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REQUEST FOR PROPOSAL (RfP)

Community-based Flood Early Warning System of Acari River Watershed in Rio de Janeiro

> C40 Cities Climate Leadership Group, Inc. 120 Park Avenue, 23rd Floor New York, NY 10017 United States of America

> > January 2025

Deadline for submission: 10th February 2025



1. C40 Cities Climate Leadership Group Inc. ("C40")

C40 is a network of nearly 100 mayors of the world's leading cities, who are working to deliver the urgent action needed right now to confront the climate crisis, and create a future where everyone, everywhere can thrive. Mayors of C40 cities are committed to using a science-based and people-focused approach to help the world limit global heating to 1.5°C and build healthy, equitable and resilient communities. Through a Global Green New Deal, mayors are working alongside a broad coalition of representatives from labour, business, the youth climate movement and civil society to go further and faster than ever before.

The strategic direction of the organisation is determined by an elected Steering Committee of C40 mayors which is co-chaired by Mayor Sadiq Khan of London, United Kingdom, and Mayor Yvonne Aki-Sawyerr of Freetown, Sierra Leone. Three term Mayor of New York City Michael R. Bloomberg serves as President of the C40 Board of Directors, which is responsible for operational oversight. A nine-person management team, led by Executive Director, Mark Watts, leads the day-to-day management of C40. C40's three core strategic funders are Bloomberg Philanthropies, the Children's Investment Fund Foundation (CIFF) and Realdania.

To learn more about the work of C40 and our cities, please visit our <u>Website</u>, or follow us on <u>Twitter, Instagram</u>, <u>Facebook</u> and <u>LinkedIn</u>.

2. Summary, Purpose and Background of the Project

Cities face rapid urbanization and the development of water management infrastructure is falling behind urban growth. Vulnerable populations and informal settlements are particularly vulnerable to water risks. Cities therefore need to increase their water resilience by taking ambitious actions such as early warning systems and emergency protocols to protect vulnerable communities' lives, recycled water use, sustainable groundwater usage, reduce potable water usage, development of a SuDS-forward drainage master plan, restoration of water bodies, expansion of flood control and river storage capacity, guidance for building code revisions towards flood resilience, among others.

The C40 Inclusive Water Resilience Accelerator Fund is C40's response to the unmet needs of cities as they navigate the challenges of urban water management in the context of a climate crisis.

The fund is intended to support local governments to increase resilience to climate-induced water stress and excess by delivering actions that are just, fair, inclusive and benefit all residents, especially frontline communities. It aims to

support activities, plans, policies, and projects oriented to help cities in achieving water-related targets and reducing inequity in providing access to water and the unbalanced exposure to water-related hazards to low-income populations.

General Information about the project:

The Acari and São João de Meriti river basin is part of the Guanabara Bay watershed, located in the northern zone of Rio de Janeiro. Covering an area of 107 km², it intersects 37 densely urbanized neighbourhoods of the city.

The Master Plan of Stormwater Management in Rio de Janeiro proposes the construction of 22 reservoirs within the Acari river basin, along with linear structural interventions. Due to the dense urbanization of the area, these interventions are expected to have significant social impacts and require substantial financial resources.

On January 14, 2024, the area covered by the warning system experienced severe flooding, with water depths reaching up to 2.50 meters. This resulted in extensive contents and building damage and posed a significant risk of drowning.

In this context, the municipality intends to carry out canalization works along specific sections of the Acari River, as indicated in the preliminary area shown in Figure 1 (see <u>technical note</u>). While funding for the project is secured, its implementation will take time. To address immediate needs, the municipality plans to develop a community-based flood early warning system (CBFEWS) for the flood high-risk areas. After the project's completion, the CBFEWS will be updated to manage residual risks from rainfall events exceeding design parameters, adopting a "safe-to-fail" approach to enhance resilience.

The CBFEWS for the Acari river should be designed to work in collaboration with the local community, focusing on the dissemination of information, collection of flood data, and conducting training sessions; making the community an active stakeholder for the system. This approach aims to improve the community's flood response capabilities and enhance its overall resilience to flooding events.

The successful implementation of the CBFEWS relies heavily on the seamless integration of technical and social expertise. The technical consultant will focus on the development of the flood monitoring infrastructure, data infrastructure assessment, and system design, while the social consultant will engage with the local community to ensure effective communication, capacity-building, and community engagement.

To achieve the project's objectives, close collaboration between the consultants is essential. Regular coordination meetings will be held to align technical solutions with community needs and feedback. The social consultant will provide insights into community behavior and vulnerabilities, which will inform the technical consultant's design of the warning system. Similarly, the technical consultant will share system capabilities and constraints to guide the social consultant's strategies.

This interactive process will ensure that the CBFEWS is both technically robust and socially inclusive, fostering community trust and enhancing the resilience of the Acari River watershed to flooding events.



Work is underway to establish a flood protocol for the Acari River and the municipality is looking for supplementary credit to fund the installation, operation and maintenance of the flood warning system in vulnerable areas. For this purpose, four water level sensors were installed in the downstream region of the watershed.

Further contextual information can be found in the Technical Note.

Project Scope and Objectives

C40 requires the services of an expert consultant to complete a technical assessment of current hydrological characteristics of the Acari basin and to



structure a community-based flood early warning system (CBFEWS) that integrates key local stakeholders.

The assignment must achieve the following objectives:

- 1) Complete a general assessment of available data, current planning, the hydrological and hydraulic characteristics of the basin and system structure
- 2) Map the flood high-risk areas to determine the communities that need an Early Warning System to be safeguarded
- 3) Outline the structure of the warning system, establish alert triggers, sound modelling for alarms, and determine whether to use nowcasting for triggers, setting escape routes and safe areas (shelters)
- 4) Establish an emergency protocol, with the participation of the local communities, to set responsibilities during the critical event.

The project will be delivered in collaboration with a Social Consultant who will achieve the following objective:

- 5) Assess the current municipal governance for early warning systems to identify gaps and opportunities for improving coordination among stakeholders, including with communities.
- 6) Map and engage community leadership and frontline communities in the design, development and execution of the early warning system.
- 7) Develop need assessment activities with communities and fora for communities to collaboratively refine the Early Warning System framework with the city, for participants to provide input on the framework's key components, ensuring it aligns with local needs and priorities.
- 8) Build a governance plan and a dissemination and communication plan for the CBFEWS.
- 9) Design and deliver training sessions for local stakeholders.

Objectives 5-9 do not fall under the scope of this RfP but coordination between the Technical and Social Consultant is expected. The RfP for the Social Consultant can be accessed <u>here</u>. Both consultants are expected to collaborate on the development of contingency and long-term management plans, ensuring an integrated approach that combines technical precision with community engagement. This collaboration should include regular communication, joint planning sessions, and alignment of methodologies by jointly developing a logic model and using compatible data collection and analysis tools to ensure that the



technical solutions are informed by social considerations and that social strategies are technically sound.

Consortium

If they wish to do so, suppliers can create a consortium and collectively send a proposal to C40. The consortium proposal should be a single application that covers all objectives and activities, with a clear outline of the different responsibilities of each supplier.

Project activities

The assignment must deliver activities that are closely aligned with the activities identified below. Please note that this is a non exhaustive list and Suppliers are encouraged to be creative and to make suggestions based on their knowledge and expertise.

The potential technical consultancy supplier is expected to cover the following activities:

Inception workshop

• Conduct a joint inception/kick-off workshop between all of the key project delivery stakeholders e.g. Technical Consultant, Social Consultant, City of Rio, Civil Defence etc.

Preliminary Evaluation: Hydrological Risk Assessment, Data Infrastructure, and Scope Definition

- Conduct a diagnosis of the available hydrological data and municipality capabilities to conduct the CBEWS and establish the ideal data required for an assertive system;
- Map the communities that are in the flood high risk areas;
- Define the CBEWS scope by defining goals, targets, and project boundaries;
- Co-present with the Social Consultant in a workshop or more the concepts of community-based flood warning systems and successful case studies to the municipal technical team and to the representative of the communities involved;

Community-based Flood Early Warning System Framework

- Evaluate the current water monitoring tools' suitability for the Early Warning System (EWS) purpose;
- Establish alarm triggers, considering river travel time and precipitation data, to ensure sufficient time for the evacuation of residents to shelters;
- Define the number of households for each shelters service area, taking into account its shelter capacity and the travel time of the population;

- Develop a contingency plan, defining actions to cover every stage of disaster management, such as preparedness, mitigation and prevention, response, recovery and adaptation.
- Perform sound propagation modelling for the installation of sirens;
- Evaluate the possibility of using nowcasting with available data;
- Develop a long-term Management Plan by establishing methodology to evaluate and improve the early warning system effectiveness over time considering the data input by the community;
- Work with the Rio Civil Defense and the Social Consultant to test and collect feedback from the communities on possible solutions for shelter, travel options and to establish a communication protocol;
- Co-host workshops to present and gather feedback on different iterations of the EWS framework (to be defined how many are needed with the Social Consultant) to enable city stakeholders and communities to collaboratively refine the framework; co-create and validate protocols; build ownership and consensus;
- Organize a series of training sessions and knowledge-sharing workshops with the municipality and key stakeholders to ensure proper understanding and ownership of the EWS framework.

3. Proposal Guidelines

This Request for Proposal represents the requirements for an open and competitive process. Proposals will be accepted until *4 pm BRT, February 10th, 2025.* Any proposals received after this date and time will not be accepted. All proposals should include clear timetables, how you will work with C40 and the social consultant, clear costs and detail on experience in this area.

Proposals should be no longer than ten pages long. CVs of staff should be no longer than two pages.

The proposal should give C40 evaluators all the information they need to assess your bid. Please clearly indicate where applicable:

- How your proposal is responsive to the Evaluation Criteria;
- The assumptions you are making about the project;
- Risks you have identified and appropriate mitigation measures;
- Information about your fee;
- Proposed timeline of implementation;
- Any additional support that you need to make the project a success, including any inputs you will need from third parties or C40 staff;
- Proposed working partnership with C40, including (as applicable) project governance and management, key personnel, key roles and responsibilities, and escalation procedure for issues.

You must include adequate information about how your costs were calculated to enable evaluation of cost reasonableness.

You may also consider including any other additional information relevant to your project. For example:

- Examples of past work;
- Resumes of proposed key personnel
- Information about the organisation's commitment to equity, diversity and inclusion and ethical alignment with C40;
- Company history,
- Executive background;
- Information on company size;
- Organisational charts;
- Explanations of their processes;
- List of current systems (if relevant),

Supplier Diversity

C40 is committed to supplier diversity and inclusive procurement through promoting equity, diversity and inclusivity in our supplier base. We believe that by procuring a diverse range of suppliers, we get a wider range of experiences and thoughts from suppliers and thus are best able to deliver to the whole range of our diverse cities and the contexts that they operate within.

We strongly encourage suppliers (individuals and corporations) that are diverse in terms of size, age, nationality, gender identity, sexual orientation, majority owned and controlled by a minority group, physical or mental ability, ethnicity and perspective to put forward a proposal to work with us.

Feel welcome to refer to <u>C40's Equity</u>, <u>Diversity and Inclusion Statement</u> as supplier diversity and inclusive procurement is one element of applying equity, diversity and inclusion to help the world limit global heating to 1.5°C and build healthy, equitable and resilient communities.

Contract

Please note this is a contract for professional services and not a grant opportunity. Organisations unable to accept contracts for professional services should not submit bids. The work will be completed on the <u>C40 Standard Services Contract</u>

If C40 are unable to execute a contract with the winner of this competitive process, we reserve the right to award the contract to the second highest Potential Supplier

Subcontracting

If the organisation submitting a proposal needs to subcontract any work to meet the requirements of the proposal, this must be clearly stated. All costs included in proposals must be all-inclusive of any outsourced or contracted work. Any proposals which call for outsourcing or contracting work must include a name and description of the organisations being contracted.

4. RfP and Project Timeline

RfP Timeline:

RFP Timeline	Due Date
Request for Proposals sent out	January 15, 2025
Questions <u>submitted</u> to C40	January 24, 2025
C40 responds to questions	January 27, 2025
Deadline for receiving Offers	February 10, 2025
Evaluation of Proposals and Clarifications	February 11-18, 2025
Selection decision made	February 19, 2025
All Potential Suppliers notified of outcome	February 20, 2025

Project Timeline	Due Date
The project initiation phase must be completed by	March 10, 2025
Project planning phase must be completed by	March 24, 2025
Project implementation phase is expected to be completed by	October 31, 2025

5. Proposal Evaluation Criteria

Evaluation Criteria	Weighting
Technical Capacity and Expertise.	40%
Local Knowledge	20%
Cost-Benefit and Budget	25%
Timeline and Deadlines	10%
Alignment with C40 Goals and Values	5%

Proposals will be evaluated against the following criteria

Technical Capacity and Expertise. The proposals will be evaluated based on the consultancy's demonstrated ability to implement flood warning systems effectively. This includes prior experience in similar projects, showcasing their understanding of hydrological and hydrodynamic modelling. The qualifications of the technical team will also be scrutinized to ensure they have the necessary expertise in areas like remote sensing, GIS, and real-time data analysis. Additionally, the proposal should outline a clear and structured methodology, highlighting how they plan to collect data, develop accurate models, and generate reliable flood alerts. Furthermore, the consultant should demonstrate experience collaborating with government agencies at local and municipal levels.

Local Knowledge. Understanding the specific characteristics of the Rio Acari basin will be a key evaluation point. Proposals that demonstrate familiarity with the local hydrology and previous technical work in the region will be rated higher. A strong proposal should integrate local data sources and consider the basin's unique hydrological challenges to ensure tailored and effective solutions.

Cost-Benefit and Budget The financial aspect of the proposals will be carefully analyzed to ensure a clear justification of the budget in relation to the project's benefits. Proposals must present a thorough cost-benefit analysis, demonstrating that the investment will lead to substantial improvements in flood prevention and warning capabilities. Additionally, consultancies should include contingency plans to account for any unforeseen expenses or adjustments during implementation. Proposals that offer scalability and long-term cost efficiency will be viewed favorably.



Timeline and Deadlines. The ability to deliver the project within the proposed timeline will be a critical factor in the evaluation. Proposals should present a detailed timeline with clear milestones from the beginning to the operational phase of the flood warning system. The track record of the consultancy in meeting deadlines for similar projects will also be considered. A proposal that demonstrates flexibility in adjusting to project needs without compromising deadlines will be particularly valued, ensuring both timely and adaptive project execution.

Alignment with C40 Goals and Values. The proposed solutions contribute to sustainable and safe water resource management and climate change mitigation in urban areas. The approach facilitates the transition towards low-carbon and climate-resilient water systems in the target city. Alignment with C40's values of diversity and inclusion.

6. Project Budget

All proposals must include proposed costs to complete the tasks described in the project scope, including all VAT and taxes. Costs should be stated as one-time or non-recurring costs or monthly recurring costs. All costs incurred in connection with the submission of this RfP are non-refundable by C40.

Cost-effectiveness is a criteria for successful appointment

Total proposed project costs (incl. VAT and other 'hidden' costs, if applicable) should not exceed **20,000 USD**.

7. C40 Policies and additional materials

C40 expects third parties to able to abide by these C40 policies

- Non-Staff Code of Conduct Policy <u>here</u>
- Equity, Diversity, and Inclusion Policy <u>here</u>
- C40 Safeguarding Policy <u>here</u>
- C40 Non-Staff Travel and Expenses Policy if applicable <u>Here</u>

C40 recently released a <u>guide for cities</u> on effective emergency preparedness for flooding and drought. The guide provides a detailed roadmap for how to implement early warning systems and emergency responses in cities. Suppliers are encouraged to use the information in this guide to help build their proposal.

8. Submissions

Each Potential Supplier must submit 1 copy of their proposal to the email address below by February 10th 2025 at 4pm BRT:

- Connor Muesen, Inclusive Climate Action Manager: <u>cmuesen@c40.org</u>
- Pedro Ribeiro, Head of Water: priberio@c40.org

Anonymised responses to all questions submitted will be provided <u>HERE</u> once the period closes.

Disclaimer

C40 will not accept any liability or be responsible for any costs incurred by Potential Suppliers in preparing a response for this RFP.

Neither the issue of the RFP, nor any of the information presented in it, should be regarded as a commitment or representation on the part of C40 (or any of its partners) to enter into a contractual arrangement. Nothing in this RFP should be interpreted as a commitment by C40 to award a contract to a Potential Supplier as a result of this procurement, nor to accept the lowest price or any tender.