Understanding the Impacts of Climate Change on Vulnerable Populations and Promoting Climate Resilience in Rio de Janeiro

Climate Hub | Rio de Janeiro

Workshop Report and Findings

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Purpose and Introduction

On 25-26 November 2024, the Climate Hub Rio of the Columbia Global Center Rio de Janeiro, in partnership with the Columbia Climate School and ENCE/IBGE, held the workshop *"Understanding the Impacts of Climate Change on Vulnerable Populations and Promoting Climate Resilience in Rio de Janeiro."*

The workshop featured some background presentations, but the bulk of the time was spent in an interactive workshop whereby participants were divided into four groups and went through a series of eight exercises. with the main objective of generating interdisciplinary knowledge on vulnerability to climate change risks in Rio de Janeiro, considering the multiple forms of expertise and stakeholders involved in this issue. For this purpose, academics, public administrators, and civil society members were invited to jointly discuss and develop an agenda and initiatives that primarily serve vulnerable populations of Rio de Janeiro.

Objectives

- **Foster interaction, exchange perspectives, and encourage collaboration among academics from the physical and social sciences to debate vulnerability, particularly in the city of Rio de Janeiro.**
- **Engage social actors from civil society in direct collaboration with research on vulnerabilities to climate change.**
- **Facilitate dialogue between academics and civil society in Rio around adaptation, vulnerability, and sustainability in the face of climate risks.**
- **Develop pilot collaborative research project(s) and action plans based on the vision of the workshop and promote interdisciplinary collaboration in the city.**
- **Exchange and reflect on lessons learned around adaptation processes in global cities, New York, and Rio**

About the Climate Hub | Rio

This project and workshop was made possible by the Climate Hub Rio, which aims to deepen initiatives, dialogues, and research on climate, building on the mission of Columbia Global Center Rio de Janeiro (CGC Rio), one of the 11 centers that represent Columbia University around the world. Based on active involvement with Columbia professors, CGC Rio partners with non-governmental organizations, and public and private institutions to design and implement programs and activities that are topics of global interest and concern. The Hub acts specifically in the area of climate and environment, in partnership with specialists in the field, working in public policies, technology, social economy, and human rights at Columbia University.

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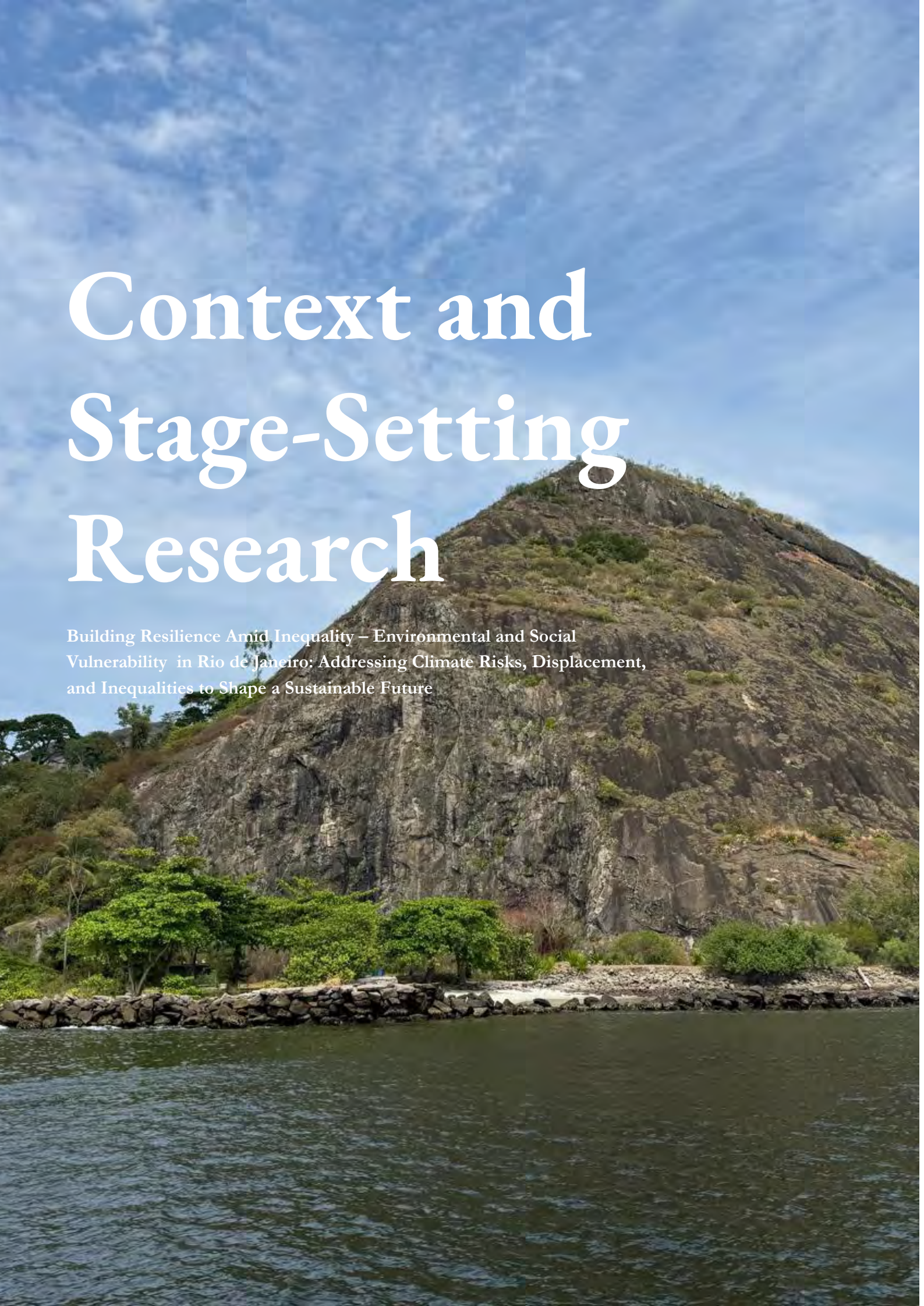

Context and Stage-Setting Research

Building Resilience Amid Inequality – Environmental and Social Vulnerability in Rio de Janeiro: Addressing Climate Risks, Displacement, and Inequalities to Shape a Sustainable Future

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Abstract

Rio de Janeiro's socio-economic and environmental challenges are deeply intertwined with climate change impacts. This section examines the interplay between income inequality, social vulnerability, environmental justice, and urban resilience in this city, focusing on marginalized communities living in informal settlements. Through a synthesis of research and case studies, we analyze displacement, health inequities, infrastructure deficits, and activism, proposing pathways to mitigate these issues. The insights offer a comprehensive understanding of the city's pressing challenges and the steps needed to create equitable and climate-resilient urban systems.

Introduction

Rio de Janeiro is emblematic of urban resilience and vulnerability in the face of climate change. Renowned for its cultural vibrancy and stunning landscapes, the city also grapples with extreme socio-economic disparities. These inequalities expose its most marginalized populations to heightened climate risks, including rising sea levels, extreme weather events, and landslides [1-7]. Informal settlements (known as *favelas*, in Portuguese), home to nearly a quarter of the city's population, are central to these vulnerabilities, but also are a key source of capacities to respond to climate change [5-8].

In this article, we introduce how income inequality, environmental injustices, and urbanization exacerbate Rio's challenges while proposing strategies to strengthen climate resilience. The discussions are grounded in case studies, mapping analyses, and policy critiques to uncover the systemic roots of vulnerability and paths forward [3-4-9].

1. Social Vulnerability in Rio: The Intersection of Geography and Inequality

The Geography of Vulnerability

Rio de Janeiro's topography — from coastal lowlands to steep hillsides — is a key factor of its climate risks. But beyond that, wealthier neighborhoods, such as Leblon and Ipanema, benefit from robust infrastructure, whereas informal settlements like Rocinha and Vidigal face landslide risks exacerbated by deforestation and inadequate waste management and drainage systems [6-7-8].

1 Brazilian Institute of Geography and Statistics (IBGE). (2023). *Population Estimate for the Municipality of Rio de Janeiro.* Retrieved from https://www.ibge.gov.br/. **7 Movimento dos Atingidos por Barragens (MAB).** (2022). *Report on the Displacement of Families Due to Large Infrastructure Projects in Rio.* Retrieved from https://www.mab.org.br/. **5. Instituto Pereira Passos (IPP).** (2012). *Favelas Cariocas: Comparação de Censos 1991/2000/2010.* Rio de Janeiro: IPP. **8. Prefeitura do Rio de Janeiro.** (2016). *Programa Morar Carioca beneficia 29 áreas da cidade com melhorias de infraestrutura.* Retrieved from https://en.prefeitura.rio/habitacao/programa-morar-carioca-beneficia-29-areas-da-cidade-com-melhorias-de-infraestrutura/. **3. Fábio, P.** (2018). *The Effects of Urbanization Projects in Rio: Porto Maravilha and Gentrification. Journal of Urban Development,* 15(3), 112-125. **4. Fiocruz.** (2021). *Health Inequities and Climate Change in Rio.* Retrieved from https://www.fiocruz.br/. **9. Programa de Urbanização de Assentamentos Populares - PROAP III.** (n.d.). Retrieved from https://www.data.rio/apps/c99b14601a7a407d9698266955a848a5/explore.

Extreme weather events often turn hazards, such as floods and landslides, into disasters, as informal settlements and the city infrastructure lack the physical barriers and resilience strategies that protect affluent areas [4-9].

The interplay of urban and social development and natural features also determines exposure to floods, heatwaves, and rising sea levels. For example, Copacabana's coastline seawalls facilitate its protection, but similar measures are absent in favelas located on Rio's vulnerable lowlands. Strategic urban planning is essential to address these geographic vulnerabilities, yet historically, it has favored wealthier districts [5-6].

Income Inequality as a Risk Multiplier

Income disparities force low-income residents into precarious living conditions. Limited access to safe housing, healthcare, and essential services amplifies their vulnerability to environmental hazards. Favelas often lack basic amenities such as sewage systems, potable water, and electricity, leaving residents disproportionately affected by climate change related hazards. The economic constraints also impede recovery, as low-income families struggle to rebuild or relocate after catastrophic events[6-9].

2. Displacement and Environmental Justice

Urbanization, Gentrification, and Forced Relocation

Rio de Janeiro experienced significant urban transformations during the last decades. Among those, infrastructure projects for the 2014 FIFA World Cup and 2016 Olympics led to mass displacements, uprooting communities under the guise of urban revitalization. Initiatives like the Porto Maravilha project displaced over 6,000 families, often relocating them to less secure regions with inadequate infrastructure. This pattern of forced relocation has perpetuated cycles of poverty and marginalization, as displaced residents are frequently excluded from decision-making processes and support systems [3-4].

The Favela Bairro Program aimed to improve living conditions in informal settlements through urban upgrades, such as paved roads and basic services. However, its implementation often under-represented local communities' voices, leading not only to improvements, but also to displacements. Such cases highlight the need for community-driven approaches to urban planning that balance development goals with social equity [5-10].

1. **Brazilian Institute of Geography and Statistics (IBGE).** (2023). *Population Estimate for the Municipality of Rio de Janeiro.* Retrieved from https://www.ibge.gov.br/. 2. **Columbia University Earth Institute.** (2019). *Climate Change and the Urban Poor: Building Resilience in Cities.* New York: Columbia University. 3. **Fábio, P.** (2018). *The Effects of Urbanization Projects in Rio: Porto Maravilha and Gentrification. Journal of Urban Development,* 15(3), 112-125. 4. **Fiocruz.** (2021). *Health Inequities and Climate Change in Rio.* Retrieved from https://www.fiocruz.br/. 5. **Instituto Pereira Passos (IPP).** (2012). *Favelas Cariocas: Comparação de Censos 1991/2000/2010.* Rio de Janeiro: IPP. 6. **Marengo, J. A., et al.** (2020). *Extreme Climate Events in Brazil. Climatic Change,* 152(3), 455-471. 7. **Movimento dos Atingidos por Barragens (MAB).** (2022). *Report on the Displacement of Families Due to Large Infrastructure Projects in Rio.* Retrieved from https://www.mab.org.br/. 8. **Prefeitura do Rio de Janeiro.** (2016). *Programa Morar Carioca beneficia 29 áreas da cidade com melhorias de infraestrutura.* Retrieved from https://en.prefeitura.rio/habitacao/programa-morar-carioca-beneficia-29-areas-da-cidade-com-melhorias-de-infraestrutura/. 9. **Programa de Urbanização de Assentamentos Populares - PROAP III.** (n.d.). Retrieved from https://www.data.rio/apps/c99b14601a7a407d9698266955a848a5/explore. 10. **Rede de Comunidades e Movimentos contra a Violência.** (2022). *Social Movements in Rio de Janeiro: Combating Displacement and Violence.* Retrieved from https://www.redecontraviolencia.org.br/. 11. **Soares, M. F.** (2019). *Social Vulnerability in Rio's Favelas. Geografia e Ordenamento do Território,* 6(2), 97-112. 12. **State University of Rio de Janeiro (UERJ).** (2022). *Impacts of Climate Change on Rio de Janeiro's Urban Vulnerabilities. Climatic Change and Urban Development,* 8(2), 25-41. 13. **UN-Habitat.** (2003). *The Challenge of Slums: Global Report on Human Settlements.* Nairobi, Kenya: United Nations Human Settlements Programme.

Environmental Injustice in Polluted Areas

Marginalized populations bear the brunt of environmental degradation due to systemic neglect and discriminatory policies. For example, untreated sewage and industrial waste in Guanabara Bay have created widespread health crises, disproportionately affecting nearby favela residents. In these areas, illnesses such as leptospirosis, cholera, and dengue are rampant, exacerbated by limited healthcare [4-8].

Air pollution compounds the inequities. Favelas near industrial zones experience high levels of particulate matter, leading to respiratory illnesses. This environmental injustice reflects broader socio-economic inequalities, where vulnerable communities are left to endure the worst consequences of urban pollution. [3-6-8].

3. Health Impacts and Infrastructure Gaps

Climate Change and Public Health

Rising temperatures due to climate change increase the prevalence of heat-related illnesses, particularly in densely populated and poorly ventilated favelas [4-6-10]. These conditions disproportionately affect the elderly, children, and individuals with pre-existing health conditions. The Oswaldo Cruz Foundation projects a 5% rise in heat-related mortality by 2050 in Rio, with favelas facing the greatest risks due to their urban heat island effect [8].

Waterborne diseases are another pressing concern. Flooding, exacerbated by inadequate drainage systems, often leads to outbreaks of illnesses like dengue fever and leptospirosis. The combination of poor sanitation and climate-related flooding amplifies the spread of vector-borne diseases, disproportionately affecting informal settlements [6-7].

Infrastructure Deficits

The absence of adequate drainage systems, waste management, and reliable housing infrastructure compounds the vulnerabilities of informal settlements [3-9]. During flooding events, poorly constructed homes are often destroyed, leaving families with no financial support for recovery. The lack of sanitation infrastructure also increases exposure to disease, further marginalizing affected communities [5-10]. Addressing these gaps requires targeted investments in urban infrastructure. Programs like "Morar Carioca" and the "Programa de Urbanização de Assentamentos Populares" have shown potential but remain limited in scope. Expanding such initiatives with a focus on resilience and community involvement is essential for creating equitable urban systems.

1. **Brazilian Institute of Geography and Statistics (IBGE).** (2023). *Population Estimate for the Municipality of Rio de Janeiro.* Retrieved from https://www.ibge.gov.br/. 2. **Columbia University Earth Institute.** (2019). *Climate Change and the Urban Poor: Building Resilience in Cities.* New York: Columbia University. 3. **Fábio, P.** (2018). *The Effects of Urbanization Projects in Rio: Porto Maravilha and Gentrification. Journal of Urban Development,* 15(3), 112-125. 4. **Fiocruz.** (2021). *Health Inequities and Climate Change in Rio.* Retrieved from https://www.fiocruz.br/. 5. **Instituto Pereira Passos (IPP).** (2012). *Favelas Cariocas: Comparação de Censos 1991/2000/2010.* Rio de Janeiro: IPP. 6. **Marengo, J. A., et al.** (2020). *Extreme Climate Events in Brazil. Climatic Change,* 152(3), 455-471. 7. **Movimento dos Atingidos por Barragens (MAB).** (2022). *Report on the Displacement of Families Due to Large Infrastructure Projects in Rio.* Retrieved from https://www.mab.org.br/. 8. **Prefeitura do Rio de Janeiro.** (2016). *Programa Morar Carioca beneficia 29 áreas da cidade com melhorias de infraestrutura.* Retrieved from https://en.prefeitura.rio/habitacao/programa-morar-carioca-beneficia-29-areas-da-cidade-com-melhorias-de-infraestrutura/.. 9. **Programa de Urbanização de Assentamentos Populares - PROAP III.** (n.d.). Retrieved from https://www.data.rio/apps/c99b14601a7a407d9698266955a848a5/explore. 10. **Rede de Comunidades e Movimentos contra a Violência.** (2022). *Social Movements in Rio de Janeiro: Combating Displacement and Violence.* Retrieved from https://www.redecontraviolencia.org.br/. 11. **Soares, M. F.** (2019). *Social Vulnerability in Rio's Favelas. Geografia e Ordenamento do Território,* 6(2), 97-112. 12. **State University of Rio de Janeiro (UERJ).** (2022). *Impacts of Climate Change on Rio de Janeiro's Urban Vulnerabilities. Climatic Change and Urban Development,* 8(2), 25-41. 13. **UN-Habitat.** (2003). *The Challenge of Slums: Global Report on Human Settlements.* Nairobi, Kenya: United Nations Human Settlements Programme.

4. Activism and Pathways to Justice

Grassroots Movements and Policy Advocacy

Organizations like "Movimento dos Atingidos por Barragens (MAB)" and the "Rede de Comunidades e Movimentos contra a Violência" have been pivotal in advocating for marginalized communities [7-8]. These groups have not only raised awareness about forced displacement but also mobilized protests to halt harmful urbanization projects. For example, their efforts led to the introduction of policies aiming to reduce air pollution by 25% by 2030, prioritizing vulnerable neighborhoods [10].

Moreover, their advocacy efforts have led to the recognition of community rights, such as access to clean water, housing, and healthcare, which are often neglected in large-scale urban development projects. These achievements demonstrate the power of collective action in driving systemic change and ensuring social justice for vulnerable populations.

Community-driven approaches have proven effective in building resilience. Grassroots organizations work to empower residents through education, resource distribution, and collaborative urban planning. By emphasizing local knowledge and participation, these movements ensure that policies address the specific needs of affected communities [4-5-9].

Conclusion

Rio de Janeiro epitomizes the complex interplay of climate risks, socio-economic inequalities, and environmental injustices. While the challenges are vast, they are not insurmountable. Building a resilient and equitable Rio requires a multi-pronged approach that combines investments in infrastructure, community empowerment, and systemic policy reforms. Addressing the root causes of social vulnerability — such as income inequality and environmental neglect — is fundamental for sustainable progress.

Grassroots activism and inclusive governance provide a blueprint for overcoming these barriers. By championing the needs of its most vulnerable communities, Rio can transform itself into a model of urban resilience, offering invaluable lessons for other cities facing similar challenges globally. The path forward demands collective action, innovative thinking, and unwavering commitment to justice and sustainability. Together, these efforts can ensure that Rio de Janeiro thrives in the face of a changing climate.

1. **Brazilian Institute of Geography and Statistics (IBGE).** (2023). *Population Estimate for the Municipality of Rio de Janeiro.* Retrieved from https://www.ibge.gov.br/. 2. **Columbia University Earth Institute.** (2019). *Climate Change and the Urban Poor: Building Resilience in Cities.* New York: Columbia University. 3. **Fábio, P.** (2018). *The Effects of Urbanization Projects in Rio: Porto Maravilha and Gentrification. Journal of Urban Development,* 15(3), 112-125. 4. **Fiocruz.** (2021). *Health Inequities and Climate Change in Rio.* Retrieved from https://www.fiocruz.br/. 5. **Instituto Pereira Passos (IPP).** (2012). *Favelas Cariocas: Comparação de Censos 1991/2000/2010.* Rio de Janeiro: IPP. 6. **Marengo, J. A., et al.** (2020). *Extreme Climate Events in Brazil. Climatic Change,* 152(3), 455-471. 7. **Movimento dos Atingidos por Barragens (MAB).** (2022). *Report on the Displacement of Families Due to Large Infrastructure Projects in Rio.* Retrieved from https://www.mab.org.br/. 8. **Prefeitura do Rio de Janeiro.** (2016). *Programa Morar Carioca beneficia 29 áreas da cidade com melhorias de infraestrutura.* Retrieved from https://en.prefeitura.rio/habitacao/programa-morar-carioca-beneficia-29-areas-da-cidade-com-melhorias-de-infraestrutura/. 9. **Programa de Urbanização de Assentamentos Populares - PROAP III.** (n.d.). Retrieved from https://www.data.rio/apps/c99b14601a7a407d9698266955a848a5/explore. 10. **Rede de Comunidades e Movimentos contra a Violência.** (2022). *Social Movements in Rio de Janeiro: Combating Displacement and Violence.* Retrieved from https://www.redecontraviolencia.org.br/. 11. **Soares, M. F.** (2019). *Social Vulnerability in Rio's Favelas. Geografia e Ordenamento do Território,* 6(2), 97-112. 12. **State University of Rio de Janeiro (UERJ).** (2022). *Impacts of Climate Change on Rio de Janeiro's Urban Vulnerabilities. Climatic Change and Urban Development,* 8(2), 25-41. 13. **UN-Habitat.** (2003). *The Challenge of Slums: Global Report on Human Settlements.* Nairobi, Kenya: United Nations Human Settlements Programme.

Workshop Methodology and Agenda

Workshop Agenda

In keeping with the goals of the workshop to both exchange learnings across sectors as well as set the stage for co-design of collaborative projects that respond to intersectional risks and vulnerabilities, the workshop was designed with a few key formats:

(1) Speaker presentations and panels to share learnings, research, and agendas
(2) Collaborative and dynamic breakout exercises and sessions aimed at problem solving and idea generation
(3) Share-out sessions and networking time

DAY 1
Understanding Risk

What is the current understanding of risks and vulnerabilities in Rio de Janeiro? Who are the actors involved in this issue? How do we understand the landscape conceptually and empirically?

08:30 **Arrival, registration, coffee**

09:00 **Welcome and Opening**
Rio Global Center Columbia, Thomas Trebat
ENCE/IBGE, César Marques
Climate Secretariat, Rio City Hall, Tatiana Castelo Branco

9:20 **Speaker Series: Context Setting I**

Urban Climate Risk and Vulnerability: a geographic perspective
Alex de Sherbinin, Center for Integrated Earth System Information (CIESIN), Columbia Climate School

Risks and vulnerabilities associated with extreme heat in Rio de Janeiro
Núbia Beray Armondm (Indiana University)

The social dimension of traffic CO2 emissions in Rio de Janeiro
Heitor Soares de Faria, Federal Rural University of Rio de Janeiro

10:30 **Coffee Break and Networking**

11:00	**Speaker Series: Context Setting II** **Disaster vulnerability dimensions** *Victor Marchezini (CEMADEN)* **The Demography of adaptation in Rio de Janeiro** *César Marques, IBGE*
12:00	**Discussion and Panel Reflection**
12:30	**Lunch**
1:30 - 5:30	**Workshops and Breakout Sessions**
1:30	**Session 1. Who produces knowledge about climate risks?** What are the institutions and groups that hold this knowledge? What data and information do they produce? (sea level rise, demographic, landslides, housing policy analysis) How does the information exist or how can it be accessed?
2:30	**Session 2. Can we prioritize shocks and stresses?** Map hazards and chronic stresses to quadrants that correspond to sensitivity and occurrence. What are the interdependencies between shocks and stresses? Are there people, places, or critical infrastructure disproportionately impacted?
3:30	**Session 3. How is risk and vulnerability produced? How did we get here?** Consider three scales: district, City and National/Global. How is risk produced? What are the factors/drivers that have created the conditions for vulnerability to risk? (political, socio-cultural, economic, built environment).
4:30	**Report Out and Day 2 Wrap Up**

DAY 2
Defining Action and Adaptation Pathways

What are the ongoing developments in climate adaptation in Rio de Janeiro? What emerging policies, user needs, and adaptation gaps shape the landscape? Brainstorm solutions and initiatives that respond to intersectional risks.

09:00 **Summary of the previous day**

09:30 **Speaker Series: Context Setting III**
Populations at risk and climate change indicators
Therence Sartri and Sandra de Carlo, IBGE

10:00 **Workshops and Breakout Sessions**
What are the current research and actions on climate adaptation? Where should research on climate adaptation be focused?

Session 4. Overlaying Existing Efforts and Needs
Participants identify planned or existing projects/ initiatives in the City. Then, map assets that can be amplified, invested in, redistributed, or supported. Then, discuss where there are opportunities and gaps? How do they overlay with vulnerable neighborhoods

10:45 **Coffee break**

11:00 **Speaker Series: Context Setting IV**
A framework to prioritize nature based solution for disaster prevention
Stella Manes (IIS)

11:30 **Session 5. Adaptation Possibilities and Prioritization**
Participants split into thematic groups and rotate: Housing, transport, food, health systems, urban planning, education, energy infrastructure. Then, write a "What If…." Question that aims to imagine an alternative and/or a scenario for highest impact?

12:00 **Group Discussion**
What if scenarios? What do these say about collective action in Rio? What is lacking? Where there is value we hadn't seen before? Are data, skills, and capabilities sufficient to drive future scenarios forward? Are the channels for information and planning where they need to be?

12:30 **Lunch**

1:30 **Partnership Models for Adaptation Action : New York Panel On Climate Change and Resilience Accelerator Project Preparation Learnings**
Johanna Lovecchio, Columbia Climate School

2:15 **Session 6. Identifying and Overcoming Barriers**
Consider barriers to climate adaptation across various dimensions of action. Then, identity if there are ideas/opportunities that might support overcoming these barriers.

3:00 **Coffee Break**

3:30 **Session 7. Adaptation Action Thesis**
Consider one or two initiatives from the previous exercise. Define an adaptation hypothesis / theory of change for an initiative that answers: How can science best support climate adaptation and overcome barriers to adaptation in Rio de Janeiro? Define a scenario / path forward for this action or set of actions

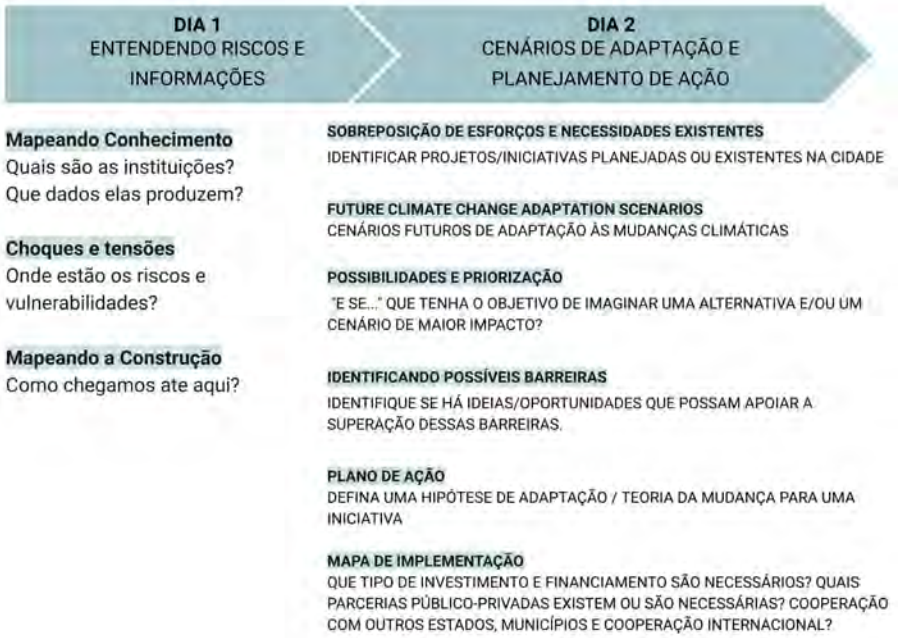
4:00 **Session 8. Implementation Roadmap**
Considering implementation of the initiative, what are the elements that can actualize the idea? (What type of investment and funding is needed? What public-private partnerships exist or are needed?

4:30 **End of Day 2 and Workshop Wrap Up**

Workshop Exercises and Findings

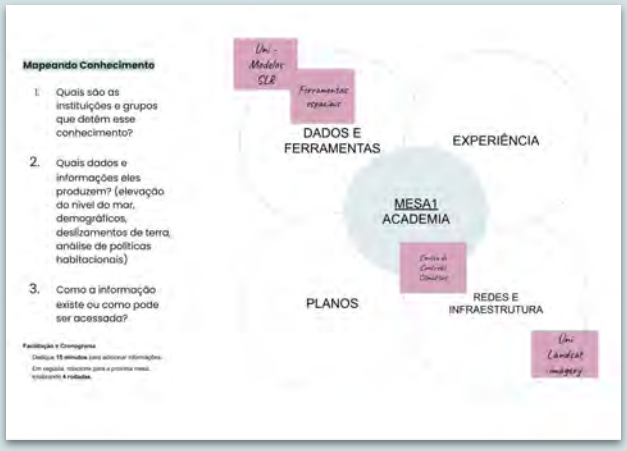
Workshop Objectives

- Understand and map risks and root causes of vulnerability
- Discuss knowledge production and coordination
- Identify adaptation scenarios and pathways
- Brainstorm actions and interventions



1.1 Who produces knowledge about climate risks? How is it accessed?

Participants were grouped into table by sector: Academia, Private, Civil Society / Community, and Government and asked to discuss how knowledge is produced and accessed across these sectors.



CIVIL SOCIETY / COMMUNITY

- Civil society and its tacit knowledge on local communities is invaluable.
- Civil defense and public defenders have information about communities that isn't always utilized in a constructive way.
- Communities are central to produce data on inequality and poverty vis a vis their lived experience, narrative, and information.
- Importance of citizen generation of data in diverse themes (violence, health, resilience center on climate justice, disasters) and territories.
- Civil society generated plans, including adaptation plans, often lack the capacities that make them real, which challenges the resources and capacity of local communities to inform these plans.

Data and Tools

- **Redes da Maré** *(Network of Maré Communities - collaborative social projects in Maré)*
- **Núcleo Universitário de Pesquisas, Estudos e Consultoria** *(University Research and Consulting Center - academic research and consultancy)*
- **Comércio Informal** *(Informal Commerce - data on local street markets and informal economy)*
- **Comunidade** *(Community - collective knowledge of residents about local realities)*
- **Conselho Municipal de Proteção e Defesa Civil** *(Municipal Council for Civil Protection and Defense - disaster preparedness and civil defense data)*
- **Baixada Viva** *(Living Baixada - environmental and social programs in Baixada Fluminense)*
- **Rede Favela Sustentável** *(Sustainable Favela Network - sustainable urban solutions in favelas)*
- **Centro Brasileiro de Justiça Climática** *(Brazilian Center for Climate Justice - climate justice and environmental advocacy data)*
- **Observatório das Favelas** *(Favela Observatory - research and data on urban inequality and favelas)*
- **Rede das Marés** *(Network of Tides - similar to Redes da Maré, focused on collaboration in coastal areas)*
- **Data Labe** *(Data Lab - community-driven data analysis and storytelling from favelas)*
- **Casa Fluminense** *(Fluminense House - public policy and social equity in the Rio de Janeiro metropolitan area)*

Plans

- **Diagnósticos socioambientais com usuários da costa do Rio** *(Socio-environmental diagnoses with users of Rio's coast - participatory environmental studies)*
- **Coalizão** *(Coalition - collaborative initiatives between organizations and communities)*
- **Simbiose** *(Symbiosis - mutually beneficial partnerships and projects)*

Networks and Infrastructure

- **Movimento Baía Viva** *(Living Bay Movement - advocacy for the environmental health of Guanabara Bay)*
- **Qualidade do Ar** *(Air Quality - data and monitoring of air pollution in urban areas)*

Experience

- **Baixada Viva** *(Living Baixada - see above, experiential knowledge in Baixada Fluminense)*
- **Memória Climática** *(Climate Memory - historical records of climate impacts in local areas)*
- **Moradores** *(Residents - lived experiences and local knowledge)*
- **Atualização dos dados censitários do Rio** *(Updating census data for Rio - demographic and statistical updates)*

ACADEMIA

- Multiple academic institutions producing knowledge about climate risks. Also, public institutions, such as IBGE and FIOCRUZ, are central to subside academic production. Some key issues pointed were:
- Key considerations include: who produces the data? What is its utility? For whom is data produced?
- Government databases are decentralized and a repository of the universities are collected in multiple and uncoordinated repositories.

GOVERNMENT

- A great deal of information on climate risks by government institutions. But it can be difficult to access and use for decision making, prioritization, and alternatives analysis of projects
- Participants reflected that, occasionally, data is not in an appropriate format, and that the need to think outside of the traditional government institutions would improve possibilities, as civil defense institutions focused on geological processes and finance institutions produce economic information.

PRIVATE SECTOR

- Data produced by service providers (as mobile phone data to map mobilities), but it's difficult to access it and know what is there.
- Accessibility and transparency is limited
- Incentive structures do not align with the public interest: private companies aren't going to make algorithms available because it's their business.
- There is a need to create novel governance models that could be replicated in order to access data and reduce vulnerabilities.

Networks and Infrastructure

- **Águas do Rio** *(Water utility company - data on water infrastructure and sustainability)* (aguasdorio.com.br)
- **Empresas seguradoras e resseguradoras** *(Insurance and reinsurance companies - risk assessment and climate adaptation data)*
- **Concessionárias de água, esgoto e energia** *(Water, sewage, and energy concessionaires - infrastructure and utility data).*
- **Airbnb** *(Hospitality platform - data on short-term rentals and community mobility)* (airbnb.com)

Plans

- **Dados de impacto ambiental das atividades das empresas** *(Environmental impact data from business activities)*
- **Estratégias de descarbonização** *(Decarbonization strategies - corporate plans to reduce carbon emissions)*
- **Comunitas: Guia Prático de Enfrentamento a Mudanças Climáticas** *(Comunitas: Practical guide to facing climate change - resource for companies and municipalities)* (comunitas.org)
- **W3** *(Collaborative initiatives for sustainable urban development)*
- **Cury** *(Real estate and urban development - data and strategies for sustainable housing)* (cury.net)
- **Venture Buildings** *(Startups and businesses focused on infrastructure innovation and sustainability)*

Experience

- **Uso de dados da Waze pela COR** *(Use of Waze data by COR - urban mobility and traffic management insights)*
- **Plataforma Colab** *(Colab platform - citizen engagement and municipal service data)* (colab.re)

Data and Tools

- **Google** *(Technology and data analytics - geographic, demographic, and environmental data)* (google.com)
- **Uber** *(Ride-hailing and delivery services - mobility and urban transport data)* (uber.com)
- **99** *(Mobility platform - local transportation and logistics data)* (99app.com)
- **Oi** *(Telecommunications - data related to communication infrastructure)* (oi.com.br)
- **TIM** *(Telecommunications - mobile network and connectivity data)* (tim.com.br)
- **Vivo** *(Telecommunications - network data and internet services)* (vivo.com.br)
- **Anatel** *(National Telecommunications Agency - regulatory data on telecom services)* (anatel.gov.br)
- **Deloitte** *(Consulting and auditing - corporate data, sustainability, and business intelligence)* (deloitte.com)
- **iFood** *(Food delivery platform - logistics and consumer behavior data)* (ifood.com.br)

1.2 What are the intersectional risks?

Participants mapped shocks and stresses in Rio in a matrix of occurrence and sensitivity. Then discussed the relationships between these risk.

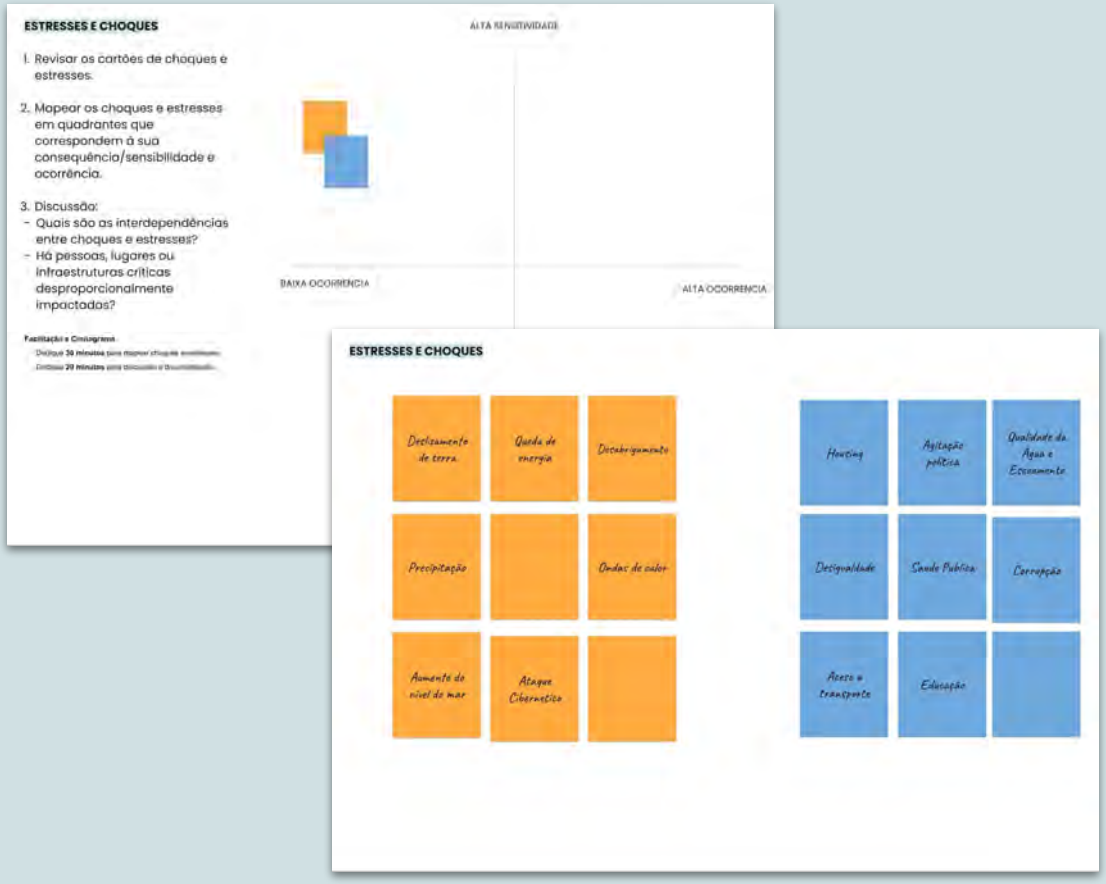


TABLE 1

- Environmental racism
- Heat waves
- Rising sea levels
- Landslides and flood

TABLE 2

- Environmental racism
- Inequality
- Precipitation
- Heat waves
- Water quality / drainage
- Homelessness
- Public health
- Political agitation - fake news and high occurrence
- Public security and housing / public health
- Landslides (due to irregular construction, not just rainfall)
- Electric blackouts Sea level rise
- Cyber attacks on electronic invoices and services of the city

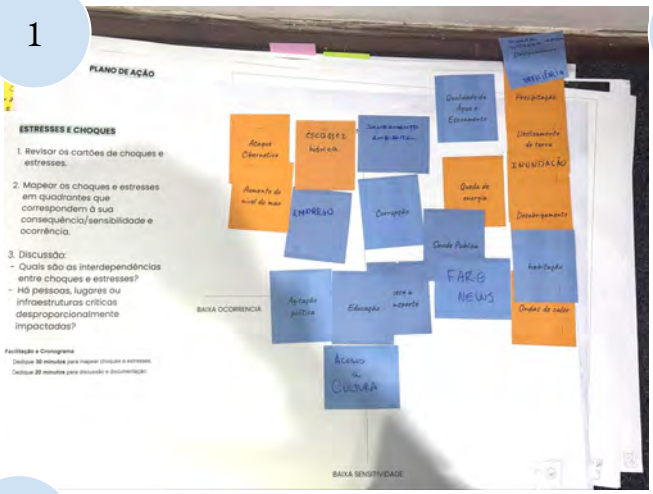
TABLE 3

- Differentiation of impacts based on households
- Precipitation
- Landslides
- Housing and heat waves
- Fake news
- Global risks, such as SLR and water scarcity
- Cyberattacks
- Access to culture
- Employment

TABLE 4

- Electric Blackouts
- Violence
- Homeless
- Inequality
- Corruption
- Access to transportation
- Urban drainage
- Environmental racism

1



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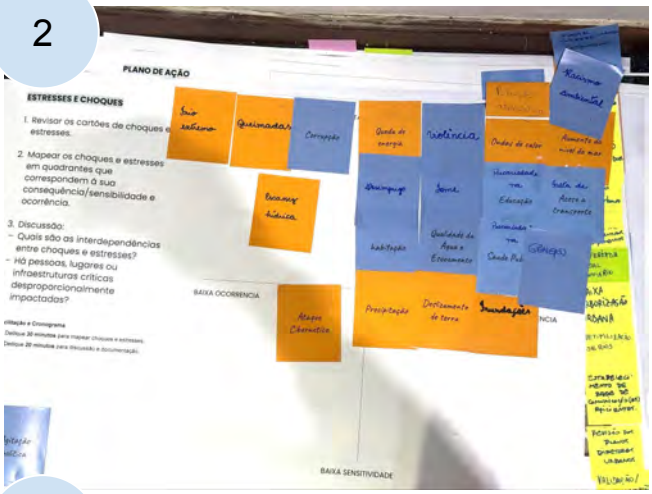

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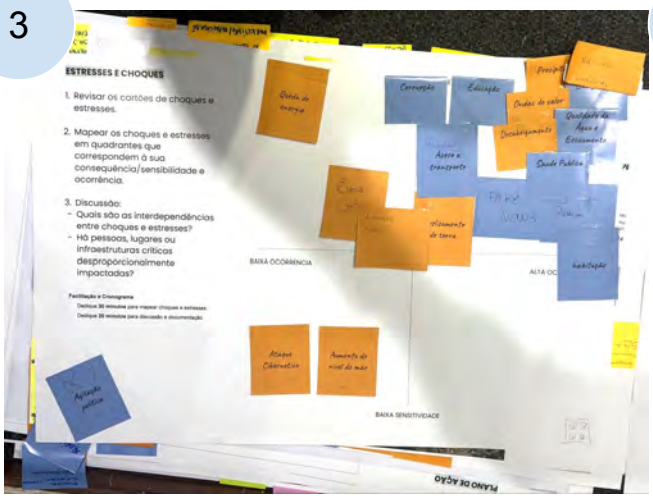

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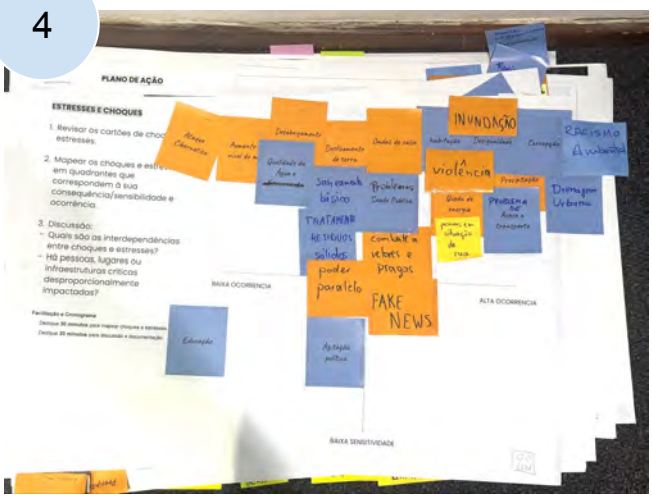
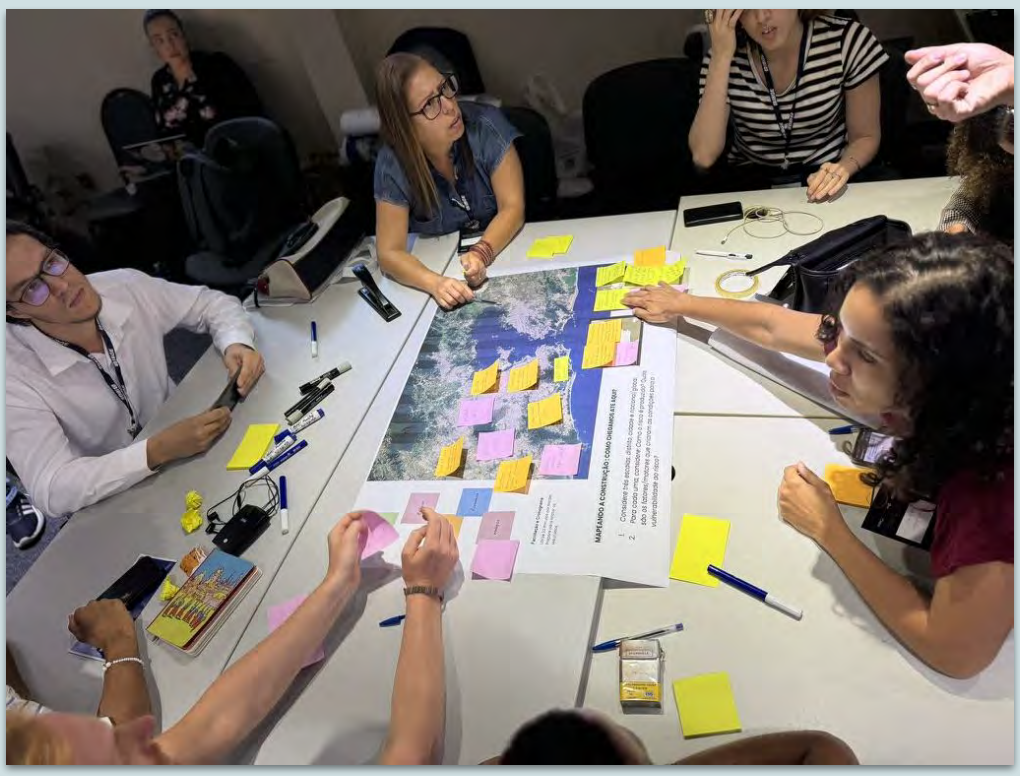


1.3 What are the root causes? How did we get here?

Participants mapped the root causes of risks and vulnerabilities. They considered three scales: district, City and National/Global. How is risk produced? What are the factors/drivers that have created the conditions for vulnerability to risk? (political, socio-cultural, economic, built environment).



Legacy of Colonialism

The group centered its discussion on colonialism, focusing on how dependency and the concentration of wealth in Brazil's context have shaped the nation's daily realities. The lingering legacy of colonialism continues to influence territorial inequalities and the broader experience of life in the city, perpetuating disparities that define urban dynamics today.

Diversity of Perspectives

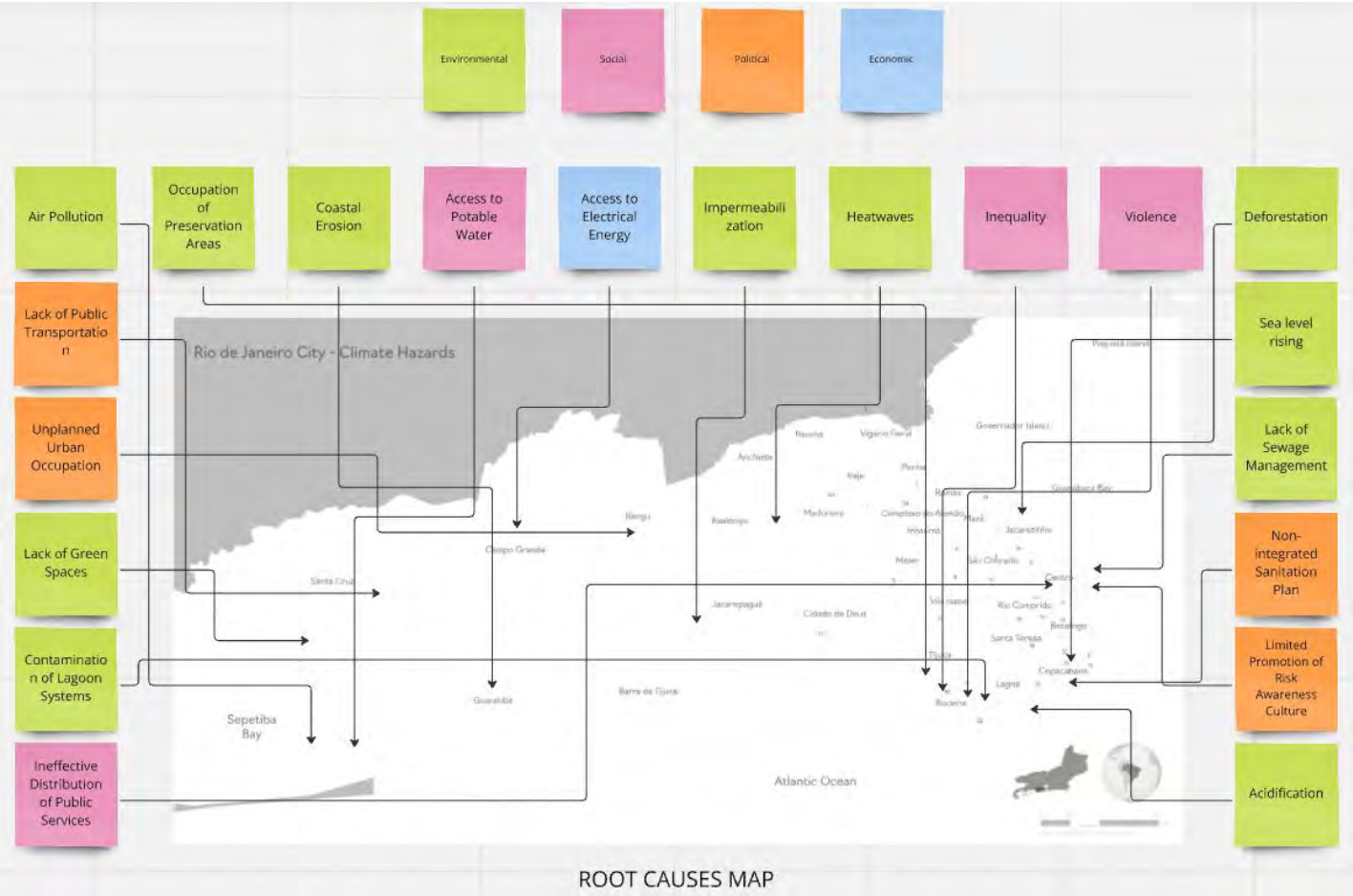
A key highlight of the discussion was the value of diverse ideas and contributions. The interaction among participants from varied backgrounds enabled the group to establish a shared understanding of critical issues, underscoring the importance of diversity in small group settings. The discontinuity of public policies was noted as a pressing concern, with participants advocating for a progressive and sustained approach to addressing these challenges.

Lack of Territorial Surveys

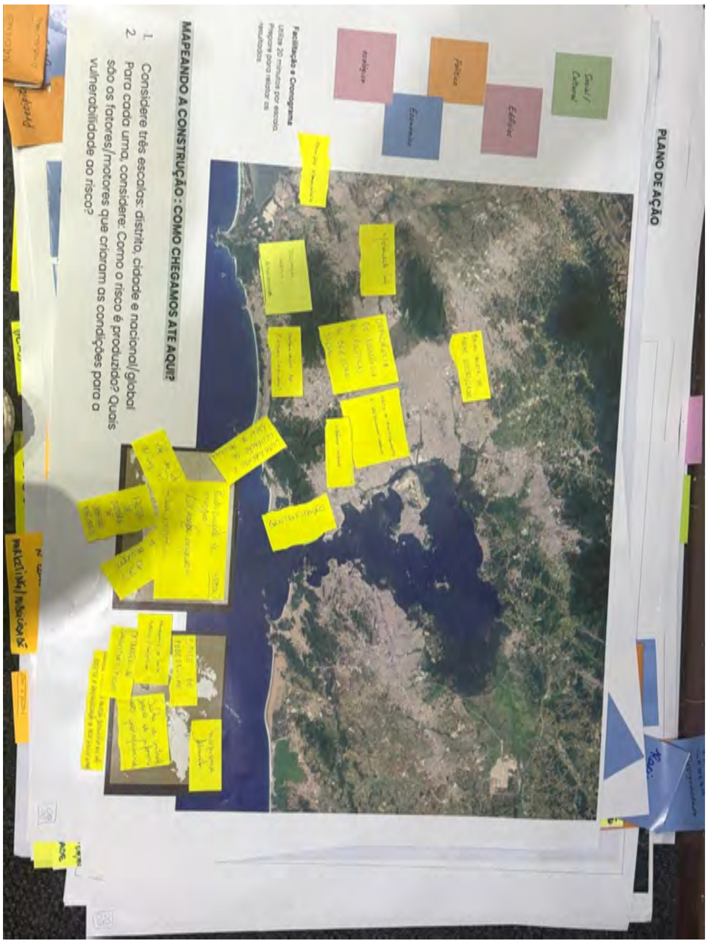
The absence of a consistent culture of territorial surveys at both the municipal and national levels emerged as a critical issue. This gap, coupled with insufficient inventories and inadequate land-use monitoring, has significant repercussions for land occupation and management. The lack of effective public tools to address these challenges was identified as a major obstacle to equitable urban planning.

Inequality of Access to Green and Cultural Spaces

The group highlighted inequalities in access to green spaces, leisure, and cultural opportunities, which are tied to insufficient public participation in urban planning and a lack of monitoring. These inequities were seen as critical barriers to achieving more inclusive and sustainable urban development



ROOT CAUSES MAP


MAPEANDO A CONSTRUÇÃO : COMO CHEGAMOS ATÉ AQUI?
1. Considere três escalas: distrito, cidade e nacional/global
2. Para cada uma, considere: Como o risco é produzido? Quais são os fatores/motores que criaram as condições para a vulnerabilidade ao risco?
PLANO DE AÇÃO
FALTA DE ACESSO À TERRA
COLONIZAÇÃO
AGRONEGÓCIO
DESMATAMENTO
LUCRO ACIMA DA VIDA
INEFICIÊNCIA DE POLÍTICAS HABITACIONAIS

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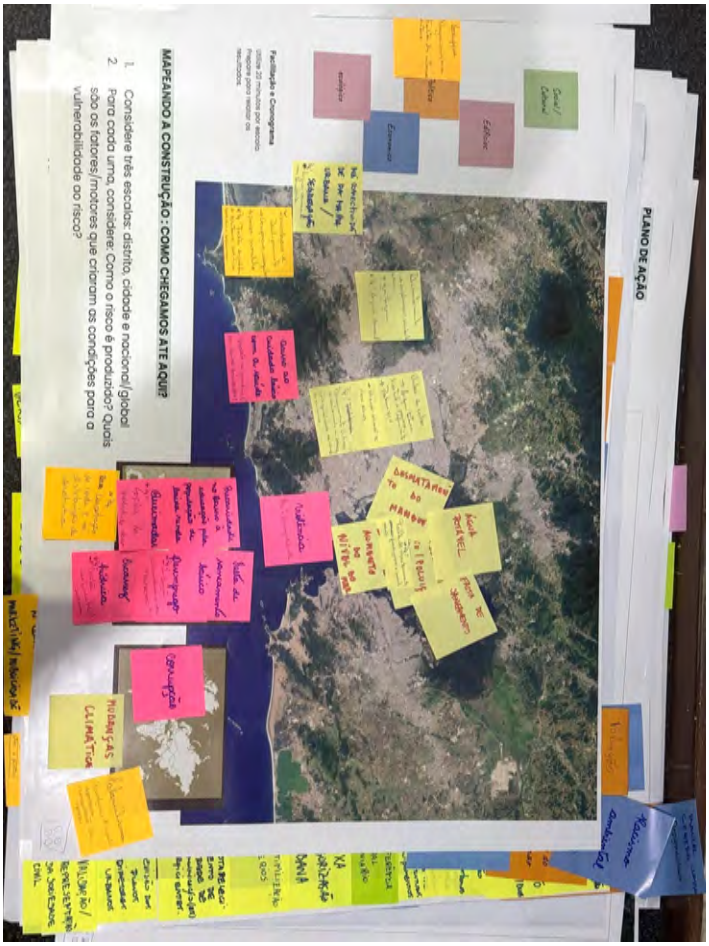
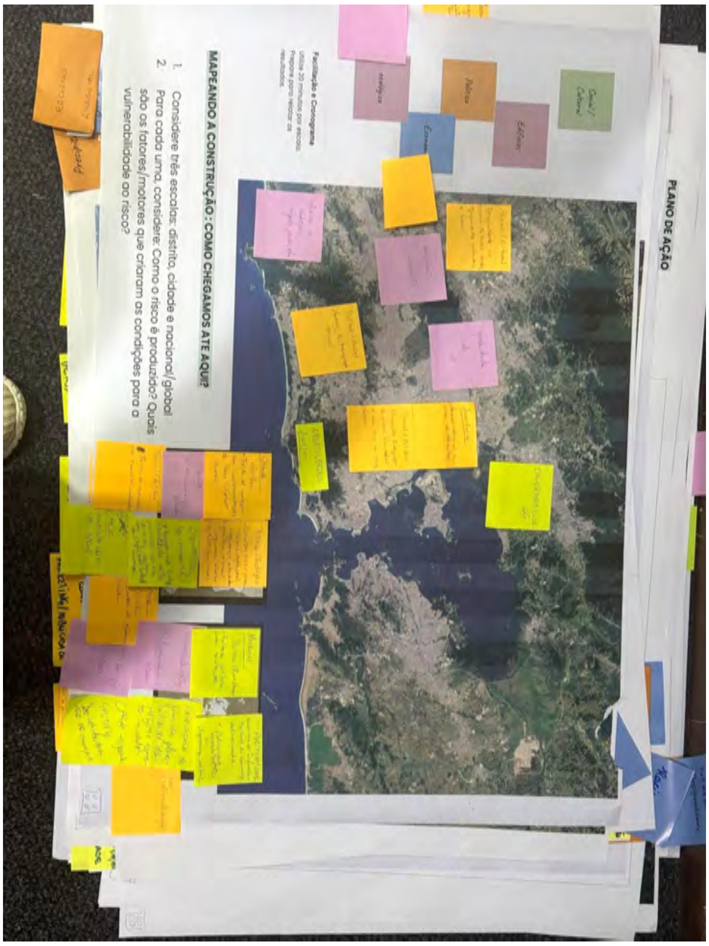

PLANO DE AÇÃO
MAPEANDO A CONSTRUÇÃO : COMO CHEGAMOS ATÉ AQUI?
1. Considere três escalas: distrito, cidade e nacional/global
2. Para cada uma, considere: Como o risco é produzido? Quais são os fatores/motores que criaram as condições para a vulnerabilidade ao risco?
MUDANÇAS CLIMÁTICAS

PLANO DE AÇÃO
MAPEANDO A CONSTRUÇÃO : COMO CHEGAMOS ATÉ AQUI?
1. Considere três escalas: distrito, cidade e nacional/global
2. Para cada uma, considere: Como o risco é produzido? Quais são os fatores/motores que criaram as condições para a vulnerabilidade ao risco?

2.1 Defining Action and Adaptation Pathways. What is the landscape of action across the city?

Participants identified projects, initiatives, and plans across the city. They mapped actions, investments that could be expanded, invested in, distributed or supported.

SOBREPOSIÇÃO DE ESFORÇOS E NECESSIDADES EXISTENTES

Identificar projetos/iniciativas planejadas ou existentes na cidade

Mapear quaisquer ativos na cidade que podem ser ampliados, investidos, distribuídos ou apoiados

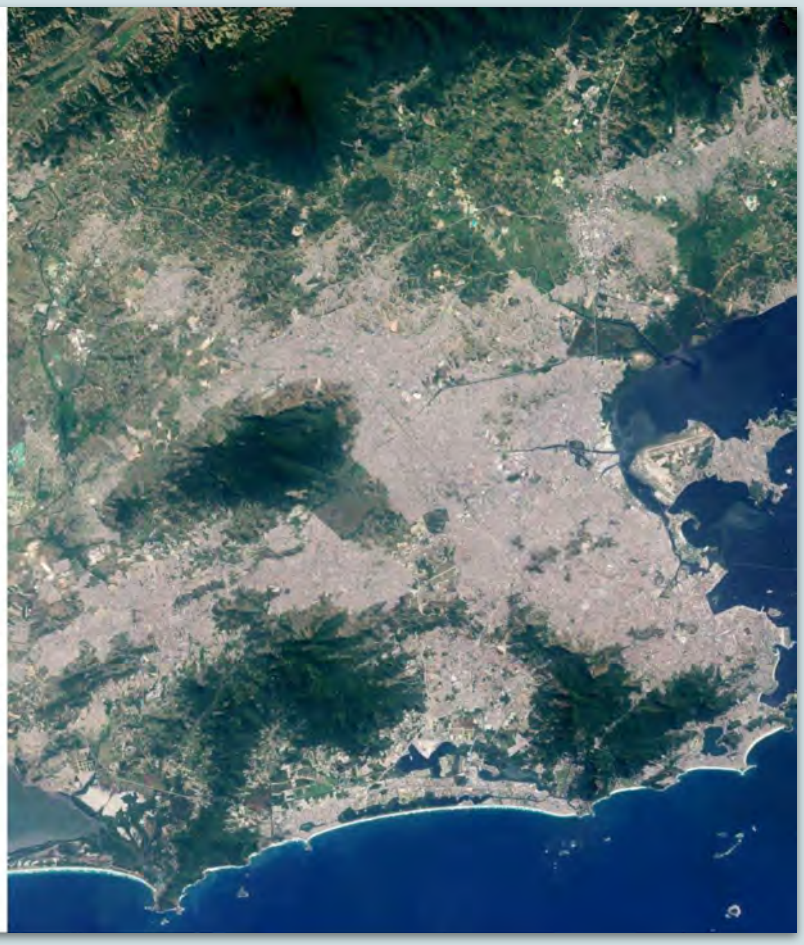
Exemplos:

- Espaços físicos e instalações
- Infraestrutura pública
- Recursos financeiros corporativos/privados ou investidores
- Ativos ambientais e ecológicos
- Significância cultural/histórica
- Infraestrutura de energia limpa
- Plano/projeto de adaptação

Marcar onde estão as comunidades vulneráveis

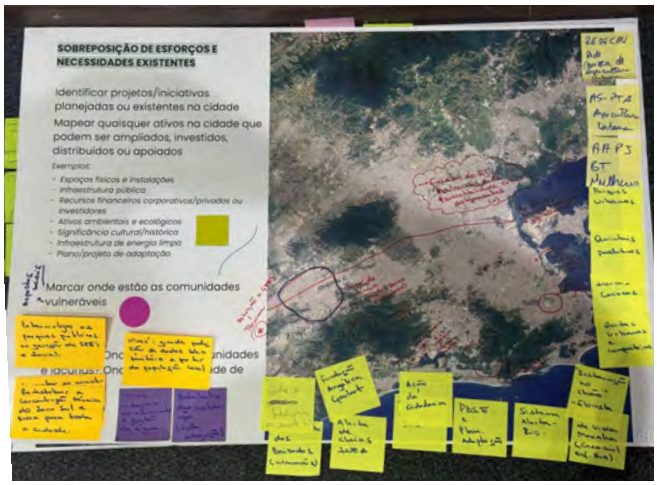
Discussão: Onde existem oportunidades e lacunas? Onde há oportunidade de redistribuir?

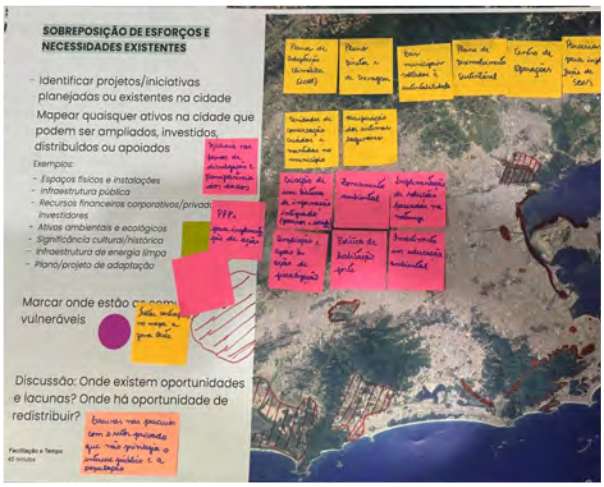
Facilitação e Tempo
45 minutos

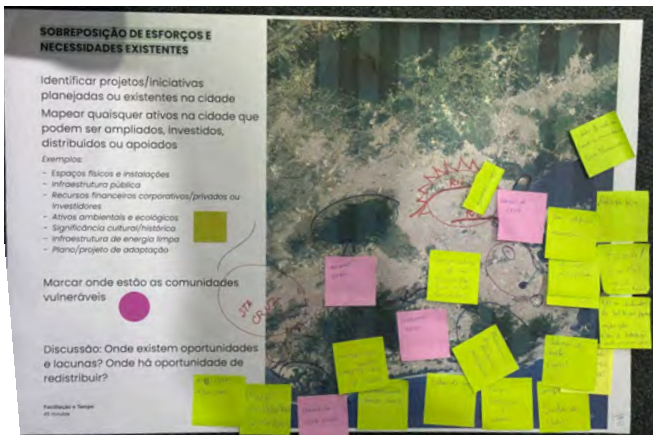


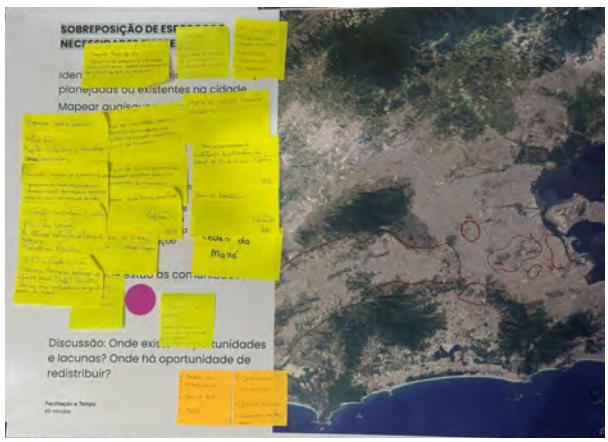
Discussion:
Landscapes and Action

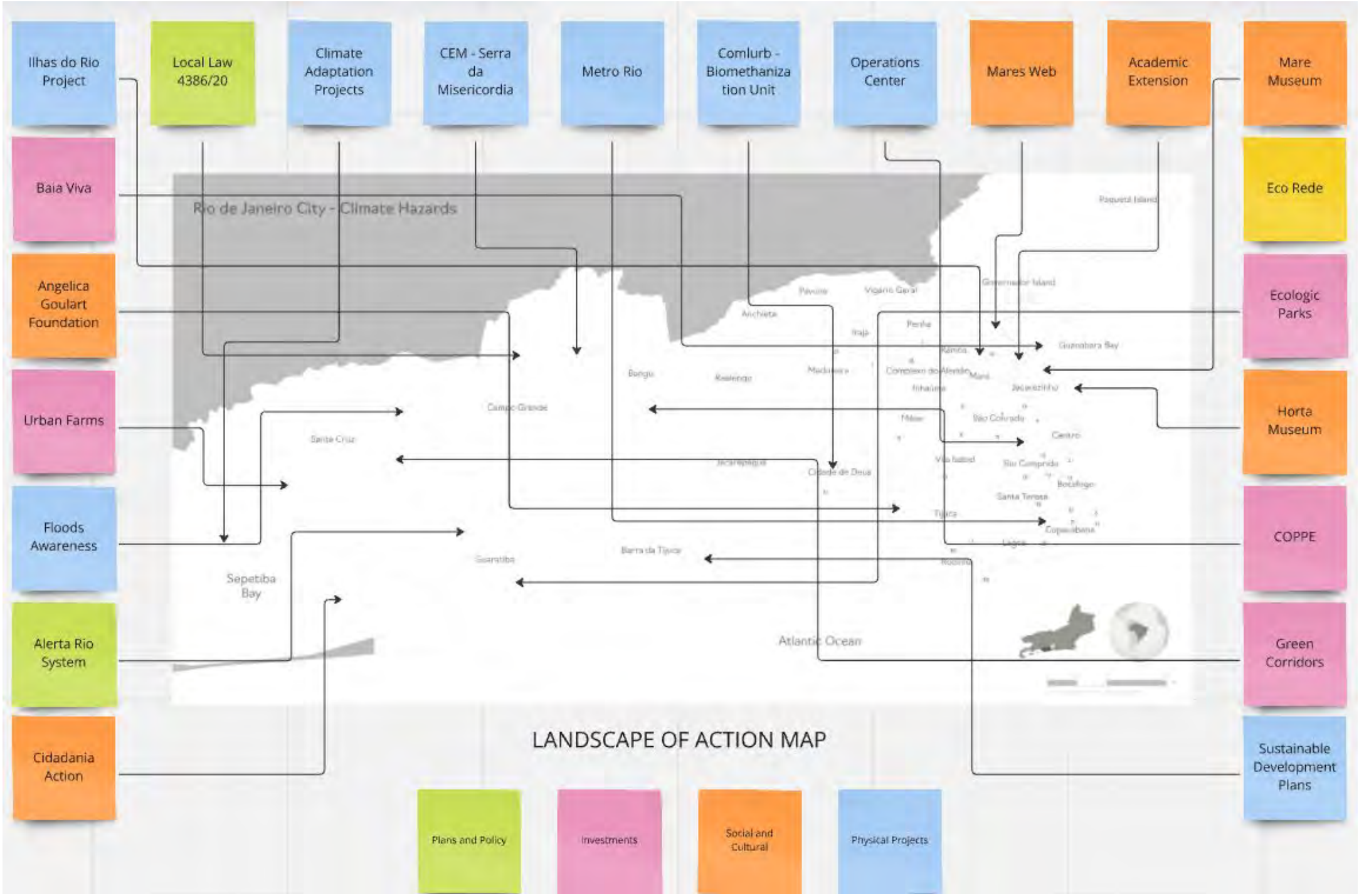
According to the teams, to support climate adaptation in Rio de Janeiro, science can play a critical role by fostering public accountability, participatory governance, and environmental education. Initiatives like public forums and environmental awareness campaigns can address systemic barriers such as education inequality, lack of transparency, and political disinterest. These actions would strengthen societal trust, increase engagement, and promote equitable climate policies. Starting with short-term pilot programs in selected neighborhoods and education initiatives in schools, these efforts would scale to city-wide forums and institutionalized curricula. Over time, sustainability would become embedded in cultural norms through participatory budgeting and community-led green initiatives, creating a resilient, inclusive city where collective action drives climate adaptation and progress toward SDG targets.





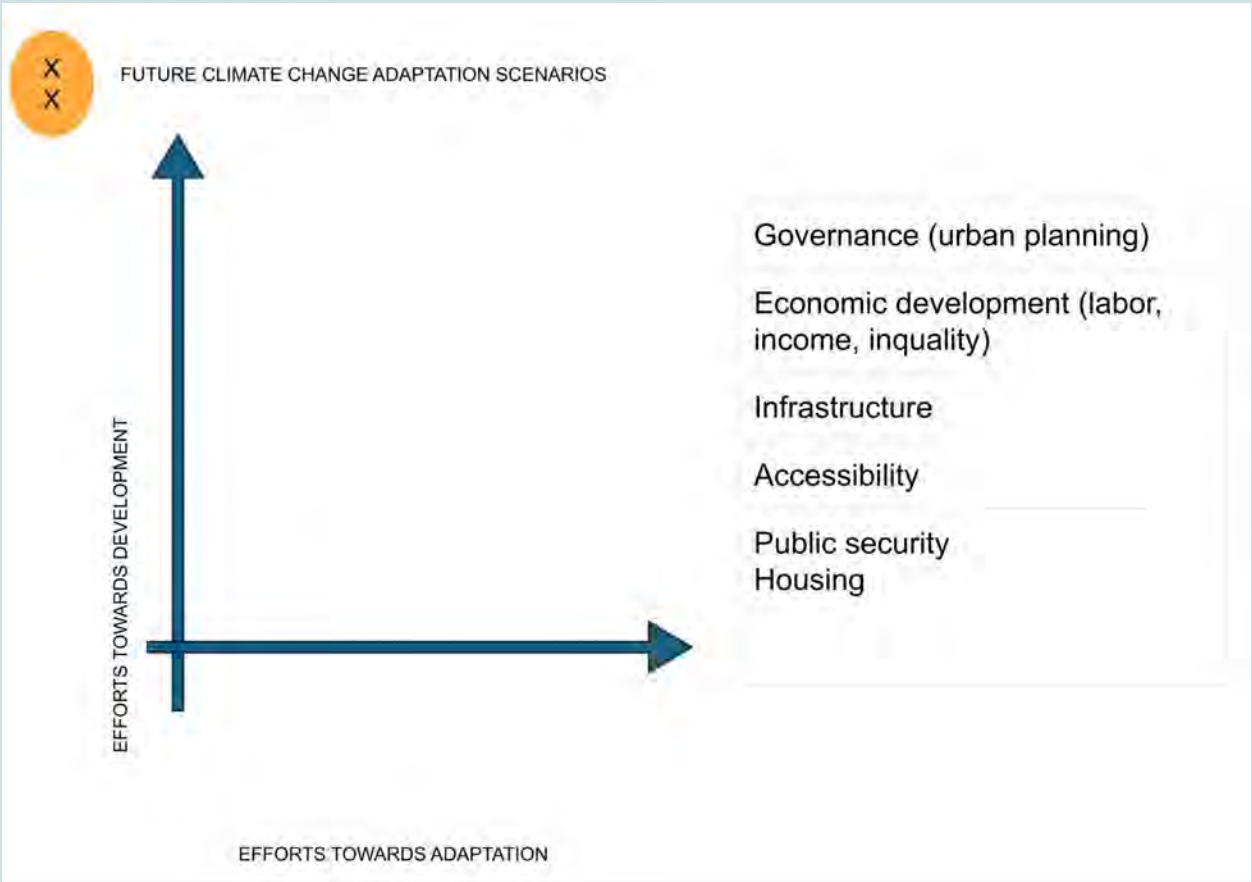





Ilhas do Rio Project
Local Law 4386/20
Climate Adaptation Projects
CEM - Serra da Misericordia
Metro Rio
Comlurb - Biomethanization Unit
Operations Center
Mares Web
Academic Extension
Mare Museum
Baia Viva
Eco Rede
Rio de Janeiro City - Climate Hazards
Angelica Goulart Foundation
Ecologic Parks
Urban Farms
Horta Museum
Floods Awareness
COPPE
Alerta Rio System
Green Corridors
Cidadania Action
Sustainable Development Plans
Sepetiba Bay
Atlantic Ocean
LANDSCAPE OF ACTION MAP
Plans and Policy
Investments
Social and Cultural
Physical Projects

2.2 How do we contextualize adaptation scenarios?

Each group discussed five future pathways at a specific dimension (housing, public services, urban planning and food systems). For this, they relate their dimension with different trajectories of economic growth, environmental protection and inequalities. This resulted in the following contents for each of the 5 narratives. In this sense, it was possible to map how these trajectories would be in each dimension. The graph below synthesizes this picture.



Discussion:
Adaptation Scenarios

1. **No limits to growth.** All groups identified this as a scenario with weakening of Housing, public services, urban planning, and food systems. Economic growth, per se, was not identified as enough to promote major changes. As a result, this would be a scenario of high economic growth, low environmental protection, and minimal reduction in inequality.

2. **Economic and adaptation increases.** This was a scenario with better results for environmental protection and economic growth. 3 groups identified moderate and 1 high economic growth and environmental protection. The two dimensions that would be weakened were housing and food systems. However, reductions of inequalities would be slow or inexistent. In this sense, public services and urban planning improve, while food systems maintain their current trajectory.

3. **Negative economic growth.** Low economic growth, but environmental protection improves or remains stable. Inequality increases or follows its trend (one group indicates improvement). However, all other dimensions deteriorate.

4. **Small economic growth without adaptation.** Weakening of environmental protection and economic growth ranging from weak to moderate (two alternatives for each). Inequality reduction worsens or remains stable. Urban planning, food systems, and housing deteriorate. Food systems remain on their current trajectory.

5. **Small economic growth with adaptation.** Economic growth follows its trend, potentially declining. Inequality exhibits contradictory patterns: improvement in one aspect, stability in two, and worsening in one. Environmental protection remains at least stable (2 scenarios) or improves (2 scenarios). Food systems and urban planning improve. Housing remains on its current trend, while public services worsen.

E se ocorresse uma transição energética justa?

E se o povo fosse ouvido?

E se a desigualdade fosse reduzida?

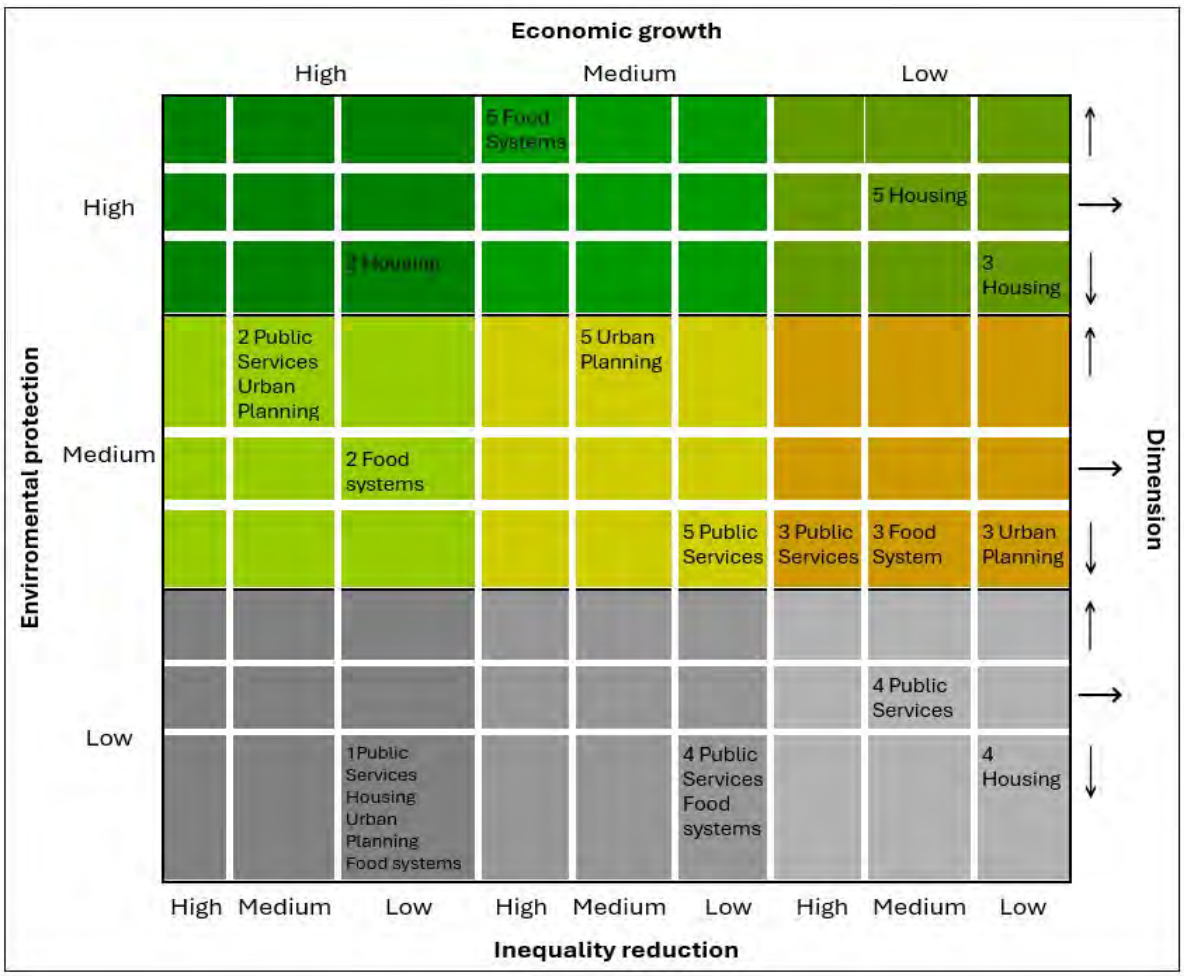
E se houvesse um novo modelo econômico mundial?

Discussion:
Adaptation Scenarios

This activity showed some key difficulties about future scenarios. Some trade-offs across dimensions were identified. None of the scenarios achieve comprehensive improvement across economic growth, environmental protection, inequality reduction, and key sectors. Scenarios emphasizing economic growth (e.g., "No Limits to Growth") tend to neglect environmental protection and inequality. Also, adaptation-focused scenarios (e.g., "Economic and Adaptation Increases" and "Small Economic Growth With Adaptation") yield better outcomes for environmental protection and sectoral improvements but remain limited in addressing inequality. There were systemic weaknesses, as housing and food systems consistently emerge as vulnerable dimensions, requiring targeted interventions regardless of the scenario. Public services and urban planning show potential for improvement under certain conditions but remain fragile in others.

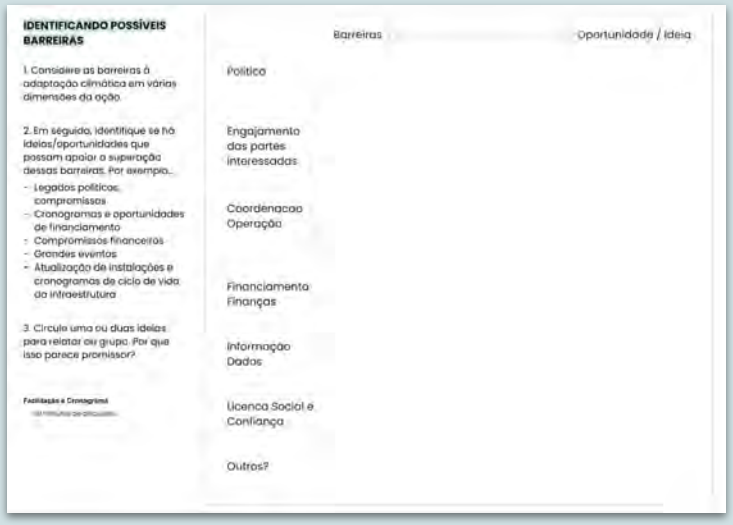
Sustainable economic growth combined with adaptation measures appears to provide the most balanced path forward, though inequality remains a persistent challenge. A possible policy implication from this is that focused investments in housing, food systems, and inequality reduction are critical to achieving a more balanced and equitable trajectory.

Finally, this analysis underscores the complex interplay between economic growth, environmental sustainability, inequality, and sectoral resilience, suggesting that a balanced and adaptive approach is essential for long-term progress.



2.3 What if….? Adaptation Action Plans and Implementation Roadmaps

Based on all the previous exercises, each group formulated a 'what if…?" question. From there, each group cohered an adaptation thesis and initiative concept.



SNAPSHOT

Barriers and Breakthroughs

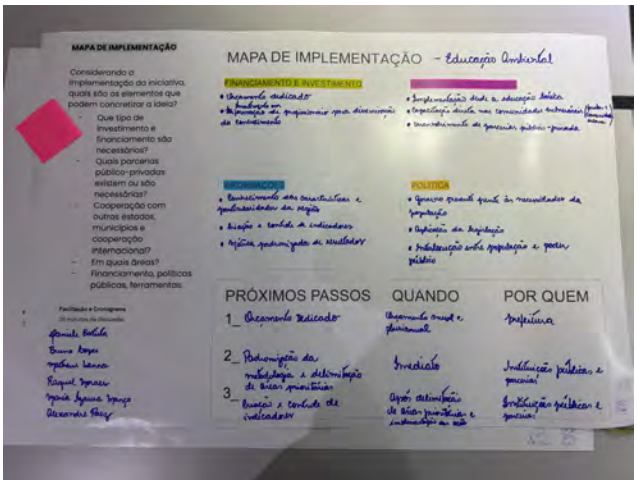
	BARRIERS	IDEAS
POLITICS AND POLICY	*Influence of certain economic sectors on decision-making.* *Elections every 2 years: political discontinuity.* *Self-promotion during electoral periods*	*Enforcement of existing laws.*
STAKEHOLDER ENGAGEMENT	*Difficulty in accessing quality education.* *Lack of integrated management.*	*Planning.* *Mapping.* *Execution.*
ORGANIZATIONAL COORDINATION	*Effective implementation of mitigation plans.*	*Transparency in public spending.*
INFORMATION , DATA	*Lack of transparency in private companies' data.*	*Mandatory budget allocation for environmental expenditures.*
SOCIAL LICENSE AND TRUST	*Distance between public authorities and civil society.* *Unequal economic projects.* *Lack of affordable housing*	*Socio-environmental responsibility.*

WHAT IF...

Inequality was reduced?

Adaptation Concept

Center environmental education and political engagement to reduce emissions, expand and maintain green areas, build environmental awareness, deliver public services, and motivate a preference towards the collective spheres.



Implementation Elements

Funding and investment

- Dedicated budget
- Capacity building and trainings

Partnerships

- Partnerships towards early school implementation
- Direct trainings on vulnerable areas
- Public-private partnerships

Information

- Local features and particularities
- Create indicators to verify the applicability and results.
- Public institutions, such as IBGE, provide data.
- Standard methodology for results assessments

Policy

- Priority areas to focus on urgent areas
- Interaction among policies and population
- Law application

Given our values of...

- *Effectivity*
- *Transparency*
- *Legitimacy*
- *Social Participation*

And considering root cause challenges of...

- *Information Assembly*
- *Inequality in Education*
- *Political interests and influences on environmental issues*

We propose...

- *Public accountability*
- *Forum with civil society to address state demands*

Which can impact...

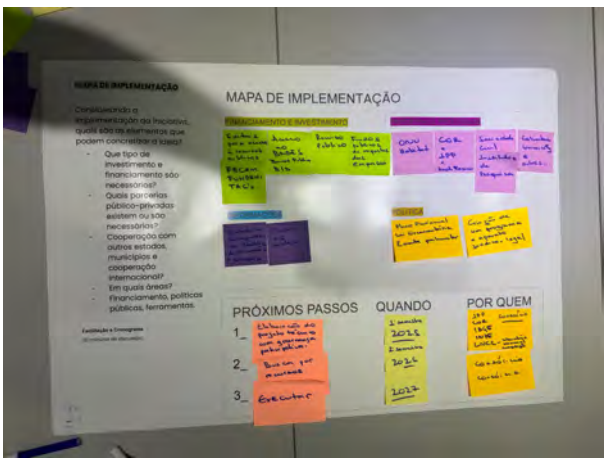
- *Increased trust in institutions*
- *Greater social control*
- *Greater societal engagement*
- *Achievement of SDG targets*

WHAT IF...

We discovered a new economic model?

Adaptation Concept

Create data center for compilation of public data, aiming the democratization of access to information, the strengthening of social technologies related to climate change, the accessibility and the better specification of future adaptation scenarios.



Implementation Elements

Funding and investment

- Public banks
- Sectoral agencies
- Public funds based on specific taxes

Partnerships

- Consortium of institutes that produce data, such as IPP, COR, universities and research institutes.

Information

- Integrated data platform
- Institutes networks mapping

Policy

- Technical projects with participatory governance
- Legal and financial structures

Given our values of...

- *Democratization*
- *Inclusion*
- *Robustness*

And considering root cause challenges of...

- *Scarcity*
- *Gaps (e.g., in policy or knowledge)*
- *Inequalities*
- *Lack of resources*
- *Lack of political will*
- *Short-termism*

We propose...

- *Transparency*
- *Organization*
- *Participatory budgeting*

Which can impact...

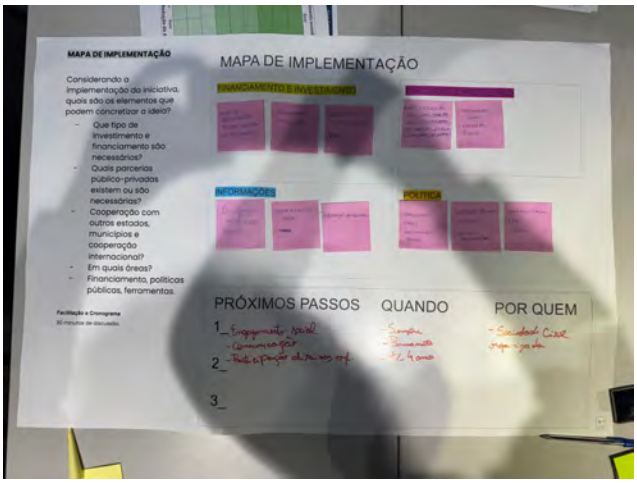
- *Greater accessibility*
- *Consolidation of policies and actions*
- *Future scenario planning*
- *Increase in initiative and action-taking*

WHAT IF...

People were heard?

Adaptation Concept

Convene a forum designed to bridge the gap between civil society and government, grounded in the principles of transparency, effectiveness, legitimacy, and social participation. The initiative aims to address information asymmetries, educational inequalities, unfavorable politicians with negative influences on the environmental agenda and a raise in institutions confidence.



Implementation Elements

Funding and investment

- Inclusion of civil society actions on public budgets
- Environmental compensation
- Environmental fines

Partnerships

- Civil society and social movements Information

Information

- Map civil society demands and foster interactions with the government
- Environmental education

Policy

- Social engagement, communication and active participation in environmental conferences
- Forum that establishes permanent communication paths and diverse committees

Given our values of...

- *Engagement*
- *Belonging*
- *Initiative*
- *Cooperation*
- *Credibility*

And considering root cause challenges of...

- *Lack of environmental awareness*
- *Disconnect between society and nature*
- *Segregation*
- *Lack of transparency*
- *Lack of accountability*
- *Denialism*

We propose...

- *Education initiatives at all levels*
- *Cultural change*
- *Penalization*
- *Monitoring and enforcement*
- *Mechanization*
- *Direct democracy mechanisms*

Which can impact...

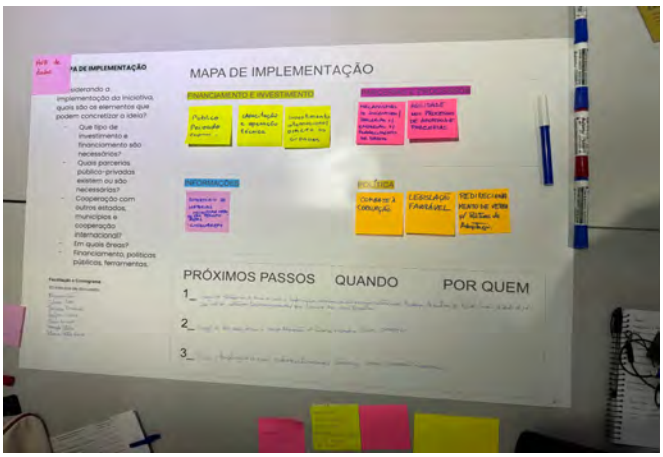
- *Reduction of emissions*
- *Expansion of green areas*
- *Environmental awareness*
- *Improvement of public services*
- *Preference for collective over individual interests*
- *Effective application of legislation*

WHAT IF...

There was a just energy transition?

Adaptation Concept

Create a data hub of climate change risks and vulnerabilities, including a single, unified platform for information. This platform would not only house editable and quantifiable data but also include materials such as reports, visual content, and communications resources. It would be designed to provide access for legislators and foster the creation and amplification of partnerships with governments, companies, and institutions. By integrating these elements, the platform aims to become a hub for collaboration and information-sharing across various sectors.



Implementation Elements

Funding and investment

- Public and private sectors
- Capacity building
- International investments and transfers to cities

Partnerships

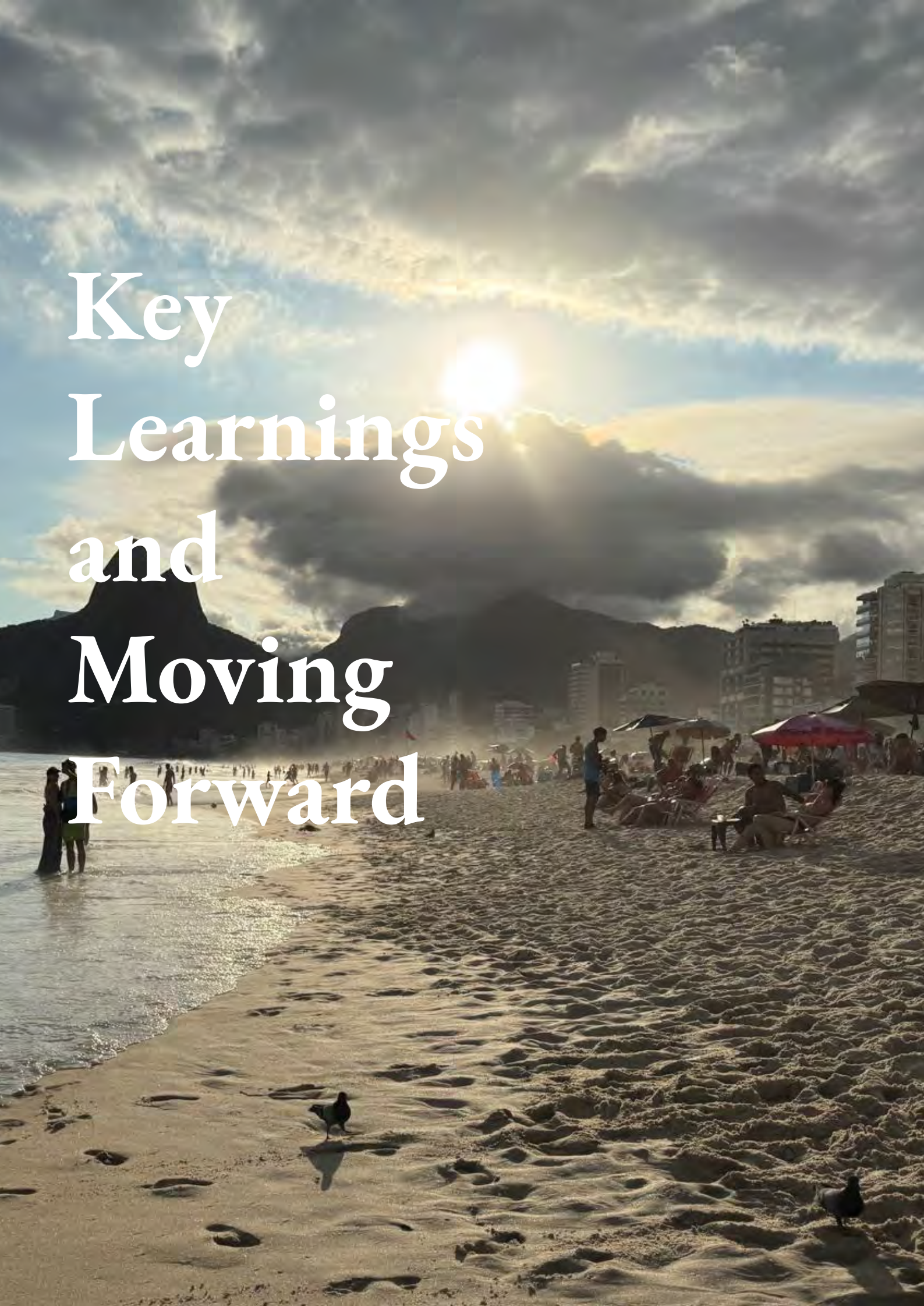
- Incentive mechanisms to foster partnership and open data initiatives

Information

- Editable and quantifiable data
- Real time monitoring
- Reports and visual materials
- Adoption of accessible language

Policy

- Access for legislators and creating / amplification of partnerships with government, companies and institutions
- Funding transfer towards adaptation



Key Learnings and Moving Forward

Next Steps

(1) Explore the scope and potential of a Rio Panel on Climate Change and Adaptation Accelerator program in Rio to advance planning and projects.

Following up on a Rio Panel on Climate Change and COllaborative PlatThe early outcomes of the workshop points out to questions related to the follow-up of the project and the opportunity of the network created during those two days. First, a Rio Panel on Climate Change could be guided by principles that prioritize local engagement and knowledge dissemination. Within Rio, two main initiatives seem promising, both with a focus on fostering community commitment. The first would be a climate change forum and the second a data hub, ensuring it becomes a collaborative platform for addressing climate challenges. By actively involving stakeholders, the panel can build a shared vision that strengthens local resilience and informs action.

(2) Dissemination report and publications to inform and collaborate with other cities, beyond Rio.

The panel, and formats like this workshop can extend its impact by disseminating the learnings of these types of workshops and inspire similar initiatives in other cities and across the country. These efforts could position the Rio Panel and Accelerator as a sample model for driving climate action through data, collaboration, project preparation, policy decision making, and education.

Leveraging networks to disseminate findings and promoting the use of climate-focused materials in classrooms can foster education and awareness. The workshop format and curriculum materials that were used and tested presented opportunities to the educators and the faculty in the room. These materials can be shared and disseminated with participants so that they can be used in the classroom.

Appendix

Appendix I. Survey Results

After the conclusion of activities, a survey was sent to better understand how participants evaluated the experience provided by the workshop. To this end, they were asked to fill a brief questionnaire with 9 questions. There were 16 responses. Participants were asked to rate, on a scale of 1 to 5, where 1 was very poor and 5 was very good, the lectures, the sessions held on November 25 and 26, the physical structure of the venue, and the food provided.

Items	**1 (very poor)**	**2**	**3**	**4**	**5 (very good)**
Lectures	0%	0%	0%	18,75%	81,25%
1st day Sessions	0%	0%	12,5%	31,25%	56,25%
2nd Sessions	0%	0%	7,14%	42,86%	50%
Physical structure	0%	0%	18,75%	6,25%	75%
Food	0%	6,25%	0%	6,25%	87,50%

All five items were rated as "Very Good" by at least 50% of the respondents. The main points mentioned to justify their choice among the five options were the presence of gaps in the sessions and the lack of greater interaction during meal times. Respondents also expressed the desire for this event to take place at municipal, state, and national levels. All respondents indicated their willingness to participate in future editions.

Appendix II. Participants and Organizations

Participant Name	**Organization**
Alberto Costa Lopes	Instituto Brasileiro de Administração Municipal (IBAM)
Alexandre Mário Oliveira Santos da Paz	Escola Nacional de Ciências Estatísticas (ENCE/IBGE)
Ana Claudia Bliggs Gutemberg	Escola Nacional de Ciências Estatísticas (ENCE/IBGE)
Andrea Barreto dos Santos da Rocha	Redes da Maré
Antônio Carlos da Silva Oscar Júnior	Universidade do Estado do Rio de Janeiro (UERJ)

Bruno Lopes Ferreira	Universidade Federal do Rio de Janeiro (UFRJ)
Bruno Sant Anna Araujo Luiz	Assembleia Legislativa do Estado do Rio de Janeiro (ALERJ)
Carolina Piazzarolo	Instituto de Resseguros Brasil (IRBRe)
Caroline Costa	Centro de Operações Rio (COR Rio)
Cinthia Avellar	Instituto Estadual do Ambiente (INEA)
Daniele Pereira Batista Amaral	Instituto Estadual do Ambiente (INEA)
Elizanne Porto de Sousa Justo	Future Climate
Estela Maria Souza Costa Neves	Universidade Federal do Rio de Janeiro (UFRJ)
Fernanda Spitz Dias	Instituto Estadual do Ambiente (INEA)
Fernando Henrique Ferreira de Oliveira	Escola Nacional de Ciências Estatísticas (ENCE/IBGE)
Heitor Soares de Farias	Universidade Federal Rural do RIo de Janeiro (UFRRJ)
Henderson Silva Wanderley	Universidade Federal Rural do RIo de Janeiro (UFRRJ)
João Pedro Cavalcanti da Silva	Instituto Clima e Sociedade (ICS)
João do Vale Cruz	Ministério do Desenvolvimento e Assistência Social, Família e Combate à Fome
Júlia Nascimento Santos	Observatório Interdisciplinar das Mudanças Climáticas
Juliana Alves	Instituto Municipal de Urbanismo Pereira Passos
Larissa Fonseca da Cunha	Universidade Federal do Rio de Janeiro (UFRJ)
Laryssa Nunes	Columbia Global Centers Rio de Janeiro
Leandro Dias de Oliveira	Universidade Federal Rural do RIo de Janeiro (UFRRJ)
Márcia Costa	Prefeitura do Rio de Janeiro
Maria Eduarda Vaz	Columbia Global Centers Rio de Janeiro
Marcos Paulo Rodrigues Montenegro	Universidade Federal do Rio de Janeiro (UFRJ)
Maria IzauraFelipi Manço	Escola Nacional de Ciências Estatísticas (ENCE/IBGE)
Mariana Clauzet	Instituto Mar Adentro
Mariana Oliveira da Costa	Universidade do Estado do Rio de Janeiro (UERJ)
Matheus Wenna	Columbia Global Centers Rio de Janeiro

Núbia Beray Armond	Indiana University
Ole Leonhard Joerss	Universidade do Estado do Rio de Janeiro (UERJ)
Pedro Kauã Itamares Amaro	Universidade Federal do Rio de Janeiro (UFRJ)
Raquel Moraes de Oliveira	Escola Nacional de Ciências Estatísticas (ENCE/IBGE)
Renata Koch Alvarenga	Banco Mundial
Roberto Teixeira Luz	Instituto Brasileiro de Geografia e Estatística (IBGE)
Rodrigo da Silveira Pereira	Instituto Brasileiro de Geografia e Estatística (IBGE)
Sandra de Carlo	Instituto Brasileiro de Geografia e Estatística (IBGE)
Rosângela Garrido Machado Botelho	Escola Nacional de Ciências Estatísticas (ENCE/IBGE)
Stella Manes	Instituto internacional para a sustentabilidade (IIS-Rio)
Tatiana Castelo Branco	Prefeitura do Rio de Janeiro
Thaynara Fernandes	Centro Brasileiro de Justiça Climática (CBJC)
Valdirene Militão	Fundação Oswaldo Cruz (FIOCRUZ)
Valentina Kurkdjian Teixeira	Universidade Federal do Rio de Janeiro (UFRJ)
Victor Marchezini	Centro Nacional de Monitoramento e Alertas de Desastres Naturais (CEMADEN)
Yuri Lopes Silva	A Casa do Empresário (ACRJ)

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