with community participation.

The National System for Protection and Civil Defense (SINPDEC), established by Law No. 12,608/2012 and coordinated by the National Secretariat for Protection and Civil Defense, coordinates actions at the national level, bringing together federal, state, municipal, and Federal District entities, as well as civil society organizations, with an emphasis on prevention.

According to Decree No. 10,593/2020, SINPDEC encompasses entities from the federal, state, district, and municipal systems, working in the planning and coordination of risk and disaster management actions. At the federal level, the National Secretariat for Protection and Civil Defense (Sedec) coordinates activities, involving agencies such as the National Institute of Meteorology (Inmet), Brazilian Geological Survey (CPRM), National Water Agency (ANA), Ministry of Defense, Ministry of Health, and Ministry of Development and Social Assistance, among others, which operate in a coordinated manner in the preparation and response to disasters nationwide.

In the case of international donations to Brazil, the Ministry of Foreign Affairs is incorporated into SINPDEC through the Brazilian Cooperation Agency (ABC).

At the state and municipal levels, State and Municipal Coordinators for Protection and Civil Defense develop plans, monitor risk areas, conduct training and exercises, and coordinate prompt responses.

In addition to government agencies, SINPDEC incorporates the participation of organized civil society, involving voluntary entities, research, and educational institutions, contributing technical expertise, logistical support, and mobilizing human and material resources.

The National Center for Risk and Disaster Management (CENAD) plays a crucial role at the federal level, coordinating information on risks, alerts, and responses in collaboration with the Federal Civil Protection System. Daily, it receives data from various federal government institutions, which, after analysis, are shared with State and Municipal Civil Defenses.

The significant milestone represented by Brazil's Integrated System of Disaster Information (S2iD) was essential to provide rapid and efficient support to disaster victims, systematically recording information about losses, and generating maps and reports to support more robust, risk-informed decisions.

Other relevant advances in expanding information on disaster risks to support risk-informed decisions include comprehensive mappings and assessments conducted by the Federal Government and State and Municipal institutions, as well as the publication of the Digital Atlas of Natural Disasters, a compendium of data intended for analysis and decision-making.

c. How much Brazil invests in disaster mitigation and response

The Brazilian federal government, through the National System for Protection and Civil Defense (SINPDEC), has allocated financial resources since 2012 for risk management and disaster management. Between 2012 and 2022, over R$ 9 billion (US$ 1.84 billion) were allocated to this program, covering activities such as mapping risk areas, monitoring, implementing early warning systems, and training civil defense agents and the population.

Response actions are provided on an emergency basis, focusing on acquiring equipment for relief, restoring essential services, and infrastructure projects in affected areas. The Integrated System of Disaster Information (S2ID) expedites these transfers, integrating products from the National Secretariat for Protection and Civil Defense - SEDEC.

The S2ID, in addition to recording disasters and monitoring federal recognition in emergency or calamity situations, is an official source of data on disaster management, crucial for the application of the National Protection and Civil Defense Plan under development.

Brazil has the Disaster Support Group (GADE), established by Decree No. 10,689 of April 27, 2021, which operates throughout the national territory, assisting SEDEC in various disaster phases. Another initiative is the National Fund for Public Calamities (FUNCAP), in the process of refinement, to improve prevention and recovery in affected areas.

In addition to government investment, Brazil benefits from the actions of non-governmental organizations, civil society entities, and international partnerships, contributing to strengthening the capacity for disaster mitigation and response. However, the effectiveness of these actions can be affected by various factors, including budgetary constraints, government priorities, and emergency demands, representing a constant challenge for risk management and population protection in disaster situations.

The investment of G20 countries in disaster mitigation and response depends on various factors, such as the type of disaster, the level of development, national priorities, and international commitments, with no specific and publicly available data on this matter.

d. History of Brazil's involvement in humanitarian cooperation

Brazil's involvement in humanitarian cooperation has had a significant trajectory over the past few decades. The country has emerged as a relevant actor on the international stage, contributing to the response to humanitarian crises and providing assistance in various countries and regions affected by natural disasters, armed conflicts, and other emergencies.

One of Brazil's initial humanitarian cooperation actions took place in 1960 when the country sent a medical mission to assist victims of the earthquake in Chile. From that moment on, Brazil increasingly engaged in humanitarian actions, especially from the 1990s onwards.

An important milestone in Brazil's involvement in humanitarian cooperation was the creation of the Brazilian Cooperation Agency (ABC) in 1987. ABC is tasked with planning, coordinating, negotiating, approving, executing, monitoring, and evaluating, on a national level, programs, projects, and activities of humanitarian and technical cooperation for development in all areas of knowledge, from the country to abroad and from abroad to the country, in bilateral, trilateral, or multilateral formats. Through ABC, Brazil has entered into bilateral and multilateral agreements to promote cooperation in various areas, including humanitarian assistance and actions to improve disaster response systems and prevention.

Over the years, Brazil has responded to emergencies and humanitarian crises worldwide successfully and compassionately. Some of Brazil's notable actions include:

- Peacekeeping missions: Brazil has significantly contributed to United Nations-led peacekeeping operations, sending troops and civilian personnel to conflict-affected regions such as Haiti, Lebanon, and the Democratic Republic of Congo, among others.
- Humanitarian aid in natural disasters: The country has sent search and rescue teams, medical assistance, supplies, and logistical support to respond to natural disasters such as earthquakes, hurricanes, floods, and other adverse events. Notable examples include Brazil's response to the earthquakes in Haiti in 2010 and 2021, and in Turkey in 2023; assistance to victims of the earthquake in Nepal in 2015; aid to those affected by hurricanes in the Caribbean in 2017; response to cyclones in Mozambique in 2019; and assistance during the forest fires in Chile and Canada, both in 2023.
- Technical cooperation: Brazil promotes partnerships for sharing experiences and knowledge in various areas, such as agriculture, health, education, and water resource management, among others, through technical cooperation projects with other developing countries. This cooperation aims to strengthen local capacities and promote sustainable development.

Furthermore, Brazil has played a significant role in strengthening the global humanitarian system. The country actively participates in international forums, such as the United Nations General Assembly, the UN Economic and Social Council, and the Humanitarian Networks and Partnerships Week of the United Nations Office for the Coordination of Humanitarian Affairs, seeking to promote joint actions, share best practices, and uphold fundamental humanitarian principles.

4. Climate change adaptation

Investments in climate change adaptation are of utmost importance for building a secure and resilient society. These investments enable the development and implementation of more suitable infrastructure, such as drainage and flood control systems, levees and dams, coastal protection, and measures for the conservation and restoration of natural ecosystems.

Additionally, investments in research and development of technologies, such as early warning systems and climate risk modeling, contribute to enhancing prediction and response capabilities.

Building a society resilient to the impacts of climate change requires an integrated approach, involving the engagement of different sectors and active participation from the population. Investments in climate adaptation are essential to ensure the protection of life, the preservation of livelihoods, environmental sustainability, and long-term socioeconomic development.

5. Climate Justice

In the context of climate change, climate justice has become increasingly crucial on a global scale. Prioritizing this approach is fundamental to mitigate the effects of climate change and reduce the risk of disasters, especially in economically vulnerable communities.

Brazil, as one of the world's most biodiverse countries with a vast territorial expanse, is particularly affected by the impacts of climate change, such as rising temperatures, changes in rainfall patterns, and the increased frequency and intensity of extreme weather events, occurring at different times in various regions of the country. This necessitates the need to manage diverse disasters in multiple locations simultaneously. These adverse events disproportionately impact the poorest and most marginalized communities, which often have fewer resources to adapt to and recover from disasters.

The climate justice approach in Brazil aims to address these inequalities, ensuring that economically vulnerable communities are included in climate-related policies and actions.

However, it is important to acknowledge that Brazil still faces significant challenges in effectively implementing climate justice. While policies and programs focused on climate change mitigation and adaptation have been adopted, there hasn't always been adequate attention to the dimensions of equity and social inclusion.

To progress in this area, it is necessary to strengthen public policies and ensure appropriate resource allocation for economically vulnerable communities. Additionally, promoting environmental education and awareness of the importance of climate justice is essential for building a more engaged and responsible society regarding climate issues.

By prioritizing climate justice, the effects of climate change can be mitigated, and the risk of disasters for economically vulnerable communities reduced. This approach contributes to the construction of a more just, resilient, and sustainable country where all people have the opportunity to adapt and thrive in an ever-changing climate.

6. Priority Issues for Discussion

a) Priority Issue 1: Global Coverage of Early Warning Systems

Despite significant progress in the improvement of early warning systems and their constituent subsystems over the last decade - such as hazard detection, monitoring, and forecasting; risk analysis and the incorporation of risk information into planning and emergency alert systems; timely and authorized alert dissemination; digital disruption; and community planning and preparation - many communities in disaster-prone areas around the world still lack reliable access to early warning systems.

Various global initiatives are currently underway. For example, the Climate Risk and Early Warning Systems is a mechanism that funds the Least Developed Countries (LDC) and the Small Island Developing States (SIDS) for risk-based early warning systems. Similarly, the Risk-Informed Early Action Partnership (REAP) aims to make one billion people safer against disasters by creating a new partnership to significantly expand funding for early action. Despite these efforts, almost one-third of the world's population exposed to hydrometeorological disasters is not covered by early warning systems.

The G20 can pursue this agenda with a sense of urgency and support and complement ongoing initiatives to achieve 100% coverage of early warning systems worldwide. Digital disruption during the pandemic and the use of innovation within this context have been one of the success stories among states. Innovation has emerged from various sources, primarily from the private sector, volunteers, government, and the United Nations system. Considerable innovation in disaster risk reduction (DRR) has also occurred

in recent years, driven by both supply and demand. Additionally, globally scalable disaster risk information platforms are under development, which could be crucial allies in the area of alerts and the identification of vulnerable areas.

The Brazilian Experience to be Shared

Brazil has an early warning system for natural disasters transmitted through various communication channels, such as text messages, mobile apps, sirens, radio, and television. The National System for Natural Disaster Alert and Prevention (SINAPRED) is responsible for monitoring, analyzing, and issuing alerts about the imminent or current occurrence of natural disasters, such as heavy rains, floods, landslides, droughts, and extreme weather events. The system utilizes an extensive network of sensors, weather stations, radars, rain gauges, and other monitoring equipment distributed throughout the Brazilian territory.

Based on the collected data, Brazil developed the Public Alerts Disclosure Interface (IDAP), a tool used by the Ministry of Integration and Regional Development, through the National Civil Defense, to keep the population informed in case of disaster risk. Through registration on IDAP, protection and civil defense agencies can send alerts via SMS, Telegram, cable TV, Google Public Alerts, and WhatsApp. The platform centralizes and organizes alert information and qualifies the sending of self-protection and preparation recommendations to the population in vulnerable situations. It is an efficient means of disseminating information that can save lives.

Recognizing the importance of the Interface, the Brazilian government, through the National Telecommunications Agency and the National Secretariat for Civil Protection and Defense, aims to implement, by the end of the current year, “cell broadcasting” technology, where alerts will be received on all phones near the region’s telephone antennas at risk. Through this innovation, service users will start receiving text messages in “pop-up” format overlaid on the phone screen, in addition to the 40199 SMS notification service.

Among the main innovations of alerts via cell broadcasting are: no dependence on prior consumer registration; instant reach of the phones of people who are currently near the telephone antennas in the at-risk region (by geolocation); audible alarm notification, even when the phone is in silent mode; overlay of the alert message on the phone screen, regardless of the content in use. This technology will contribute to the increased efficiency of competent authorities in preventing risks to the population.

Brazil is also part of the South Atlantic Tsunami Warning System (SAT-SAS), coordinated by the Ministry of Defense in collaboration with other countries in the region. This system is responsible for

monitoring earthquakes and tsunamis that may affect the Brazilian coast and issuing evacuation alerts in case of risk.

Both the early warning system and the alert system sent to the population at risk, developed by the Brazilian government, play a fundamental role in risk reduction and protecting the population from natural disasters. They enable authorities and the population to be prepared and take preventive measures, such as evacuations, relocating people in risk areas, and implementing emergency plans. This contributes to saving lives and minimizing the impact of disasters.

b) Priority Issue 2: Resilient Infrastructure to Disasters and Climate

Infrastructure resilience is one of the pillars of sustainable development. Understanding the risk to infrastructure, as well as the services it provides, along with land-use planning, should be a fundamental consideration. Sector-specific tools, such as classification standards to guide investment decisions in infrastructure, including real estate, are useful for developing sector-specific standards.

The working group can address the need for principles and standards for resilient infrastructure to safeguard global investments in infrastructure through a knowledge-sharing platform. Examples of best practices and ideas to better understand how to address a specific topic related to DRR can be developed on an online platform, including an inventory of financing tools for DRR or examples of nature-based solutions and ecosystem approaches to DRR.

Furthermore, it is understood to be crucial, in this era of climate change with severe adverse effects, to focus on resilient infrastructure and prevention of large-scale hydrological disasters.

c) Priority Issue 3: Financing Structures for Disaster Risk Reduction

The G20 working group can advance the development of financing strategies for disaster risk reduction (DRR) and harmonize national financial structures integrated with these strategies. It can stimulate the development of new and innovative market-based tools. The group can support better integration of DRR into the work of development banks, including loans, debt support, and mixed financing instruments, as well as prioritizing financing for high-risk and low-capacity countries. With the support of international organizations, the G20 working group could further improve the understanding of the cost-benefit of investing in risk reduction and prevention, including the accurate pricing of disaster risk in investment decisions. Investments, ranging from renewable energy to pandemic preparedness and extreme natural hazards, will alleviate global pressures and better prepare societies to handle global shocks.

For example, in the Asia-Pacific region, consider advances in seismology, tsunami sciences, early warning systems, and disaster risk reduction after the Indian Ocean tsunami in 2004, which was a large-scale global effort to support multiple countries. In major disasters requiring massive investments in recovery and rehabilitation, Post-Disaster Needs Assessments can inform the economic priorities of member countries, including protecting future investments at increasing risk levels. Similarly, knowledge sharing on practical investments in focus areas can be informed by the UN system synthesis of Member States' reports on the Sendai Framework for Disaster Risk Reduction and the SDGs, along with national and private sector reports and others.

According to the UNDRR, every $1 invested in risk reduction and prevention can save up to $15 in post-disaster recovery.[1] For the World Bank, every $1 invested in making infrastructure disaster-resistant saves $4 through fewer disruptions and reduced economic impacts.[2]

Therefore, a mechanism for risk prevention within the financial system that promotes the integration of DRR into the decisions of financial institutions would be highly beneficial. It would enable collaboration through loans, debt support, financing flows, and grants, especially for countries facing the most severe economic challenges. It could also support the development of policies and capacity-building for investments in all countries, mobilizing much-needed financing for DRR and initiating reforms to ensure that disaster risks are considered, priced, and disclosed in economic, financial, and investment decisions.

The G20 could also develop a taxonomy for more accurate calculation of public and private investment in disaster risk prevention and reduction and what does not count. These data would allow a more precise assessment of effective contributions, real advances, and future challenges.

d) Priority Issue 4: National and Global Disaster Response and Rehabilitation System

Disaster response requires a multidimensional approach involving all levels of government, communities, international organizations, and the private sector. The G20 can play a crucial role in strengthening national and global disaster response systems by promoting cooperation, coordination, and information sharing.

[1] UNDRR (2021) "International Cooperation in Disaster Risk Reduction", United Nations Office for Disaster Risk Reduction

[2] World Bank. 2021. "Enabling Private Investment in Climate Adaptation and Resilience: Current Status, Barriers to Investment, and Blueprint for Action."

Strengthening disaster risk governance at various levels and sectors

Enhancing disaster risk governance to better manage risk was a key concern of the High-Level Political Declaration on the Mid-Term Review of the Sendai Framework. The Disaster Risk Reduction Working Group (DRRWG) emphasized the importance of implementing appropriate regulatory and governance solutions, especially regarding resilient infrastructure. However, the Brazilian presidency may seek to elevate this issue to an additional priority. This is an area where Brazil is currently investing at various levels and sectors, both nationally and internationally.

There has been progress in strengthening disaster risk governance, including the adoption of national disaster risk reduction strategies and the growth of local DRR efforts and resilience building. However, there is still a need to further strengthen disaster risk governance by developing legal and regulatory frameworks, policies, and plans at all levels that reflect the responsibility to reduce disaster risk. This includes decision-making and investments informed by risks, as well as regulations for land use, urban planning, and building codes.

The existence of overlaps and gaps within and between national and local institutions limits coordination between disaster risk reduction, biodiversity conservation, sustainable economic and development policies, and plans, as well as climate change policies and plans. The lack of national legal frameworks for disaster risk reduction hinders progress, as does the lack of alignment between financing strategies and DRR legal frameworks. Greater coordination, coherence, and integration between disaster risk management and health systems, including at the local level, could further strengthen disaster resilience.

e) Priority Issue 5: Greater Application of Ecosystem-Based Approaches to Disaster Risk Reduction

Ecosystem-based approaches are crucial for reducing disaster risk, promoting resilience, and protecting livelihoods. The G20 can promote the use of ecosystem-based approaches by creating appropriate policies and incentives, as well as facilitating the exchange of knowledge and best practices.

f) Priority Issue 6: Prevention of Vulnerabilities and Combating Inequalities

There is global consensus around an ambitious agenda, but the pace of risk creation remains unchanged. There is still insufficient political commitment to addressing financing for the creation of a favorable environment for sustainable development. In this regard, it is important to recall the relevance of the Addis

Ababa Action Agenda of the Third International Conference on Financing for Development, which is an integral part of the 2030 Agenda for Sustainable Development.

The Brazilian presidency is guided by the vision that international governance needs to be reformed to make it more representative and democratic. The G20 can mobilize resources from its members to effectively implement commitments made by the international community. The benefits generated by the Disaster Risk Reduction Working Group's actions can extend to countries that are not part of the G20, especially those with lower relative development.

Brazil considers it essential to promote the integration of disaster risk reduction into financial decisions and support the development of policies and capacity building. Equally central is incorporating the perspective of combating inequalities since exposure to disaster risk is socially determined. It is also necessary to observe the relationship between inequalities and vulnerabilities within societies, where some groups, such as women, experience disasters differently and face increased vulnerability in certain disaster situations.

Therefore, the engagement of civil society is of vital importance, efforts to promote a culture of disaster prevention, resilience, and responsible citizenship can be strengthened through dialogues with the entire society and public awareness. It is necessary to stimulate social change regarding the perception of risk.

7. Expected Outcomes

During the Brazilian pro-tempore Presidency in the G20, a comprehensive approach to disaster risk reduction is proposed, considering the six priority issues listed earlier in this document but emphasizing the following three priorities: Global Coverage of Early Warning Systems, Resilient Infrastructure, and Financing Structures for Disaster Risk Reduction.

Among the key strategies to develop low-cost and highly effective early warning systems is the dissemination of "cell broadcasting" technology. This is a means of communicating alerts to the population, leveraging widespread access to mobile devices, including among the most vulnerable populations.

The Brazilian initiative also seeks to promote a global culture of prioritizing alerts, aiming for equity and universal accessibility. This will ensure that all citizens, anywhere in the world, receive disaster risk alerts on their mobile devices with real-time location-oriented information. The proposal recognizes the crucial need for specific funding lines for the development of the alert system and to facilitate the acquisition of communication devices for everyone, with the creation of financing lines and partnerships with the private sector being fundamental.

The commitment of G20 members is expected to enhance and implement this system, with the formation of a specific technical group to expand its reach. Brazil offers to coordinate this effort. Additionally, the proposal emphasizes the importance of building resilient infrastructures, optimizing results through effective planning, and continuous development of multifunctional technologies. The creation of a platform for studying best practices and innovations is suggested, with an initial focus on hydrometeorological events and ecosystem-based approaches to risk reduction, prevention of vulnerabilities, and combating inequalities.

Finally, the Brazilian initiative seeks to encourage financing for the implementation of the best solutions, with the creation of a technical discussion table among representatives of G20 countries. This table will develop plans for containment and adaptation to large-scale hydric disasters, providing assistance in specific training for access to international funds. Technological development will be shared freely and equally, allowing each country to choose a pilot city for implementation, with technical oversight from this thematic table. The proposal aims, within 24 months, to present an improved project for reducing hydric risk in urbanized areas, with the collaboration of the Financial Track for the creation of funding for each pilot project.

8. Schedule

Meetings of the Working Group - The following meetings are scheduled:

Track	Meeting	Date	Venue
ST	1st Disaster Risk Reduction WG Meeting	27-28 February	VTC
ST	2nd Disaster Risk Reduction WG Meeting	28-29 May	VTC
ST	3rd Disaster Risk Reduction WG Meeting	29-30 July	Rio de Janeiro
ST	4th Disaster Risk Reduction WG Meeting	03 October	Brasília
ST	**Disaster Risk Reduction WG Ministerial Meeting**	**04 October**	**Brasília**

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