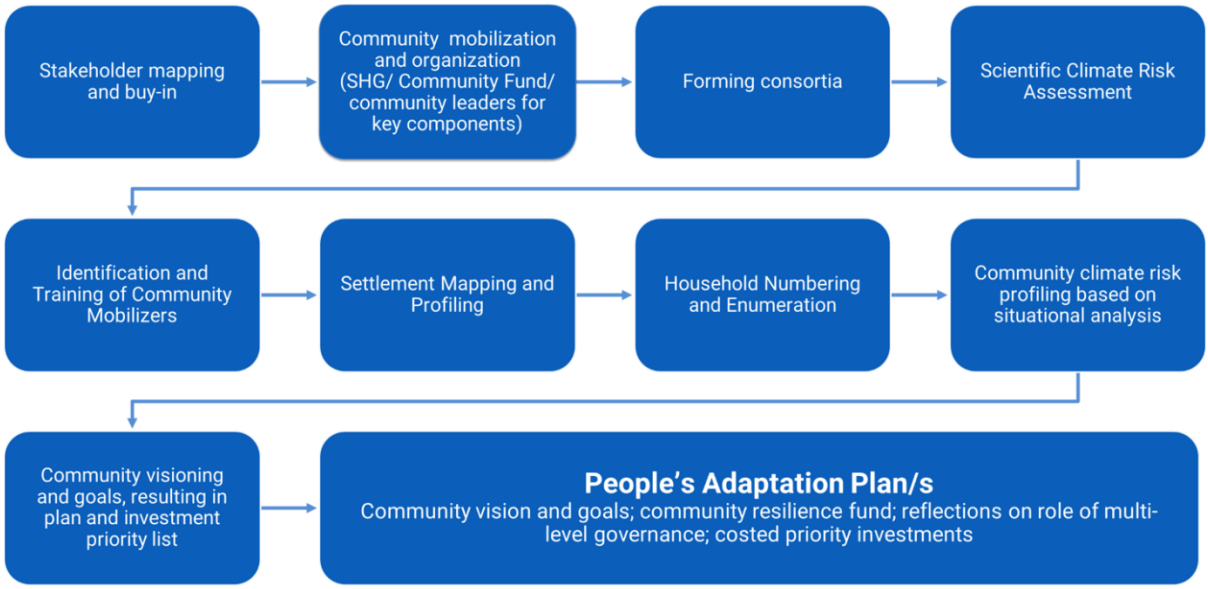
PROJECT DESIGN AND METHODOLOGY

Mongla has invested in an embankment to control flooding, two flood-control gates, a drainage system, a water reservoir, a water treatment plant, and an early warning system to deal with its climate vulnerability. Experts, however, caution against an oversimplification of the complex realities of climate vulnerability and a focus only on improvements in physical infrastructure that benefit a few, at the expense of many. They highlight the need for more nuanced processes focused on social justice, equity and inclusion.[1]

By putting Mongla's most vulnerable citizens in the driving seat of planning for urban resilience and climate planning, this People's Adaptation Plan seeks to ensure that their needs are prioritized by climate investments, and that scare resources are used efficiently to address their vulnerabilities. It draws on methodologies developed over decades by Slum Dwellers International and BRAC, to support the co-production of responses to climate change by vulnerable citizens in genuine partnership with their governments. The methodology was developed with support from the Society for the Promotion of Area Resource Centers (SPARC) and the International Centre for Climate Change and Development (ICCCAD). It draws heavily on the People's Plan process implemented by SDI affiliates in the informal settlement of Mukuru, Kenya, and documented in this Guide.



Stakeholder mapping and buy-in

Locally led, participatory and multisectoral planning processes need leadership, sector knowledge and technical expertise from communities, local government and civil society as well as academia and the private sector. Building partnerships and convening a broad array of organizations is needed to navigate local politics, overcome resource constraints and achieve genuine co-planning between communities and local government. The planning process must therefore begin by mapping stakeholders, ensuring their buy-in, and determining their roles in the planning process.

Local Advisory Committee

In Mongla, the key stakeholders include the local community and Municipality officials, led by the Mayor, and relevant departments of the national government including department of agriculture, fisheries,

[1] Rahman, F., Lewis, D., Kuhl, L, Baldwin, A, Ruszczyk, Nadiruzzaman, M & Mahid, Y. (2023). Managed urban retreat: the trouble with crisis narratives. *Urban Geography*. Vol 45, Issue 1. https://doi.org/10.1080/02723638.2023.2228094

public health etc. While inputs were sought from all members of the community during the planning process with support from community mobilizers and focus group discussions, a **local advisory committee** was formed to support the identification and prioritization of vulnerable settlements and identify ways to support the implementation of the plan. Nineteen members representing the Upazila Parisad (sub-district council), civil society, media, academia and local communities were selected.

Local Advisory Committee Members

Name	Designation and organization
Sunil Kumar Biswash	Retired Principal of a local school
Noor Alam Shaikh	Journalist, Press Club, Mongla
Biswash Ranojit Kumar	NGO Representative
Sumi Lila	Community Leader
Forhad Hossain	NGO Representative
Md. Mahatab Sheikh	Representative. Business Association, Mongla
Arshaduzzaman Selim	Representative, Labour Association, Mongla
Masud Rana	Upazilla Social Welfare Officer, Department of Social Welfare, Mongla
Israt Jahan	Upazilla Women Affairs Officer, Department of Women Affairs, Mongla
Sohan Ahmmed	Deputy Assistant Engineer, Department of Public Health Engineering
Sobuj Boiragi	Upazila Rural Development Officer, Department of Rural Development, Mongla
Md. Anamul Haque Tito	Volunteer, Cyclone Preparedness Programme

The Mayor of Mongla and Municipality officials played a central role in guiding and facilitating the development of the People's Adaptation Plans. Their active participation and regular engagement with the community members reassured the community of their support for the planning process. This partnership also helped in the implementation of priorities identified in the Plans –the Mayor supported implementation through funds allocated for the Annual Development Plan, while Municipality officials

– including the Ward Councilors, Executive Officer, Executive Engineer, and Tax Collection Officer supported the execution of the plans.

Name	Designation and organization
Sheikh Abdur Rahman	Former Mayor, Mongla Port Municipality
Amal Krishna Saha	Executive Officer, Mongla Port Municipality
S. M. Habibullah	Executive Engineer, Mongla Port Municipality
Md. Mohsin Hoshen	Collector of Taxes & State Officer, Mongla Port Municipality

Steering Committee

A **steering committee** at the national level sought to ensure that the planning process conformed to the LLA Principles and benefitted from best practice in community-led planning.

Steering Committee Members

Name	Designation and organization
Late Prof. Dr. Saleemul Huq	Founding Director, International Centre for Climate Change and Development
Sheela Patel	Founder Director, Society for Promotion of Area Resource Centres (SPARC)
Dr. Md Liakath Ali	Director, Climate Change Programme, Urban Development Programe and Disaster Risk Management Programme, BRAC
Anju Sharma	Global Lead, Locally Led Adaptation, Global Center on Adaptation

Mapping and profiling climate vulnerable informal settlements

Between August - November 2022, community mobilizers were trained to map and profile all the informal settlements – 56 in total in Mongla, to identify the 20 most vulnerable to climate change.

Collection of settlement list from the Municipality

To identify all informal settlements within Mongla Municipality, the BRAC facilitation team initially sought a comprehensive, ward-wise list of settlements. In the absence of such a consolidated list, the team instead obtained a ward-wise list of roads from the Municipality, which would later serve as a basis to identify settlements along these routes. A total of 71 roads were provided by the Municipality.

Selecting and training community mobilizers

The facilitation team (BRAC) selected seven community mobilizers from the informal settlements based on their willingness to participate, familiarity with participatory data collection methods, existing knowledge and understanding of climate change (if any), and leadership and acceptance within the community. Women leaders and young people with prior experience were prioritized. Selected community mobilizers were then trained in the use of participatory data collection tools such as transect walks and focus group discussions.

Mapping and profiling of informal settlements

Trained community mobilizers, with support from the facilitation team, conducted settlement mapping through transect walk in all the nine wards of the Municipality along the 71 roads to identify all the informal settlements – both listed and new ones, and interviewed residents to understand the dynamics of each settlement, determine boundaries, holding number and land tenure, identify households with migrants and assess the provision of public services. Sample households also responded to an initial survey on exposure to climate hazards (such as proximity to the Pashur river), impacts of climate change through lived experiences, impacts on key sectors, changing livelihoods patterns, migration dynamics, prevailing inequalities, and overall access to resources and Municipal infrastructure.

The results of this survey identified total 56 informal settlements - much . The identification of settlements were confirmed of accuracy and ground reality through ward community validation and consultation with the Municipality and local advisory committee.

Shortlisting twenty vulnerable settlements

Further discussions with residents, the local advisory committee and the Municipality resulted in the shortlisting of 36 informal settlements. Series of focus group discussions were then conducted by community volunteers in these 36 settlements, to gather information on climate vulnerability, tenure security, urban informality and number of climate migrants and rank the settlements based on these criteria. A shortlist of 20 most climate vulnerable informal settlements was prepared based on the results.

In parallel, the facilitation team, with support from BRAC's Climate Change Program and ICCCAD, developed a Climate Vulnerability Index (CVI) for each settlement following IPCC's guideline[2]. The calculation followed a systematic three-step approach:

Step 1: Collected data were normalized to ensure equal weighting of all indicators. Minimum and maximum values, based on the frequency of measurements, were used to standardize the data.

Step 2: Normalized indicator values were averaged to calculate major component values corresponding to individual components.

Step 3: IPCC-based contributing factors—Exposure (E), Sensitivity (S), and Adaptive Capacity (AC)—were used to calculate the Climate Vulnerability Index using the formula:

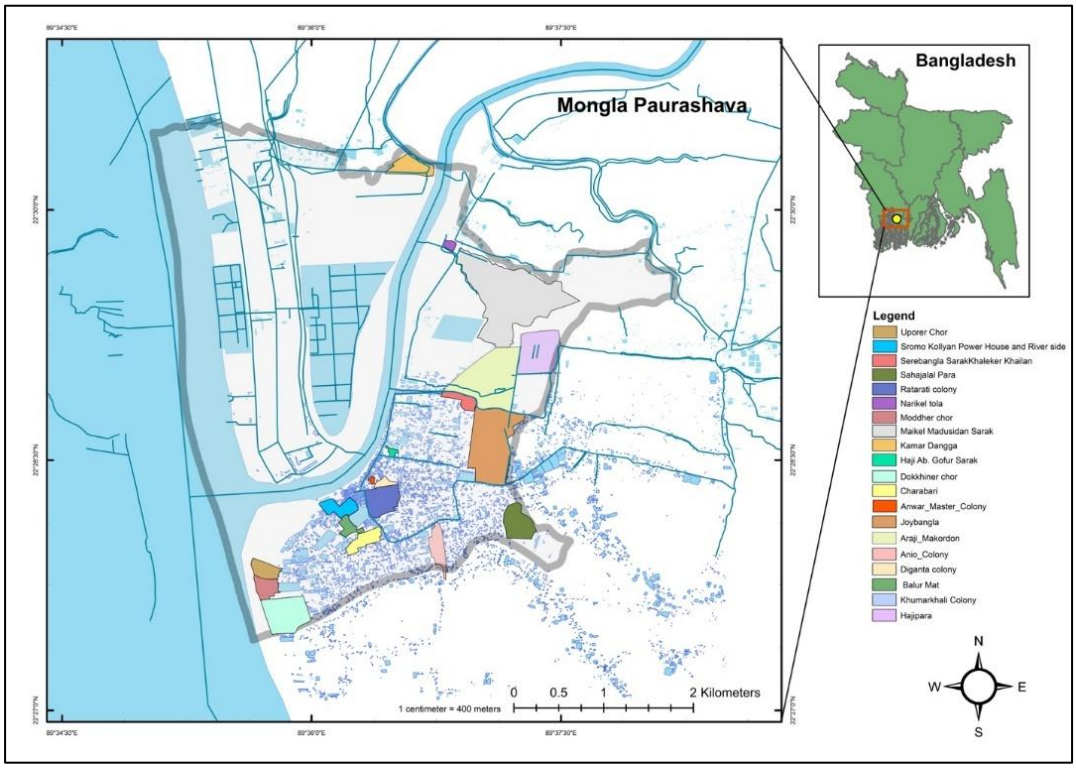
CVI = Potential Impact (PI) – Adaptive Capacity (AC), where PI = Exposure (E) × Sensitivity (S).

The resulting vulnerability scores were categorized into three levels: -1.0 to -0.4 (not vulnerable), -0.41 to 0.30 (moderately vulnerable), and 0.31 to 1.0 (highly vulnerable). The findings from the focus group discussions were matched with the vulnerability index results to identify the list of 20 most climate-vulnerable settlements. The list was shared with the residents, Municipality and the local advisory committee for their approval and endorsement.

Ward number	Name of settlement	Number of households	Total Population	Climate vulnerability ranking according to the community
1	Sheikh Hasina Abashon Prokolpo/Narikeltola Guccho Gram	60	190	1
9	Uporer Char	160	462	2
9	Dokkhiner Char	167	825	3
9	Moddher Char	121	520	4
3	Anwar Master Colony	30	90	5
8	Charabari	114	458	6
6	Ratarati Colony	37	1504	7
5	Balur Mat	199	700	8
2	Haji Abdur Gafur Sarakh		140	9
1	Michel Madhusudhan Sarak	126	440	10
7	Sahajalal Para	143	555	11
7	Joybangla	489	1827	12
2	Sherebangla Sarakh & Khaleker Khailan	80	316	13
5	Sromo Kallayan Power House & River side	97	354	14
6	Diganta Colony	124	445	15
1	Hajipara	71	290	16
7	Annio Colony	70	242	17
1	Araji Makordon	342	1291	18
3	Kumarkhali Colony	97	360	19
4	Kamar Dangga	102	411	20

[2] United Nations Development Programme. Climate Vulnerability Index Book. PDF. UNDP, March 2023


Validation meeting on twenty most climate vulnerable hotspot with Mongla port municipality.


Mongla Paurashava
Bangladesh
Legend
Uporer Chor
Sromo Kollyan Power House and River side
Serebangla SarakKhaleker Khallan
Sahajalal Para
Ratarati colony
Narikel tola
Moddher chor
Maikel Madusidan Sarak
Kamar Dangga
Haji Ab. Gofur Sarak
Dokkhiner chor
Charabari
Anwar_Master_Colony
Joybangla
Araji_Makordon
Anio_Colony
Diganta colony
Balur Mat
Khumarkhali Colony
Hajipara
N
W
E
S
0 0.5 1 2 Kilometers
1 centimeter = 400 meters

House-to-house enumeration

Between December 2022 to January 2023, a detailed household level census in the 20 most vulnerable informal settlements was conducted by 22 trained enumerators, to collect accurate and reliable data, and to engage with each household to explain the process and goals of the People's Adaptation Plans, and ensure their consent and buy-in.

Developing a questionnaire

A comprehensive questionnaire was developed in consultation with the community mobilizers, the Municipality, the steering committee and the local advisory committee. The questionnaire sought to assess household-level climate impacts, and vulnerability based on the household's socio-economic profile, access to essential services, migration history, asset base, and social and political capital.

Hiring and training of enumerators

The facilitation team initiated the household census by appointing enumerators for community and settlement profiling based on their understanding of climate change, prior experience with surveys, and access to smart phones. Twenty-two enumerators were selected through interviews and received two days of training on 1–2 December 2022. Training covered the census questionnaire, orientation on TaroWorks mobile application, and data collection ethics, including key skills to build trust and encourage open conversations with respondents. This was followed by trial interviews for the mobilizers to practice their interview and data collection skills; to fine tune the questionnaire to ensure that respondents understand questions; and to get an idea of the approximate time required for each interview.

Data collection

Data from 3036 households in the 20 informal settlements was collected over a period of a month. In addition to the questionnaire survey, each house was marked with a code to enable tracking of progress and geo-tagged data was collected which were later digitized in the shapefiles of Mongla Municipality.

Data analysis and validation

Between February-March 2023, the data collected through the household enumeration was analyzed by the facilitation team and shared with Municipality and local advisory committee for their endorsement.

Community co-planning

During this stage, community members discussed the findings of the enumeration process and negotiated amongst themselves on key climate priorities for the community.

Community Adaptation Committees

Community adaptation committees were formed in each of the 20 vulnerable informal settlements to ensure leadership by the poor and most vulnerable. Each had 21 members, selected to ensure representation based on age, gender, socio-economic status, and religious and ethnic groups. Each committee selected a convener and a co-convener to lead the process, avoiding hierarchical labels such as President or Secretary.

Training

ICCCAD developed a training of trainers (ToT) module on the basics of climate change; participatory community climate vulnerability assessment methodologies (including guidelines to identify key climate hazards, risks and impacts, prioritize vulnerable sectors, and outline adaptation solutions); and techniques for community co-planning, problem solving, negotiation, and consensus building. The BRAC facilitation team and community mobilizers were trained using this ToT module, and went on to train community adaptation committees members in turn.

Climate risk profiling

Upon receiving the training, the adaptation committee members started organizing sessions over March 2023 to conduct climate risk profiling for their settlements. This began by presenting the results of the settlement profiling and enumeration by the community mobilizers and vulnerability risk index results by the BRAC facilitation team. Based on this, the committee members started their own risk profiling by identifying and assessing hazards, risks and impacts. They developed a hazard calendar of key climate-related hazards that affected their communities in the past two to three decades. This calendar helped them visualize and understand the changing frequency, duration, and intensity of each hazard over time, and to identify vulnerable sectors for each hazard. Once the climate hazards and key vulnerable sectors were identified, the sectoral impacts and their level were assessed and existing adaptation strategies were listed. Community members, local experts and other stakeholders were consulted to make sure that

assessments were accurate and reflected gender and age specific impacts, and to prioritize actions and interventions based on future likelihood.

Developing People's Adaptation Plans

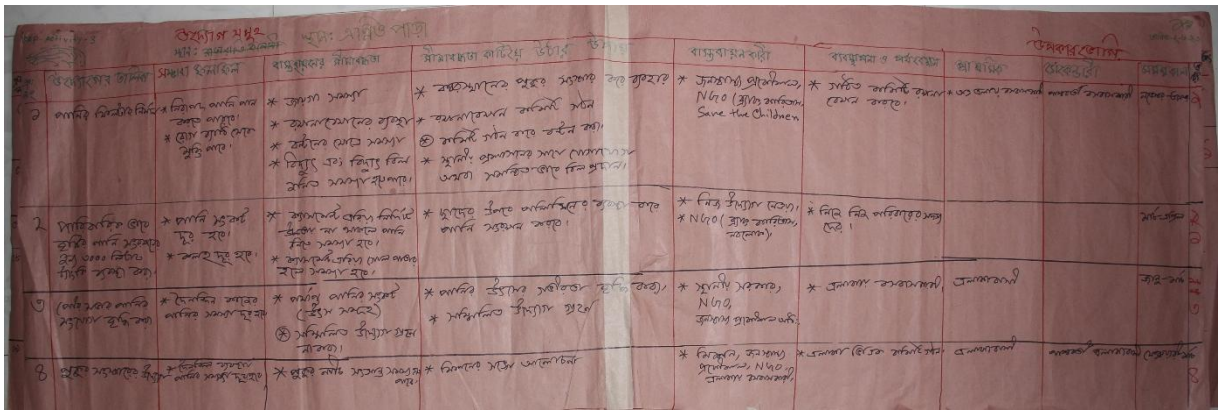
Each of the 20 informal settlements developed a Local Adaptation Plan. These Plans then informed the development of Ward and Town level Plans.

Identifying adaptation solutions

Community adaptation committee members consulted with the rest of the community to develop potential adaptation solutions for key climate-related threats identified during the assessment. They identified and reviewed measures already in place to address specific vulnerabilities, and listed new initiatives to fill gaps and address challenges. The needs of women and marginalized groups were prioritized.

Developing settlement level People's Adaptation Plans

A detailed adaptation plan for each of the 20 informal settlements was formulated by the community adaptation committee, in consultation with the rest of the community. The Plans identified mitigation strategy of sector-specific climate threats, potential solutions, anticipated challenges to implementation, mitigation strategies, execution timelines, resources necessary for implementation, entities responsible for implementation and maintenance of each solution, the role of the community, and anticipated results. Budget estimations for each activity were based on consultations with Municipal officials, reflecting the Municipality's standard rate schedule and experience in implementing similar initiatives. A priority list of urgent adaptation actions was also prepared.



Developing ward level People's Adaptation Plans

Nine ward-level People's Adaptation Plans were developed for the wards hosting the 20 informal settlements. The ward-level planning process mirrored the approach (section 3.4) for the local adaptation plans and was led by a diverse group of 21 members that included representatives from other informal settlements (beyond the shortlisted ones), Ward Councilors, civil society actors—such as socio-economic and vulnerable groups and institutions—community adaptation committee members, and government officials. Together, they reviewed the 20 local People's Adaptation Plans from their respective wards and held a series of consultations, and drafted ward-level Adaptation Plans. These Plans identify ward-level climate risks and vulnerabilities, priority adaptation solutions, anticipated challenges in implementation, mitigation strategies, execution timelines, budget estimates, roles and responsibilities, and anticipated results. A detailed list of all the members of the adaptation committee to prepare ward level People's Adaptation Plans for nine wards are listed in annex

Developing a Municipality level People's Adaptation Plan

A Municipality level People's Adaptation Plan was developed on the basis of the climate risk and vulnerability assessment carried out by Khulna University; aggregating the 20 local plans and nine ward level adaptation plans; and consulting a wider group of stakeholders. Representatives from the Mongla Port Authority, the Export Processing Zone, Department of Public Health and Engineering, Local Government Engineering Department, Department of Disaster Management, Department of Agriculture, the Upazila Nirbahi Officer (sub-district Executive Officer) participated in a day-long meeting. In addition to assessing the climate vulnerability of each sector identified in the Local Adaptation Plans, alignment was sought with national policies and strategies, including the National Adaptation Plan and Climate Change Gender Action Plan. A detailed list of all the members engaged to prepare the Municipality level People's Adaptation Plans is listed in annex

Validating the People's Adaptation Plans

The 30 plans developed through the process were validated by the broader community, local advisory committee and the Mayor through series of wider and bilateral consultations to make sure that these reflect the ground realities and address the needs of the most vulnerable. The plans were also placed during Ward Level Coordination Committee (WLCC) and Town Level Coordination Committee (TLCC) meetings from time to time, vetted and endorsed by the committee members and the Mayor.