



Chattogram & Cox's Bazar Impact Story

Equitable Growth & Resilience for Coastal Areas in Bangladesh



Table of Contents

01

Summary

03

Introduction

04

Challenges

06

Opportunities

07

TCDSE
Implementation

11

Impact

13

Sustainability
& Future

15

In Short

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DOI:



**Tomorrow's
CITIES**
Urban Risk in Transition

Summary

The adoption of Tomorrow's Cities' Decision Support Environment (TCDSE) by the Cox's Bazar and Chattogram Development Authorities represents a transformative step toward sustainable urban planning in Bangladesh's disaster-prone regions.

The two impact sites chosen for the Tomorrow's Cities work in Bangladesh - Jalia Palong in Cox's Bazar and Bairag in Chattogram - face high exposure to natural hazards, compounded by persistent poverty and challenges in basic service provision. Jalia Palong, in particular, is experiencing rapid growth driven by tourism and rural-urban migration, while Bairag's agricultural and fishing-based economy creates a tension with future development trends. The unplanned expansion of these two places, if unmanaged, heightens disaster risk for the most vulnerable residents.

A major success in Jalia Palong has been the Cox's Bazar Development Authority's (CoxDA) integration of the TCDSE framework into the district's broader master plan. In Bairag, efforts are underway to adapt this framework to suit local needs, addressing specific issues like flood control and sustainable land use for farming communities. Workshops and training initiatives have also empowered both communities, deepening their awareness of hazard risks, preparedness, and resilience. These programs have already led to tangible changes, with communities now advocating for risk-informed urbanisation.

As these regions advance in implementing risk-informed planning decisions, the focus will be on ensuring that urbanisation aligns with resilience-building, infrastructure improvements, and environmental protection.

For Jalia Palong, this involves balancing the booming tourism sector with hazard mitigation strategies. Bairag's approach prioritises sustainable resource management and livelihood support for its agricultural economy. Moving forward, authorities aim to build on the momentum created by Tomorrow's Cities, ensuring that resilience and sustainable development remain central to the evolving master plans in both Cox's Bazar and Chattogram.



Members of Tomorrow's Cities local teams from Bangladesh and Nepal.



60

Participants completed Tomorrow's Cities Capacity Strengthening Programme

150

Teachers and students attended Tomorrow's Cities workshops



Tomorrow's Cities Workshop

Example of community-led output (spatialised vision)

Introduction

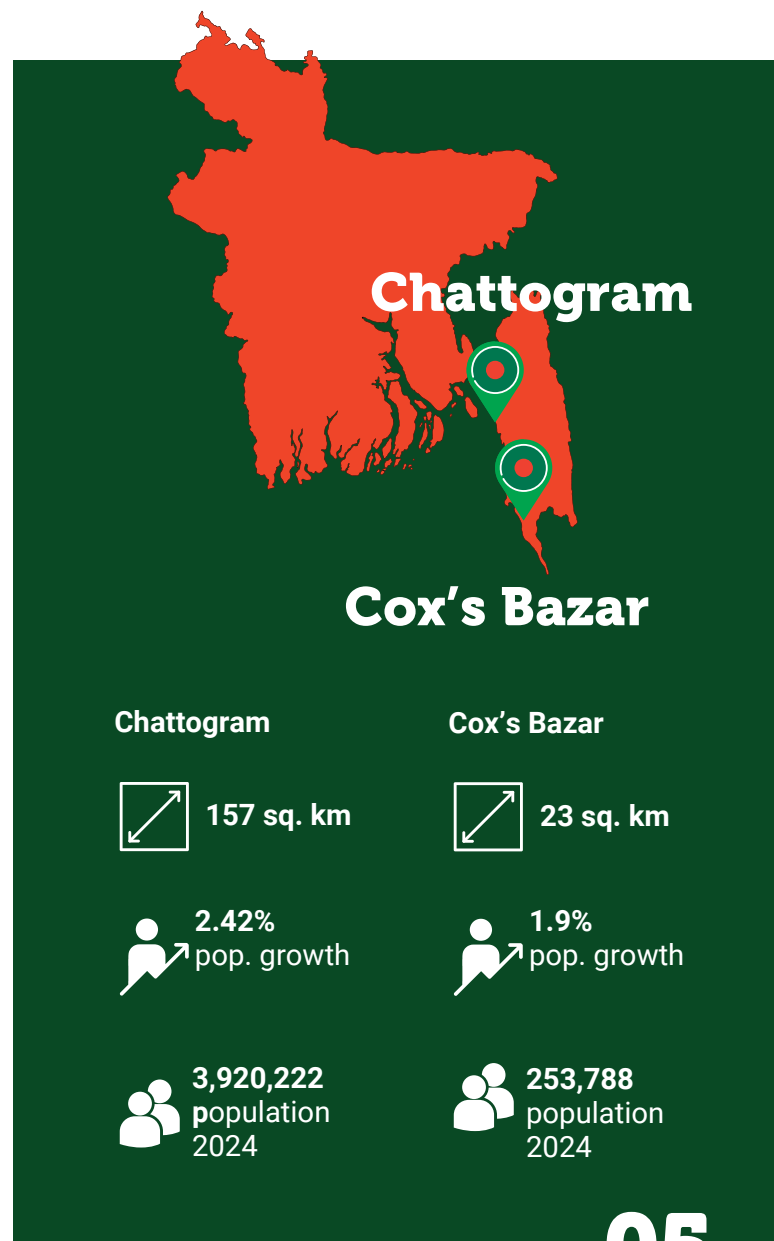
Jalia Palong and Bairag stand at critical junctures where the pressures of rapid urbanisation, and industrialisation or tourism, must be balanced with effective Disaster Risk Reduction (DRR) strategies.

Nestled in the southern coastal region of Bangladesh, Jalia Palong (Cox's Bazar) is renowned for its natural beauty and significant tourism appeal. Yet the region faces the complexities of poverty, limited access to healthcare, and environmental risks, with recent monsoon floods affecting nearly 300,000 people.

Bairag (Chattogram), by contrast, is more rural and agriculturally focused, with challenges related to river erosion and environmental degradation from industrial waste. While Jalia Palong's economy is fuelled by tourism, Bairag's agricultural backbone highlights the need for a tailored approach to infrastructure and environmental management.

The 20-year Master Plans for both Cox's Bazar and Chattogram districts involve investments in railway lines, energy infrastructure, and tourism zones, amounting to several billion dollars. In Jaliapalong, these projects are set to further boost tourism, where the area already attracts over 2 million domestic tourists and around 100,000 international visitors each year. The focus of Bairag is the provision of basic infrastructure. The place contains only 17 paved roads and the population has minimal healthcare access. The master plans are urgently needed to address high disaster vulnerability; both regions rank among the world's top risk

hotspots, with Bairag highly susceptible to river flooding and Jalia Palong classified as a high-risk zone due to its susceptibility to earthquakes, cyclones, and coastal erosion. With over seventy development projects in progress across these regions, tailored disaster risk strategies that address each area's unique socioeconomic and environmental landscapes are vital to mitigate vulnerabilities and promote resilient, sustainable urban development.



Challenges

1

Natural Hazard Profile

Cox's Bazar and Chattogram are among the most disaster-prone districts in Bangladesh. Situated in low-lying coastal areas, the regions are highly vulnerable to flooding, which is often triggered by torrential monsoon rains or storm surges, both of which have been exacerbated by climate change. Heatwaves in Bangladesh are also becoming more frequent and intense, with temperatures reaching 43.7°C on April 30 2024, for instance. These districts are also seismically active, raising the potential for moderate to large earthquakes. Other significant hazards include landslides and fires, particularly in densely populated informal settlements and refugee camps.



▲ Cox's Bazar coastal region

2

Refugees

Nearly one million stateless Rohingya refugees are currently living in Bangladesh, with the majority residing in and around the Kutupalong and Nayapara refugee camps, located in the Cox's Bazar region. These camps are among the largest and most densely populated in the world, presenting significant challenges in terms of infrastructure, resources, and humanitarian aid.



▲ Chattogram

3

Urban Planning & Infrastructure

Land Use and Urban Planning: Integrating land use changes into the city's master plan is complex due to evolving development goals and stakeholder interests.

Tourism Development: Illegal acquisition of land to build tourism infrastructure has led to the displacement of local residents, undermining community stability and opening a path for environmental degradation.

Geographic Constraints: The region's challenging geography, with hills and the Bay of Bengal, complicates urban planning and infrastructure development.

4

Community and Social Challenges

Gender Equity Issues: Limited participation of women in the planning process hinders gender equity and balanced decision-making.

Understanding DRR Policies: Participants face challenges in comprehending DRR policies and hazard terminologies, requiring additional educational efforts from facilitators.



At the community level, careful planning is essential. I believe that our engagement with Tomorrow's Cities will be instrumental in guiding us toward effective urban planning. They have successfully bridged the gap between the communities and the development authorities, and I am confident that this collaborative approach will be invaluable in our future planning efforts. I sincerely appreciate the initiative taken by Tomorrow's Cities.

Commodore Mr. Md. Nurul Absar (Retd.), Chairman of CoxDA



▲ Tomorrow's Cities Workshop

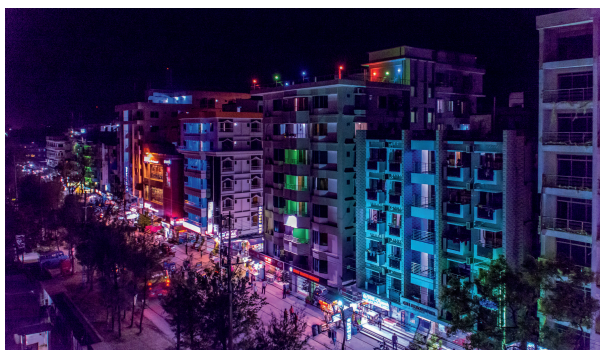
Opportunities

Jalia Palong and Bairag each hold unique development potential. Jalia Palong can harness tourism through equitable, resilience-focused planning that benefits vulnerable populations. Bairag's agricultural and fishing economy requires a balance of housing development and infrastructure improvements to support current and future populations.

1

Tourism as a Major Economic Driver

Home to the world's longest sea beach, Jalia Palong attracts a large number of visitors each year. To accommodate the growing tourism, new amenities are being constructed, laying a solid foundation for an emerging industry. Tourism has the potential to significantly contribute to both the local and national economy by attracting investments, increasing regional spending, and boosting employment opportunities.



▲ Cox's Bazar accommodation district

2

City Development Potential

The development of Jalia Palong and Bairag is still in its early stages, and the ongoing preparation of long-term Master Plans offers a significant opportunity to guide urban growth using inclusive, equity-oriented, and risk-informed development strategies.

3

Reducing Unemployment through Local Engagement

The tourism industry offers a valuable opportunity to reduce unemployment by developing training programmes in customer service, management, and specialised tourism skills. This would enhance job prospects, helping to lower poverty rates and improve the overall standard of living in the Cox's Bazar region.

4

Addressing the Disaster-Prone Nature of the Regions

To effectively tackle the natural hazard challenges in Jalia Palong and Bairag, a comprehensive disaster risk reduction and climate resilience strategy is crucial.

TCDSE Implementation

Jalia Palong and Bairag were selected for TCDSE implementation due to their challenging hazard landscapes, considerable development potential, and strategic importance in regional growth. The primary goal of the Tomorrow's Cities Decision Support Environment (TCDSE) in these regions is to support the creation of sustainable, resilient land-use plans that prioritise vulnerable populations and take into consideration future generations.

Stakeholder Engagement

From the outset, the project prioritised strong stakeholder involvement, with the Cox's Bazar and Chattogram Development Authorities (CoxDA, CDA) - responsible for urban planning - playing a pivotal role. This collaboration reflects a commitment to proactive urban planning in the face of rapid growth, aiming to integrate learning from the TCDSE framework into these regions' Master Plans. In addition, the project engaged several NGOs and private organisations focused on housing, shelter, and disaster risk reduction. Their involvement was crucial, highlighting the need for greater ministry-level engagement, which is particularly important in the context of Bangladesh.



▲ Tomorrow's Cities Workshop

30

community participants in average for each city.

30

members of local authorities engaged in each city.

150

teachers and students attended Tomorrow's Cities workshops.

60

people received training through the Capacity Strengthening Programme.

Stakeholders



Chittagong University of Engineering and Technology

One of the leading public engineering universities in Bangladesh, located in Chittagong. Established in 1968, it specialises in engineering, architecture, and technology education.

University of Dhaka

Founded in 1921, is the oldest and one of the most prestigious public universities in Bangladesh.



Cox's Bazar & Chattogram Development Authorities

governmental organisations responsible for the planned development, management, and regulation of the regions.



Water Supply and Sewerage Authority

The government entity responsible for the planning, development, and management of water supply and sewerage services in urban areas of Bangladesh.



A diverse range of community groups was strategically involved to drive impactful development.

Civil Society Members, such as teachers, landowners, and local business leaders, were selected for their stable incomes and significant roles in the local community.

Reflecting the need for gender inclusivity, **Women** were actively included, ensuring diverse perspectives.

Marginalised groups, including **Landless People** and **Indigenous Groups**, were engaged to ensure their voices, often overlooked, were heard and valued.

Additionally, **Informal Workers**, including roadside shopkeepers and day labourers, and **Farmers and Fisherpeople** were included due to a direct impact some of the development initiatives have on their livelihoods.

This inclusive approach ensures that marginalised community voices contribute to shaping a resilient and equitable future.



We aspire to see Jalia Palong as a disaster-resilient city, free from social challenges such as corruption, unemployment, drugs, and terrorism. We envision a city that is eco-friendly, industrially advanced, and properly urbanised, with a strong emphasis on the tourism sector.

Visioning Statement by Civil Society



▲ Tomorrow's Cities Workshop



We desire a community free from violence against women, with favorable socio-economic advantages to access developed education and health facilities without having to compromise their dignity

Visioning Statement by Women Group



▲ Tomorrow's Cities Workshop



Tomorrow's Cities Future Visioning and Urban Scenarios workshops



Impact

1

Enhanced Risk Perception

Although participants initially struggled with understanding hazard and disaster risk concepts, the Tomorrow's Cities team's explanations and hands-on learning methods greatly improved their comprehension. This newfound knowledge empowered them to advocate for disaster preparedness, resulting in a community better equipped to anticipate, prepare for, and mitigate potential disasters

2

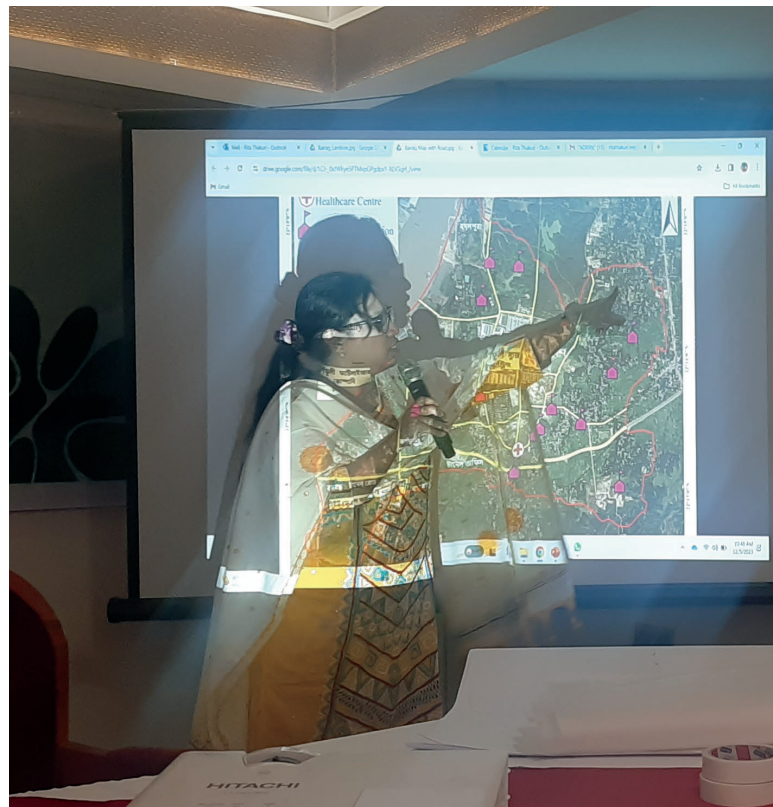
Behaviour Change

Both local communities and government actors were initially sceptical about the initiative. However, over time, they developed confidence and interest in addressing hazards and reducing future risks through Tomorrow's Cities tools. They recognised concrete opportunities to shape a safer, more resilient city that reflects local needs and aspirations. A significant behavioural shift was observed, with increasing support for the adoption of risk-informed planning tools, and participatory and creative methodologies.

3

Improved Collaboration Among Groups

The project successfully facilitated unprecedented collaboration between community members from diverse social backgrounds and key stakeholders. Notably, women's groups, who had previously been excluded from urban planning discussions, played an active role in the TCDSE planning process. This inclusion led to more comprehensive and equitable planning outcomes, reflecting a broader range of perspectives and needs.



▲ Tomorrow's Cities Workshop

4

Adoption of New Practices

Participatory Planning

The project effectively introduced participatory planning, ensuring that community members were fully engaged in discussions about their socio-economic conditions.

Future-Oriented Planning

By integrating the city's socio-economic and geographic contexts, the project facilitated the development of forward-looking plans that incorporated the community's long-term aspirations. This approach ensures that urban development is not only responsive to current needs but also sustainable over the long term.

Equitable Risk Distribution

Through focused group discussions, the project ensured that all voices were heard and emphasizing the importance of equitable risk distribution. This inclusive approach leads to fair and balanced risk management strategies that protect the entire community.

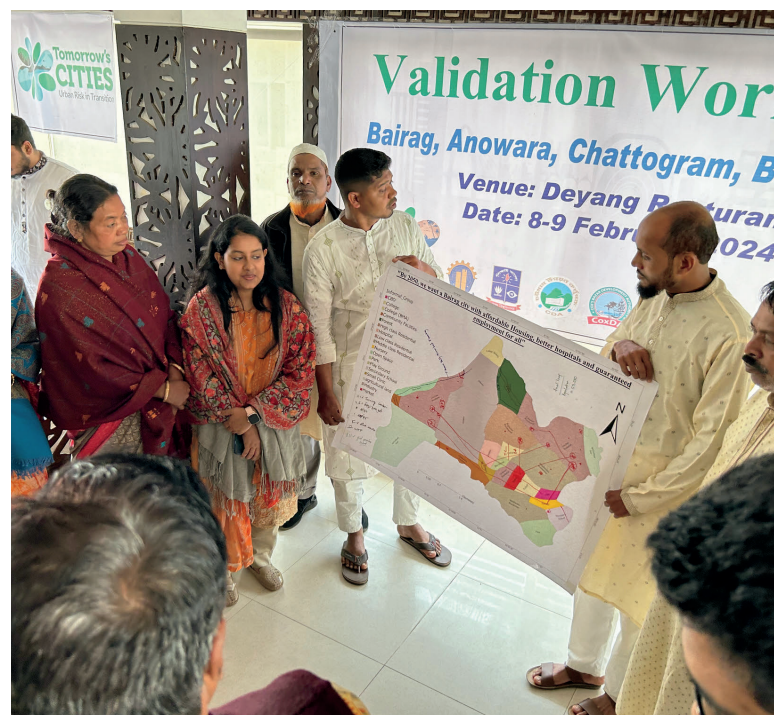
Data and Analytics for Risk Reduction

The project leveraged both primary and secondary data to conduct comprehensive hazard and risk mapping. Collaborative discussions then translated this data into actionable policies, ensuring that all decisions were data-driven and centred on effective risk reduction. This methodical approach has laid the groundwork for a community that is better prepared for future challenges.



Today, I am especially proud to hear a member of the Jalia Palong Union discussing topics like disaster, risk, and vulnerability—terms typically reserved for disaster management professionals. It's remarkable to see that ordinary citizens are now becoming aware of these critical concepts and beginning to think critically about them. This is a significant achievement.

Commodore Mr. Md. Nurul Absar
(Retd.), Chairman of CoxDA



Tomorrow's Cities Workshop

Sustainability & Future

The risk-informed changes in the land use plans for Jalia Palong and Bairag will enhance these cities' resilience to disasters by ensuring that infrastructure, residential areas, and commercial facilities are developed in safer zones. Integrating these plans into the ongoing master plan will make future development more sustainable, as it aligns with long-term safety and environmental preservation.

The Disaster Risk Reduction-focused policies, devised by the local community during the course of Tomorrow's Cities project emphasise sustainable development and risk reduction, ensuring that the city is prepared for future disasters. Additionally, these plans aim to create employment opportunities by promoting local livelihoods, addressing existing challenges, and paving the way for Jalia Palong and Bairag to become sustainable and risk-resilient cities in the future.

These visions will now be integrated in the cities' Master Plans as per agreement with authorities.



We are delighted to contribute to the future planning of our city and look forward to continued progress. We hope that this place will witness significant development over the next 20 to 30 years, shaping a brighter and more sustainable future for the community.

Ratna Barua- NGO Worker and a participant in the Civil Society group.



▲ Tomorrow's Cities Workshop

Integration of the TCDSE into Cox's Bazar and Chattogram Master Plans

The development authorities have expressed a strong commitment to integrating the TCDSE framework into their master plans, signalling a significant step forward in sustainable urban development for the region.

The upcoming partnership will involve a formal contract with the TCDSE team to collaboratively address land use changes, develop disaster risk reduction focused policies, and create long-term, sustainable solutions for the residents in Jalia Palong and Bairag. This initiative is set to expand the framework's impact across other unions, promising a broader, region-wide transformation.



The master plan is not fixed; it can be adjusted as needed. By integrating TCDSE's findings into the plan, regardless of the region, we can greatly improve housing safety and overall security – not just in Jalia Palong, but across Bangladesh.

Mr. Mahmudur Rahman Habib
Joint Secretary, Ministry of Housing
and Public Works



With the backing of our international partners from the Tomorrow's Cities team, we have introduced new approaches and remain fully committed to supporting their implementation. Moreover, the Tomorrow's Cities team continues to play an outstanding role in driving this initiative forward.

Dr. Muhamamd Rashidul Hasan
Professor and Dean, Faculty of
Architecture and Planning, Chattogram
University of Engineering and Technology

The Development Authorities plan to prepare and submit a Development Project Proposal based on the TCDSE approach to the ministry for funding.

In addition, to continue applying the TCDSE method in other cities across Bangladesh, the local city team is actively seeking funding from both domestic and international sources

Meanwhile, efforts are being made to expand the reach of the TCDSE approach by engaging students, professionals, and academics through seminars and conferences. To support this, the city lead has planned to deliver talks on the TCDSE framework to students from various universities, with a particular focus on those studying civil engineering, architecture, and urban planning.

In short

The community's shift in perspective on hazards and inclusion of women's voices in planning marks a transformative step in shaping their future city.

The engagement with Tomorrow's Cities has generated valuable new knowledge on urban planning concepts at the local community level, involving development authorities, academics, NGOs, and others.

One of the most notable achievements is the shift in perception within the local communities regarding hazards, the vision for their future city, and the recognition of the importance of women's voices in the planning process. They have also gained valuable knowledge on how to better prepare their homes, and the materials that should be used in construction.

The knowledge gained throughout the process has been shared widely with engineers, decision-makers, and students through seminars, television, and social media platforms, where support from various quarters has been encouraging.

The development authorities have acknowledged the effectiveness and suitability of the TCDSE approach and has decided to integrate it into their master planning efforts. Consequently, they have opted to submit a Development Project Proposal to the ministry for funding. The joint secretaries from the ministry have also recognised the TCDSE as a robust and scientifically sound method for urban planning, further influencing the development authority's commitment to this approach.



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UK Research
and Innovation



GCRF
Global Challenges
Research Fund

Up to September 2024, Tomorrow's Cities was an interdisciplinary Urban Risk Hub funded by the UK Research and Innovation (UKRI) Global Challenges Research Fund (GCRF). From 2024 onwards, Tomorrow's Cities functions as a Global Community of Practice for equitable disaster risk reduction.