

Station Note

World Café at TD 1.3

Station 1: Local leader of a rapidly growing coastal urban centre

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According to the Cross-Chapter Paper on “Cities and Settlements by The Sea” of the 2022 IPCC AR6¹, there is high probability that climate risks on coastal areas will increase due to exposure of climate and ocean driven hazards, vulnerability driven by inequality, and urban growth. Compounded and cascading climate risk, such as coastal infrastructure, human settlements, tourism, and supply chain networks are also expected to increase.

Coastal cities, therefore, are the frontline of actions to adapt to climate change, mitigate greenhouse gas emissions, and formulate climate resilient development pathways. They are the home to a concentrated (and growing) portion of the world’s population; many coastal cities are simultaneously exposed and vulnerable to climate-compounded hazards as well as being centers of creativity and innovation. In these contexts, many rely on coastal ecosystems and resources, for instance, ports, harbors, fisheries, and tourism.

Addressing these challenges requires a holistic and integrated approach that combines urban planning, sustainable development strategies, environmental conservation, and social inclusion. Collaboration between governments, international organizations, NGOs, and local communities is essential to promote balanced and resilient urban-rural coastal development. It is important to recognize the diverse needs and perspectives of stakeholders and promote multi-sectoral collaboration to achieve balanced and resilient urban-rural development in coastal regions.

¹ Glavovic, B.C., R. Dawson, W. Chow, M. Garschagen, M. Haasnoot, C. Singh, and A. Thomas, 2022: Cross-Chapter Paper 2: Cities and Settlements by the Sea. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*.

Scenario

City A - Asia

Challenge: Flooding

My city is located on the western coast of Asia region, a densely populated coastal city with a vast and intricate drainage system. The main challenge that we are facing is the frequent flooding, particularly during the monsoon season. It experiences heavy rainfall, typically lasts from June to September. Flooding poses significant risks to the city's infrastructure, public safety, and socio-economic activities. The city's geographical location, low-lying areas, rapid urbanization, and inadequate stormwater drainage infrastructure contribute to the city's vulnerability to flooding. Several factors contribute to the city's flood-prone condition:

1. **Heavy Monsoon Rainfall:** intense and prolonged monsoon rainfall, often resulting in high volumes of water entering the city's drainage system within a short period. The heavy rainfall exceeds the capacity of the existing infrastructure, leading to waterlogging and flooding in various parts of the city.
2. **Rapid Urbanization and Land Encroachment:** rapid urban growth has led to the conversion of natural drainage channels and wetlands into built-up areas. This reduction in natural drainage capacity exacerbates the risk of flooding as rainwater has limited pathways to flow away from urban areas.
3. **Inadequate Drainage Infrastructure:** drainage system struggles to cope with the volume of rainwater due to its outdated and insufficient infrastructure. The existing stormwater drains, culverts, and pumping stations are often overwhelmed during heavy rainfall, leading to water accumulation hence flooding.

Challenges:

1. **Infrastructure Damage and Disruption:** Floodwaters can damage roads, bridges, buildings, and other critical infrastructure, disrupting transportation, power supply, and communication networks. The damage caused by flooding often requires significant resources and time for repairs and recovery.
2. **Public Safety and Health Risks:** People may be stranded or trapped in flooded areas, leading to potential injuries or loss of life. Contaminated floodwaters can also increase the spread of waterborne diseases, posing health hazards to the population.
3. **Economic Impact:** Disruptions to businesses, manufacturing, and transportation networks can lead to financial losses, reduced productivity, and unemployment. Industries such as tourism, which contribute significantly to the economy, can also suffer due to the impact on infrastructure.
4. **Urban Planning and Resilience:** Ensuring appropriate land use, preserving natural drainage channels, and implementing sustainable stormwater management practices are essential for enhancing the city's resilience to flooding.

City B - Africa

Challenge: Informal Settlements

Located on the eastern coast of Africa, my city is experiencing rapid urbanization and population growth, leading to informal settlements in its coastal areas. These settlements face many challenges including inadequate housing, lack of basic services, and insecure land tenure. These challenges pose significant social, economic, and environmental issues to the city. These settlements have temporary structures/houses, overcrowding, and limited access to essential services such as clean water, sanitation, and healthcare. Factors contributing to the growth of informal settlements include:

1. **Rural-Urban Migration:** the city attracts a large influx of people from rural areas seeking economic opportunities. The lack of affordable housing options and limited formal employment opportunities often result in the establishment of informal settlements as the only available housing option for migrants.
2. **Limited Urban Planning:** the city's inability to keep up with the rapid urbanization and provide affordable housing options has led to the spontaneous growth of settlements in unplanned or unauthorized areas, including coastal zones prone to flooding.
3. **Land Tenure Insecurity:** Many informal settlers face land tenure insecurity, lacking legal rights to the land they occupy. This insecurity hinders their access to basic services, restricts their ability to invest in improvements, and increases their vulnerability to eviction and displacement.

Challenges:

1. **Inadequate Housing and Basic Services:** Informal settlers often live in substandard housing with limited access to clean water, sanitation, electricity, and healthcare. The lack of basic services contributes to poor living conditions, health risks, and reduced quality of life for residents.
2. **Environmental Degradation:** Informal settlements in coastal areas may contribute to environmental degradation, including the pollution of water bodies and destruction of natural habitats. The improper disposal of waste and lack of proper drainage systems can lead to pollution and the degradation of coastal ecosystems.
3. **Social Inequality and Exclusion:** Informal settlements are often characterized by high levels of poverty, limited social services, and social exclusion. Residents may face barriers in accessing education, employment, and other opportunities, perpetuating cycles of poverty and marginalization.
4. **Vulnerability to Natural Disasters:** Informal settlements in coastal areas are particularly vulnerable to the impacts of natural disasters, including storms, flooding, and sea-level rise. The lack of infrastructure resilience and inadequate emergency preparedness can result in increased risks and hazards for residents during such events.

City C – Latin America

Challenge: Socio-economic Inequality

Situated at the Latin America central coast region, my city is known for its bustling urban center, cultural heritage, and coastal attractions. However, it also faces the challenge of socio-economic disparities among its population, which attributed to various factors:

1. **Urban Migration:** major destination for rural migrants seeking economic opportunities. The influx of migrants from rural areas has led to the formation of informal settlements on the outskirts of the city, where access to basic services and opportunities for social mobility are limited.
2. **Informal Economy:** a considerable portion of population works in the informal economy, with low-paying jobs, limited labor rights, and a lack of social protection. Many informal workers struggle to earn a stable income, perpetuating socio-economic inequality within the city.
3. **Access to Basic Services:** disparities in access to basic services such as education, healthcare, sanitation, and clean water contribute to socio-economic inequality. Residents in informal settlements often face inadequate infrastructure and limited access to essential services compared to residents in wealthier neighborhoods.

Challenges:

1. **Limited Opportunities:** Socio-economic inequality hampers equal access to education, employment, and economic opportunities. Residents from marginalized communities, especially those in informal settlements, face significant barriers in accessing quality education and formal employment, hindering social mobility and perpetuating inequality.
2. **Housing and Living Conditions:** The informal settlements are characterized by substandard housing conditions, overcrowding, and inadequate access to basic services. Many residents lack secure land tenure and live in precarious housing, exacerbating socio-economic disparities and creating challenges related to health, safety, and well-being.
3. **Health Disparities:** Residents in marginalized communities often face challenges in accessing quality healthcare facilities, leading to higher rates of preventable diseases, limited access to health services, and reduced life expectancy compared to wealthier neighborhoods.
4. **Social Exclusion and Marginalization:** Residents from disadvantaged backgrounds may face discrimination, limited social integration, and reduced access to social and cultural opportunities, leading to social fragmentation within the city.

City D – Europe

Challenge: Coastal Erosion

My city is located on the northeastern coastal region of Europe, popular for its beautiful sandy beaches. The city's coastline attracts tourists, residents, and recreational activities. However, the city's coastal faces the challenge of erosion. This phenomenon poses significant threats to the city's coastal infrastructure, beaches, and natural ecosystems. The erosion caused gradual wearing away and loss of coastal land due to natural processes such as wave action, storms, and sea-level rise.

1. **Wave Action:** coastline is exposed to wave energy which impacting to shore erosion, particularly during storms or periods of intense wave activity.
2. **Sea-Level Rise:** as sea levels gradually rise, coastal erosion is exacerbated, leading to the loss of valuable land and infrastructure along the shoreline.

Challenges:

1. **Infrastructure Vulnerability:** Over time, erosion can undermine the stability of buildings, roads, and utilities located near the shoreline and compromise their functionality and safety.
2. **Beach Loss and Tourism Impact:** Coastal erosion threatens the integrity and width of these beaches, impacting tourism revenue and recreational activities that rely on beach access.
3. **Ecological Impact:** Coastal erosion disrupts these ecosystems, leading to habitat loss, reduced biodiversity, and decreased ecosystem services.

Questions to Advisors for all city cases:

Together with my city planning department, we are preparing an Integrated Coastal Zone Management strategy as a comprehensive solution for the above challenges. The goal is to achieve sustainable and balanced development while preserving the coastal ecosystem and improving community livelihoods.

As an experienced practitioner, can you advise me:

- a) What would you advise me to include in this Integrated Coastal Zone Management strategy?
- b) Which of the challenges that you think the most urgent for me to address?
- c) Which sectors, agency, and institutions would you engage, and why?
- d) How would you secure national / state government support including the cross sectoral agencies?
- e) How to mainstream the strategy into your city development plan?
- f) How will you finance the implementation of this strategy?
- g) Can you suggest other strategy that you think more suitable to my city?
- h) How to ensure equity and justice?
- i) Introduce co-benefits on mitigation and adaptation, such as nature-based solutions?
- j) What responses beyond the limits of an integrated coastal management strategy should you consider to comprehensively manage risks?
 1. Safety net
 2. Diversification of the economy
 3. Retreat / migration?