PERNAMBUCO STRENGTHENING LOCAL CAPACITIES FOR CLIMATE ACTION

UNDER 2 – Final monitoring report

August/ 2024

TECHNICAL SHEET

GOVERNMENT OF THE STATE OF PERNAMBUCO
Raquel Teixeira Lyra Lucena, Governor
Priscila Krause Branco, Lieutenant Governor

Secretariat of the Environment, Sustainability, and Fernando de Noronha
Ana Luiza Gonçalves Ferreira da Silva, Secretary of the Environment, Sustainability, and Fernando de Noronha
Karla Godoy da Costa Lima, Executive Secretary of Sustainability

General Management of Climate Change
Samanta Della Bella, General Manager of Climate Change
Márcio Barbosa Erlich, Sustainability Analyst
Jhonathan Anderson Godoy da Silva, Technical Assistant
Mayara Akemi Tanaka, Technical Assistant
Luis Paulo Santana da Silva Santos, Technical Assistant

ICLEI - LOCAL GOVERNMENTS FOR SUSTAINABILITY
Rodrigo Perpétuo, Executive Secretary of ICLEI South America
Rodrigo Corradi, Deputy Executive Secretary of ICLEI South America
Rafaella Viana, Institutional Representative for PE and Port Infrastructure of ICLEI Brazil
Lillian Anjos, Project Consultant for ICLEI Brazil in Pernambuco
Keila Ferreira, Coordinator of Low Carbon and Resilience of ICLEI Brazil
Luiz Gustavo Pinto, Analyst of Institutional Relations and Advocacy of ICLEI Brazil
Elysama Braz, Regional Assistant for Institutional Relations and Advocacy
Júlia Finotti, Assistant for Low Carbon and Resilience of ICLEI Brazil

SUMÁRIO

1. INTRODUCTION

1.1. About the Future Fund

The Future Fund is a climate financing source managed by the Climate Group, which is designed to supports subnational governments in their journey to achieve net-zero emissions by 2050 at the latest. This fund aims to strengthen local capacities to address the challenges posed by climate change by promoting the implementation of robust public policies and by developing mitigation and adaptation strategies.

Through the Future Fund, resources are directed to projects that seek not only to reduce greenhouse gas emissions but also aim to increase the resilience of local governments, particularly those most vulnerable to climate impacts. The fund also encourages innovation in climate policies and the development of solutions that can be replicated in other regions, thereby expanding the positive impact of climate action globally.

By supporting the "Pernambuco Strengthening Local Capacities for Climate Action" project, the Future Fund reinforces its commitment to promoting sustainable and resilient development. The project, aligned with the goals of the Future Fund, is distinguished by its integrative approach, promoting collaboration between different levels of government and sectors of society. This collaboration is essential to ensure that climate policies are effective and inclusive, addressing the specific needs of each municipality and region.

The importance of the Future Fund lies in its ability to catalyze significant changes in local contexts, where resources and capacities to confront climate change are often limited. By providing funding and technical support, the fund not only enables projects like this one in the State of Pernambuco but also contributes to building more equitable and effective climate governance. This model of financing and cooperation can serve as an example for other global initiatives, demonstrating how climate action can be driven equitably and efficiently through well-targeted strategic partnerships.

1.2. About the Project

According to recent data from ABRAMPA (2023), obtained through a survey conducted by the Brazilian Institute of Geography and Statistics (IBGE) between 2017 and 2021, nearly 2,916 Brazilian municipalities faced drought situations, 1,958 suffered from flooding, 1,792 were hit by flash floods, and 935 reported landslides. However, only 27.9% of these localities had a contingency or prevention plan for droughts, which is a crucial tool for effective climate risk management in municipalities.

The negative impacts on local and regional biodiversity are among the main consequences of these extreme events, exacerbated by the climate crisis. The loss of endemic species in Brazilian biomes, caused by the degradation of natural areas, has intensified the vulnerability of these regions, making them even more susceptible to the effects of climate change (IPCC, 2014).

Additionally, variations in temperature and the hydrological cycle can destabilize species balance, affecting their reproductive rates and development of ecosystems (BRASIL, 2016).

Pernambuco has demonstrated an increasing commitment to implementing the climate agenda in its territory, recognizing the importance of involving all levels of government and sectors of society to achieve the necessary effectiveness. However, many of Pernambuco's 184 municipalities have yet to incorporate this agenda into their local policies, highlighting the need to intensify efforts in this direction.

In this context, and amid a globally increasing awareness of the impacts of climate change, it is urgent to promote cooperative actions between different spheres of government to address this challenge. Projects aimed at mitigating the adverse effects of climate change are essential. Collaboration with regional initiatives allows for the exploration of new ways to make climate information more accessible to the public, thereby encouraging broader participation and strengthening local technical capacities. This movement is crucial for guiding communities toward a low-carbon future, where sustainable development is the foundation of progress.

In response to this need, the State of Pernambuco, in partnership with ICLEI South America and with funding from the Future Fund of the Under2 Coalition, implemented the project was "Pernambuco Strengthening Local Capacities for Climate Action." The primary goal of this project was the development of an accessible digital platform designed to serve as a support and incentive tool for local climate action. The platform aims to promote greater coordination among different levels of government, facilitating the debate and implementation of climate policies. Additionally, in line with other State initiatives, the platform seeks to increase the transparency of public data, contributing to the engagement, technical capacity, and governance of municipalities, with the goal of building a more resilient, inclusive, and low-carbon Pernambuco.

This report aims to present the results achieved by the project, highlighting the methodologies applied, the challenges faced, and the accomplishments obtained. Furthermore, the report will provide a critical analysis of the lessons learned during the development of the Clima PE platform and offer recommendations for future actions and project expansions, aiming to further strengthen the capacity of Pernambuco's municipalities to efficiently and sustainably address climate challenges.

2. IMPLEMENTATION

2.1. Methodology and Approach

The project was structured in several stages with specific objectives aimed at developing and implementing a support tool for local climate action in the municipalities of Pernambuco. The **first stage** of the project involved the clear definition of strategic pillars that would guide climate actions in the municipalities. These pillars were determined based on the existing state climate policy, ensuring that the project was aligned with the guidelines established by the state government. To this end this, priority areas for climate action were identified, based on existing
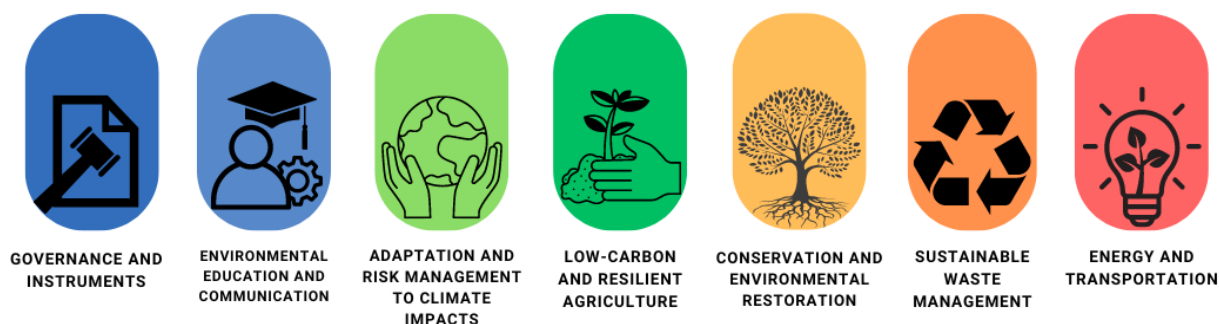
policies and consultations with experts. Each strategic pillar was designed to cover the main climate challenges faced by the municipalities.

Based on these strategic pillars, the subsequent stages were aligned within each pillar, defining the actions that needed to be developed and the corresponding questions. The goal was to create a questionnaire that was as accessible as possible for all municipalities, considering the most relevant issues within each pillar. This ensured that the questionnaire was not only aligned with the strategic pillars but also served as a practical and effective tool for gathering essential information on the climate actions underway in the municipalities.

The **second stage** focused on the engagement and formation of a Working Group (WG), composed of 13 representatives from the Development Regions of Pernambuco. This group played a central role in the development of the support tool for local climate action. A participatory workshop was held with the WG to contextualize the participants regarding the project development stages and the current status, as well as to gather contributions from the municipalities to better outline the pillars, actions, and questions of the monitoring tool. The WG achieved significant results in terms of participant engagement and training, marking a relevant milestone in promoting environmental governance and seeking sustainable solutions to address climate change challenges in the region. After the participatory workshop with the WG, the strategic pillars (Figure 1), stages, actions, and questions were readjusted to incorporate the perspectives of municipal managers and the particularities they identified.

Figure 1 – Strategic axes of the Clima PE platform

| GOVERNANCE AND INSTRUMENTS | ENVIRONMENTAL EDUCATION AND COMMUNICATION | ADAPTATION AND RISK MANAGEMENT TO CLIMATE IMPACTS | LOW-CARBON AND RESILIENT AGRICULTURE | CONSERVATION AND ENVIRONMENTAL RESTORATION | SUSTAINABLE WASTE MANAGEMENT | ENERGY AND TRANSPORTATION |

In **third stage**, the support tool was developed based on feedback from the Working Group (WG), ICLEI, and the Secretariat of Environment, Sustainability, and Fernando de Noronha (SEMAS). Online forms were created to allow municipalities to provide detailed information about their climate actions in each of the strategic areas. To facilitate data collection, the Monday online platform was used, enabling the creation of customized forms to capture the specific information required for the project.

In **fourth stage**, a seminar was held with the municipalities to present the tool and assist in the form completion process. The ICLEI and SEMAS teams also provided continuous support during the data collection process through emails, video calls, and phone calls. This support was essential to ensure the quality of the information provided and to encourage the active

participation of municipalities, reinforcing the priority of this stage in guiding the municipal managers responsible for form completion.

The data collection phase was followed by a meticulous data processing phase, where inconsistent or incomplete information was identified and corrected. This process was crucial to ensure that subsequent analyses were based on accurate and reliable data. We used data cleaning techniques, including cross-referencing with other sources and manually correcting problematic records.

After processing, the data was integrated into Microsoft Power BI for the creation of interactive dashboards. The use of Power BI allowed for data visualization and the application of filters so that the information could be accessed by different stakeholders. These dashboards were fundamental for analyzing the indicators of municipal climate agenda implementation, guiding strategic decision-making. Additionally, links were created to access the documents provided by the municipalities, making available a collection of the listed municipal actions.

The focus of **fifth stage** was to communicate the project and platform results clearly to the municipalities and managers. For this purpose, a _factsheet_ containing the main results and relevant information about the project was prepared. The platform was made available on the SEMAS/PE website for the general public, allowing broad and unrestricted access to the information. The final event was held in a webinar format, where the main results were presented to the municipalities of Pernambuco and the Under 2 Coalition network.

2.2. Key Stakeholders and Management of the Project

The project management involved a range of key stakeholders who played crucial roles at different stages of the process. The primary stakeholder was the Secretariat of Environment, Sustainability, and Fernando de Noronha (SEMAS) of the State of Pernambuco, which acted as the coordinating entity of the project. ICLEI – Local Governments for Sustainability was another fundamental stakeholder, contributing technical expertise and methodological support.

From the beginning of the project, regular meetings were held between ICLEI and SEMAS to ensure alignment of activities and objectives. These meetings allowed for the development of a clear work plan, which was rigorously followed throughout the project's execution. Additionally, these interactions facilitated the creation of specific strategic pillars, which guided the actions developed and ensured they were in line with the needs of the municipalities.

The municipalities were also essential actors for the project's success. Engagement and communication strategies, along with in-person and online meetings, were important tools to ensure the participation of local managers. The municipalities are responsible for providing the information that feeds the platform, and they are also the main beneficiaries of the tool, which is expected to enhance climate planning and monitoring, as well as information exchange. In addition to the municipalities, municipal consortia and AMUPE (Pernambuco Association of Municipalities) were also mobilized.

Communication channels were also established between SEMAS and the municipalities (email, phone), allowing for the constant flow of information regarding the project's progress, as well as providing space for questions and suggestions.

2.3. Challenges

One of the main obstacles faced was communication with the municipalities, as well as their engagement in the data collection process. Communication with the city halls proved particularly challenging, as many have very poor external communication channels. Similarly, some municipalities initially hesitated to participate because they did not understand the importance of the project. To overcome this challenge, a targeted communication strategy was developed, highlighting the benefits of participation and offering technical support to facilitate the completion of the forms.

Additionally, the implementation of the platform itself brought technical challenges, especially in ensuring that it was intuitive and accessible to all users, regardless of their level of familiarity with digital tools. The development team worked to ensure that the platform's interface was user-friendly and that the necessary training was provided.

2.4. Achievements

The Clima PE platform gathers municipal information across the following areas: 1. Governance and Instruments, 2. Environmental Education and Communication, 3. Adaptation and Risk Management to Climate Impacts, 4. Low-Carbon and Resilient Agriculture, 5. Environmental Conservation and Restoration, 6. Sustainable Waste Management, and 7. Energy and Transportation. This data is made accessible to municipal and state managers, as well as to the general public interested in advancing the local climate agenda. The Clima PE platform not only facilitates analysis and informed decision-making but also promotes more effective collaboration among municipalities, which now have a common tool for sharing information and successful practices.

Out of the 185 local governments in Pernambuco (184 municipalities and the District of Fernando de Noronha), 115 participated in this first edition, representing 62% of all local governments in Pernambuco. This was an extremely significant number, considering it was the project's first year, there was no previously established communication channel, and the mobilization period was extremely short. Since the tool is designed for annual updates, it is expected that all municipalities will participate next year.

Another significant achievement of the project was the training and raising awareness of municipalities regarding climate and environmental issues through the meetings held during the tool's development. It is also worth noting the strengthening of the state's relationship with local governments and the enhanced exchanges among the municipalities themselves.

3. CONCLUSIONS

3.1. Results

The Clima PE platform seeks to play a fundamental role in mobilizing Pernambuco's municipalities to address the challenges posed by climate change. With the participation of 115 out of 185 local governments (including the Fernando de Noronha District), representing 62% of the total, the platform successfully engaged a significant portion of the municipalities in its first edition. This participation rate reflects considerable progress but also highlights the need for strategies to reach the 38% of local governments that have yet to engage with the project.

The municipalities were categorized into different stages of development concerning the environmental and climate agenda:

- Initial stage: When the municipality has less than ⅓ of the instruments provided for in the tool.

- Intermediate stage: When the municipality has more than ⅓ and less than ⅔ of the instruments listed in the thematic axes.

- Advanced stage: The municipality already has more than ⅔ of the instruments outlined in the thematic axes.

- No information: The municipality did not complete the CLIMA PE form.

In Figure 2 below, you can see the map categorizing the municipalities and Development Regions of the State by their stages of development in the environmental and climate agenda. The Sertão do Araripe region had the highest participation, with 90% of the municipalities providing information on the platform. On the other hand, the Sertão do Moxotó region had the lowest participation, with only 28% of the municipalities contributing data. The regions with the highest number of municipalities in the state (Agreste Central, Meridional, and Mata Norte) had over 50% participation in the Clima PE platform.

The axes of Sustainable Waste Management, Energy and Transportation, and Environmental Education and Communication showed that most municipalities are in the initial stage of implementing their actions. The Governance and Instruments axis also had a significant concentration of Pernambuco municipalities in the initial stage, although some are in the intermediate and advanced stages. Conversely, the axes of Low-Carbon and Resilient Agriculture and Environmental Conservation and Restoration had a larger number of municipalities in the intermediate stage. Moreover, these two axes stood out for having the highest number of municipalities in the advanced stage, indicating more solid development of local agendas in these areas.

Figure 2 – Classification of municipalities by development stage
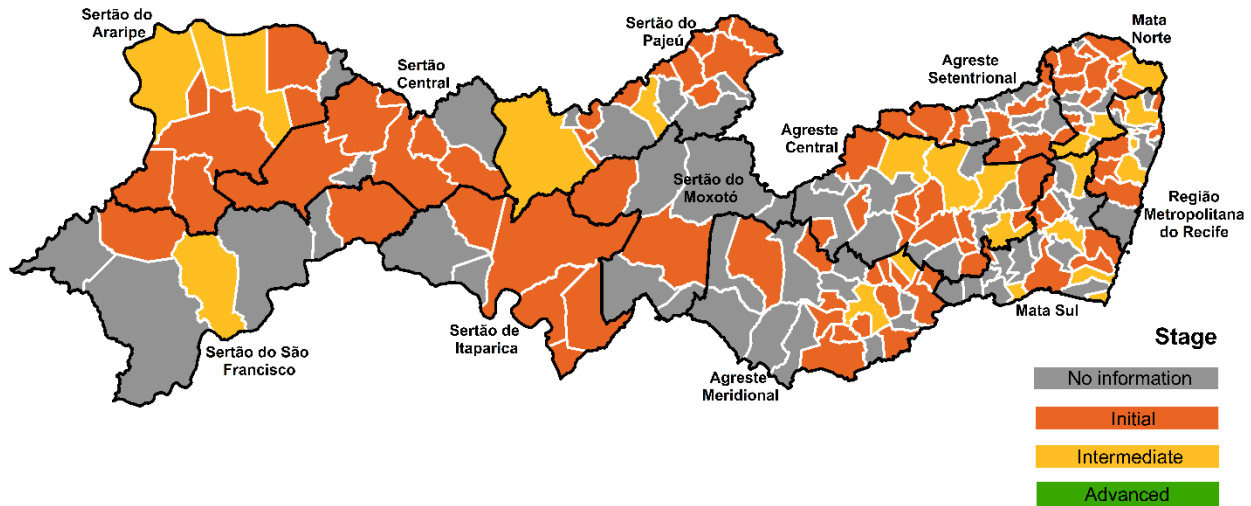
A detailed analysis of the strategic axes reveals both promising advances and critical gaps in the implementation of the climate agenda in the municipalities. For example, in the **Governance and Instruments** axis, it was observed that 91% of the participating municipalities still do not know their greenhouse gas emissions. This data is particularly alarming, as the absence of emission inventories hinders the efficient management of climate mitigation policies. Furthermore, 63% of the municipalities still do not have legislation or plans focused on the environmental and climate agenda, which demonstrates a significant lack of the essential normative structure to guide climate actions at the local level.

Despite these challenges, there are positive signs that indicate a solid foundation upon which to build. For example, 53% of the municipalities have some type of participatory body to address environmental issues, and 76% have already incorporated sectors dedicated to the environmental agenda into their organizational structures. This data suggests that there is an emerging institutional commitment to climate issues, which can be strengthened and expanded through appropriate technical training and incentives.

In the Environmental **Education and Communication** axis, the results also present a mixed scenario. Although 77% of the municipalities still do not have regulations to promote environmental education, which limits the reach of educational initiatives, 52% already develop environmental education activities and 64% carry out campaigns or programs in this area. This indicates that, despite the regulatory gaps, there is a growing awareness of the importance of environmental education as a tool for social mobilization and engagement in sustainable practices.

Adaptation and Risk Management to Climate Impacts is another critical area evaluated by the platform. The data shows that 59% of the municipalities have plans, actions, or projects for adaptation to climate change and environmental disasters, and 63% have risk management studies and instruments, such as risk area mapping and contingency plans. Although these numbers represent significant progress, the absence of these instruments in more than a third of the municipalities reveals the need to expand the coverage and effectiveness of climate adaptation policies throughout the state.

The platform also highlighted advances in the **Low-Carbon and Resilient Agriculture** axis. More than half of the municipalities (58%) encourage low-carbon and resilience practices, and 60% use family farming products in school meals, while 69% promote the commercialization of family farming products at local fairs. This data demonstrates a strong commitment to agricultural sustainability and support for family farming, which are crucial areas for climate resilience and food security for local communities.

In the **Environmental Conservation and Restoration** axis, however, there are considerable challenges. About 67% of the municipalities do not have laws or plans for conservation and reforestation, a gap that compromises the state's ability to protect and restore its ecosystems. However, it is encouraging to note that 51% of the municipalities have teams dedicated to environmental monitoring, which suggests a potential for more effective implementation of conservation policies, provided that adequate resources and guidance are provided.

The axes of **Sustainable Waste Management** and **Energy and Transportation** present some of the largest gaps identified by the platform. Only 44% of the municipalities have laws or plans for waste management, 34% carry out selective collection, and only 22% implement composting. These statistics indicate an urgent need to strengthen waste management policies to reduce environmental impact and promote sustainability. Regarding energy and transportation, 38% of the municipalities have initiatives to promote sustainable mobility, but only 11% have initiatives related to the use of biofuels in the public fleet. Additionally, 54% have actions to promote energy efficiency, while only 11% have initiatives aimed at the use of renewable energy, which highlights the need for greater emphasis on sustainable energy solutions.

3.2. Next Steps & recommendations

To expand the impact of the Clima PE platform and ensure more equitable progress in the development of the environmental and climate agenda, it is essential to adopt a multifaceted approach that addresses both the identified challenges and opportunities for strengthening.

First and foremost, increasing the technical capacity of municipalities, especially those in the early stages of developing their climate agendas, is crucial. This can be achieved through targeted

training programs that provide municipalities with the necessary knowledge and tools to conduct greenhouse gas emissions inventories, develop specific environmental legislation and plans, and implement concrete climate mitigation and adaptation actions.

Additionally, creating a collaborative network among municipalities, facilitated by the Clima PE platform, can be an effective strategy to accelerate progress. Municipalities that have reached advanced stages could share their experiences and best practices with those still facing significant challenges, promoting a knowledge exchange that benefits all regions of the state. The platform can be enhanced by deepening existing strategic areas, such as sustainable urban mobility and integrated waste management, further strengthening its scope and relevance in these emerging areas.

Another essential step is the introduction of financial and technical incentives for municipalities that excel in advancing their climate agendas. Establishing a recognition and award system for these municipalities could serve as a powerful incentive for continuous improvement. Such awards could be associated with financial benefits or increased access to technical resources, encouraging all municipalities to progress in their climate agendas.

It is crucial to strengthen local governance by supporting the creation of participatory bodies and rural development councils in all municipalities. Enhancing these structures can facilitate the adoption of measures needed to promote a more sustainable and resilient future. Furthermore, promoting public policies focused on environmental conservation and recovery, strengthening sustainable waste management, and encouraging renewable energy are areas that require priority attention.

In 2025, a new management cycle will begin, necessitating awareness and training for new managers regarding the centrality of climate actions and the use of the tool. Training workshops and guidance on filling out information and utilizing the Clima PE platform should be planned by Semas to ensure the continuity and strengthening of the tool.

3.3. Final considerations

The results obtained by the Clima PE platform demonstrate significant progress in various aspects of the climate agenda in Pernambuco municipalities. However, they also highlight the need to continue investing in efforts to ensure that all municipalities are adequately prepared to face the challenges posed by climate change. The platform serves as an essential tool for monitoring, evaluating, and guiding the implementation of public policies aimed at climate mitigation and adaptation, acting as a reference for identifying gaps and proposing solutions.

Strengthening the technical capacity of municipalities is imperative for the effective implementation of robust climate policies. Many municipalities still face deficiencies in specialized knowledge and technical resources, limiting their ability to implement effective measures. In this regard, it is crucial to promote continuous training programs, providing targeted technical support so that all municipalities can develop and execute climate strategies efficiently and based on evidence.

The formation of intermunicipal collaboration networks is another dimension that deserves expansion. The exchange of experiences and best practices between municipalities that have successfully implemented adaptation and mitigation policies can accelerate the progress of other locations facing similar challenges. The Clima PE platform could evolve to include mechanisms that facilitate this knowledge and experience exchange, strengthening the cohesion and effectiveness of climate actions at the regional level.

The implementation of specific incentives also represents an effective strategy for fostering municipal engagement in the climate agenda. Offering financial resources, technical support, and recognition for innovative initiatives can create an environment conducive to municipalities taking a leading role in implementing climate policies. These incentives should be carefully planned to ensure they are accessible and relevant to the diverse local contexts.

Additionally, strengthening local governance is crucial to ensure the sustainability of climate policies. The Clima PE platform significantly contributes to improving governance structures dedicated to the issue, but it is necessary to expand and consolidate these efforts. Promoting the creation of local legislation aligned with state and national policies, as well as strengthening councils and participatory bodies, is fundamental to ensuring the continuity and effectiveness of climate actions in the long term.

The Clima PE platform has the potential to become a replicable model in other federative units, contributing to the construction of a coordinated national response to climate change. Its methodology can be adapted to different regional contexts, fostering a network of municipalities committed to the climate agenda across the country. The expansion of this project to other states could occur through strategic partnerships with state governments, civil society organizations, and international institutions, thereby enhancing the impact and effectiveness of climate actions at the national level.

4. APPENDIX

4.1. References

ABRAMPA. Caderno de Mudanças Climáticas: fundamentos e estratégias para a adaptação. [Online book]. Dickstein, C. A.; Bernardo, L. V. (org.). Rio de Janeiro, RJ: MPRJ, IERBB, 2023. 73 f.

BRASIL. Ministério do Meio Ambiente. Plano nacional de adaptação à mudança do clima: estratégia geral. Portaria MMA nº 150, of 10 of may of 2016. Brasília, DF: MMA, 2016. v. 1. Available at: https://www.gov.br/mma/pt-br/assuntos/biodiversidade-e-biomas/ecossistemas/biomas/arquivos-biomas/plano-nacional-de-adaptacao-a-mudanca-do-clima-pna-vol-i.pdf

IPCC. Climate Change 2014: impacts, adaptation, and vulnerability. Cambridge: Cambridge University Press, 2014. Available at: https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-FrontMatterA_FINAL.pdf.

4.2. Participatory workshop with the working group (GT)
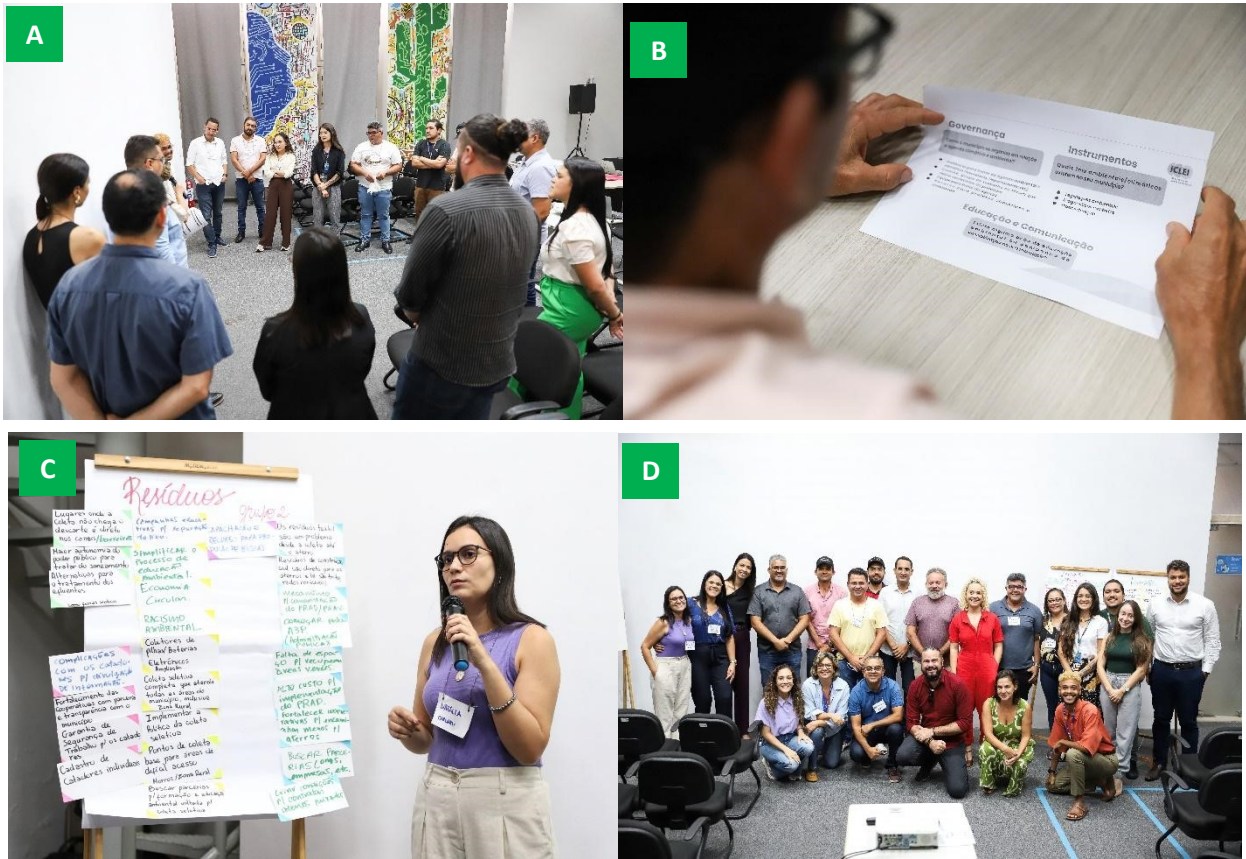
a) *Dynamics of participant introductions during the workshop;*
b) *Participant reviewing the questions from the dynamics of axis 1, Governance and Instruments;*
c) *Participant presenting the actions identified by their group in the dynamics of axis 6, Sustainable Waste Management;*
d) *Municipal representatives and teams from ICLEI and SEMAS.*

4.3. Photos from the seminar on the presentation of the Clima PE platform forms

a) *Presentation of tutorials for completing the forms;*

b) *Municipal representatives and SEMAS team.*

4.4. Clima PE platform

g) Home screen of the Clima PE platform: *Highlights the number of participating municipalities and the overall classification stages of the municipalities.*

h) Overview Screen of the Clima PE Platform: *Displays the development of municipalities across strategic axes.*

Access to the platform*: https://semas.pe.gov.br/clima-pe/*