International Panel on Deltas and Coastal Areas - IPDC

Online Session: Integrating Disaster Risk Reduction and Climate Change Adaptation

Moderated by

Annegien Tijssen

30 October 2024

Speakers and Agenda

Annegien Tijssen

Moderator

Mr. Carlos Uribe

Global political landscape

Prof. Dr. Philip Ward

Common challenges and good practices

Prof. Dr. Antonio Carmona Báez

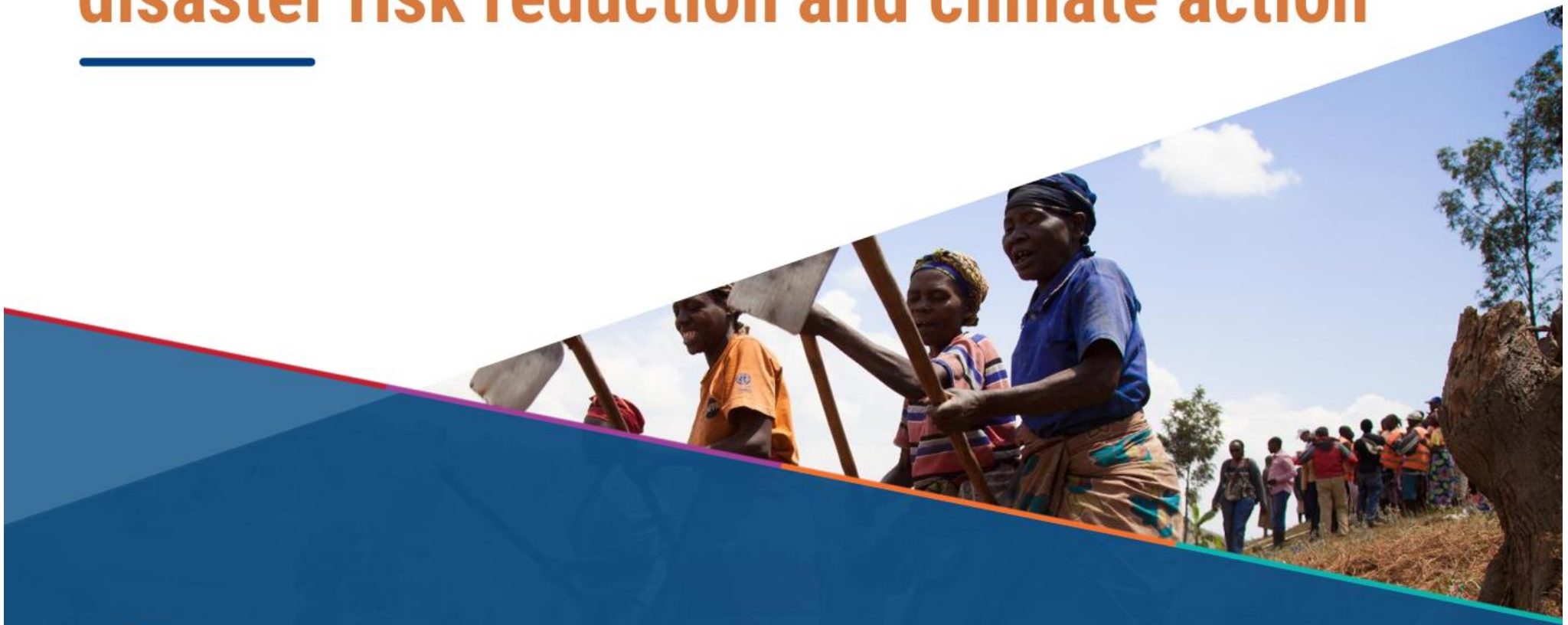
Lysanne Charles

Case study St Martin

Nishchal Sardjoe

Case study Indonesia

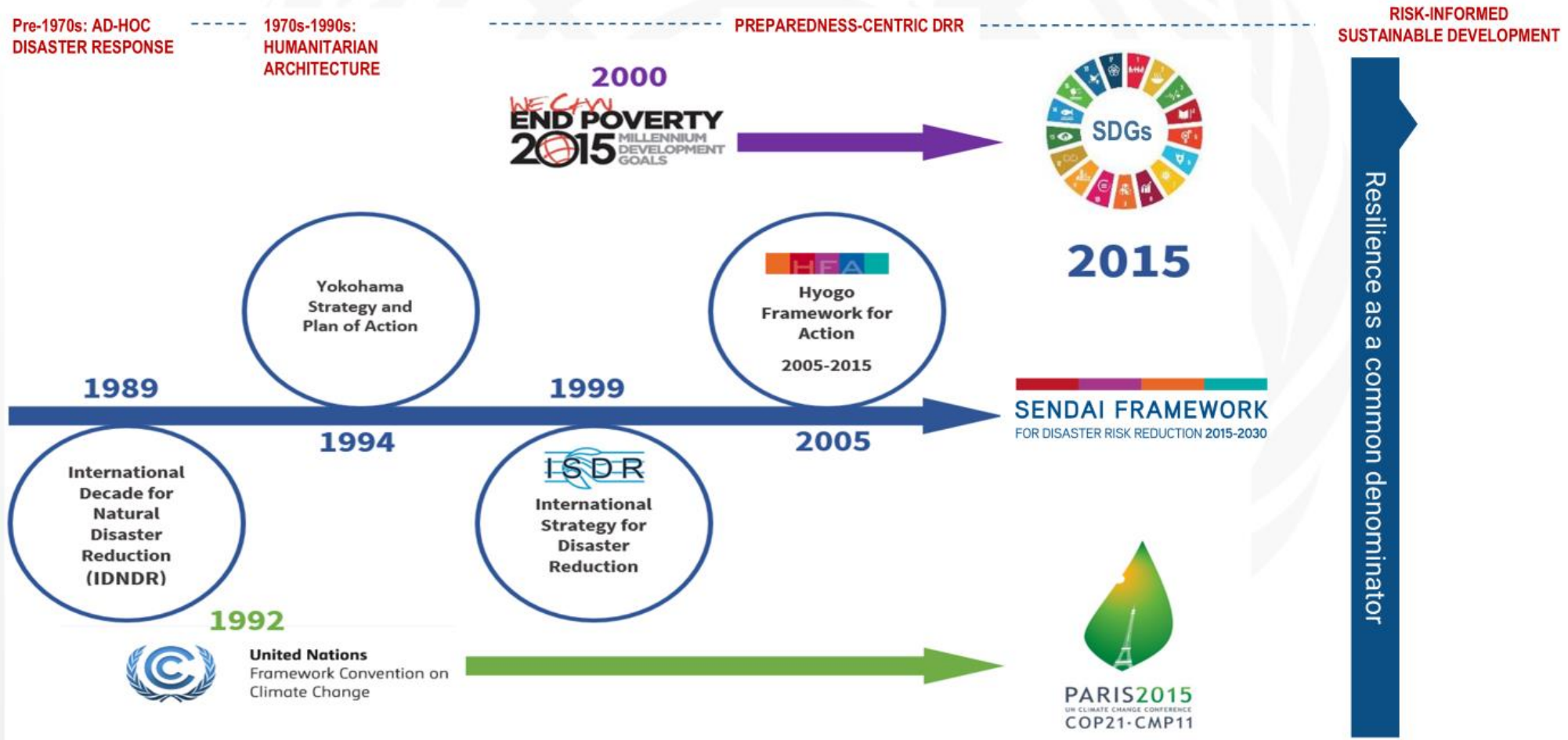
Global policy context on disaster risk reduction and climate action



UNDRR
UN Office for Disaster Risk Reduction

SENDAI FRAMEWORK
FOR DISASTER RISK REDUCTION 2015-2030

30 years of global disaster risk governance



Periodic review in progress

Midterm Review of the Sendai Framework (2023)

- **Offtrack** to achieving goal, with increasing impact from climate and weather-related events
- Recognized **siloed approaches** that **limit integration of risks**
- Noted increase in **risk information** in decision making but acknowledged need for **improved coordination** mechanisms

Global Stocktake of the Paris Agreement (2023)

- Not on track in fulfilling its objective
- **Fragmented**, incremental, sectoral and unequal adaptation action
- Call made "to improve **coherence and synergies** between efforts pertaining **to DRR**, humanitarian assistance, …"

The rationale for synergy

- The 1.5°C target of the Paris Agreement is already an unsafe world
  - A post 1.5°C world will lead to unmanageable disaster risks, accelerate hazard events, and systemic impacts
- Climate change is an underlying risk driver, is rapidly shifting the risk landscape, and revealing systemic vulnerabilities
- Disasters reduce adaptive capacity to climate change
- Risk-blind adaptation can create new risk and result in maladaptation
  - Adaptation options that are feasible today will be less effective in the future
- Climate change and disasters are reinforcing inequalities, social dislocations, and reversing development gains.

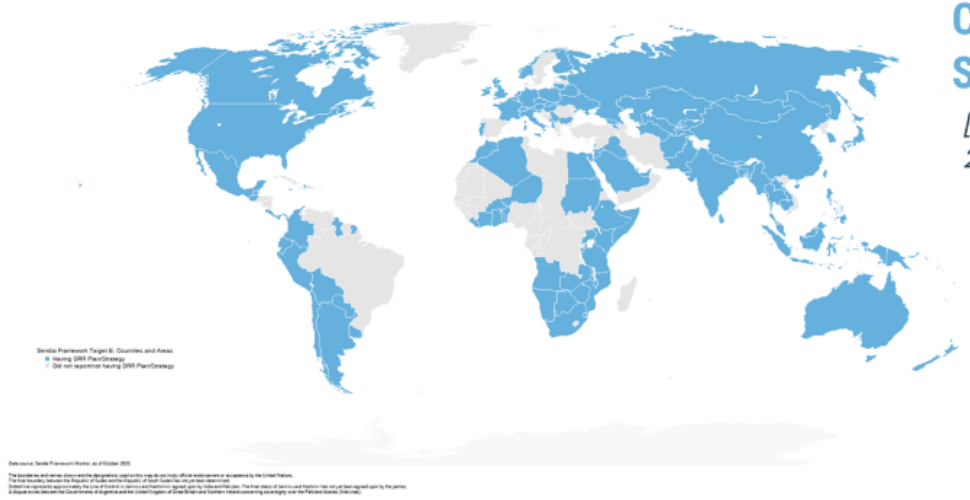
Risk reduction cannot occur without the use of climate information; climate change action will not be successful without risk reduction

National policy and planning landscape

- 2/3rd of the countries in the world now have a DRR strategy
- Only 1/4th have a NAP
- GGA calls for all countries to have a NAP by 2030

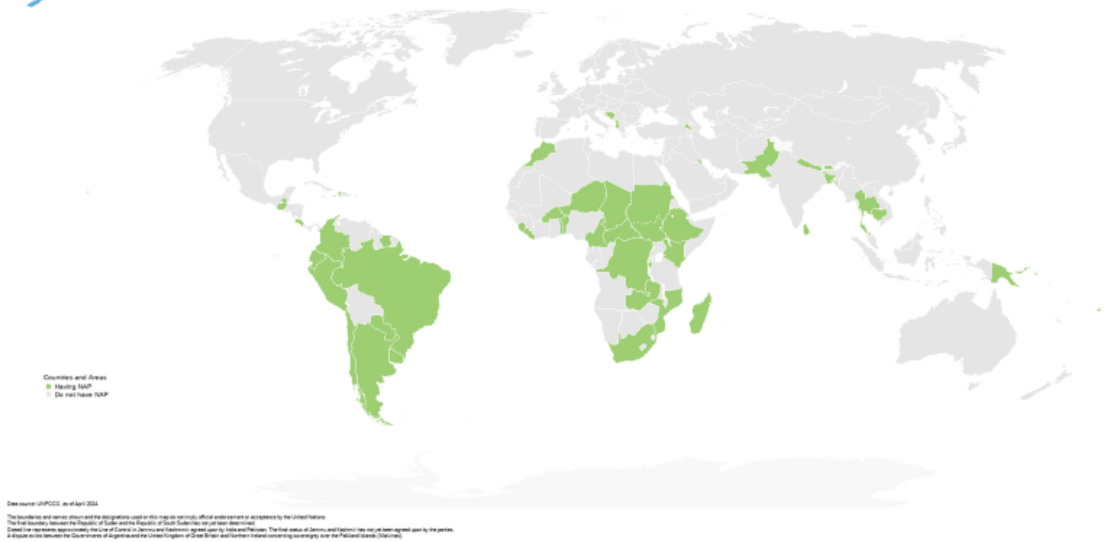
Countries with National DRR Strategies

[As of 31 Dec 2023]

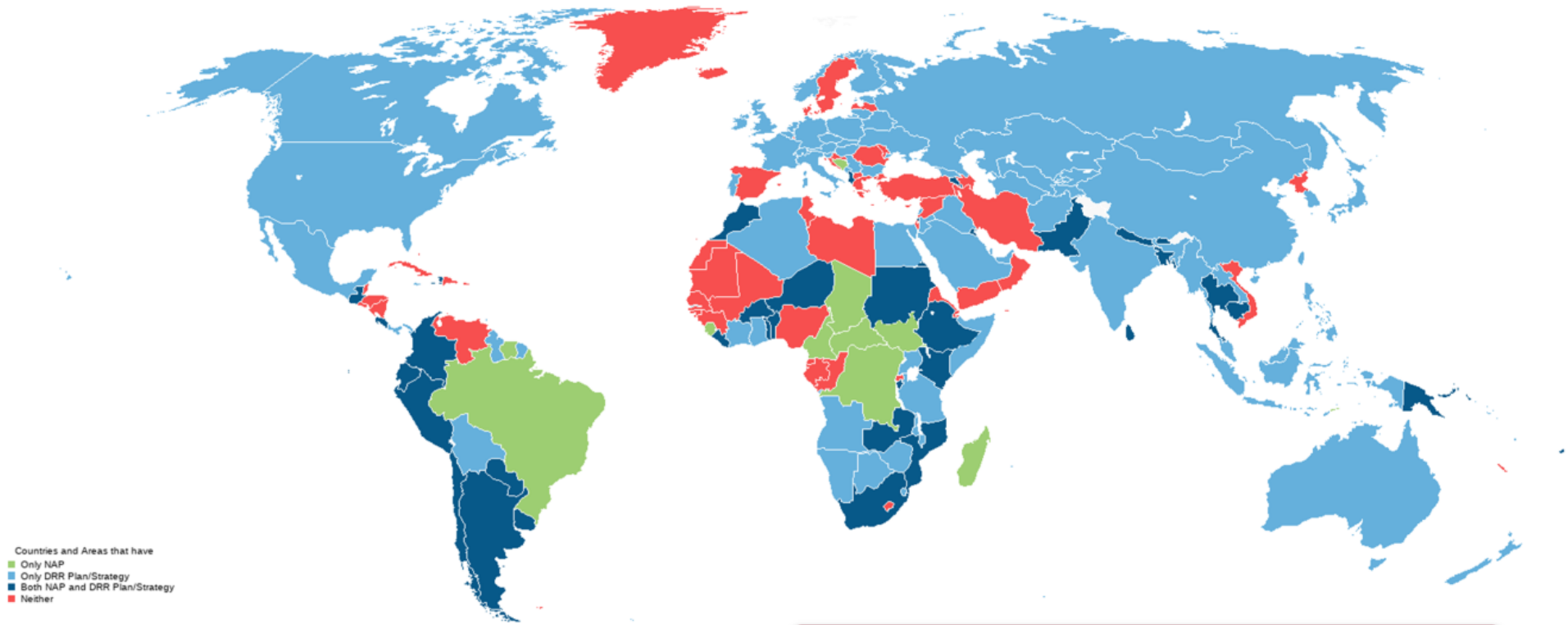


Countries with National Adaptation Plans

[As of 18 April 2024]



National policy and planning landscape



Data source: UNFCCC, and Sendai Framework Monitor.

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
The final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.
Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.
A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

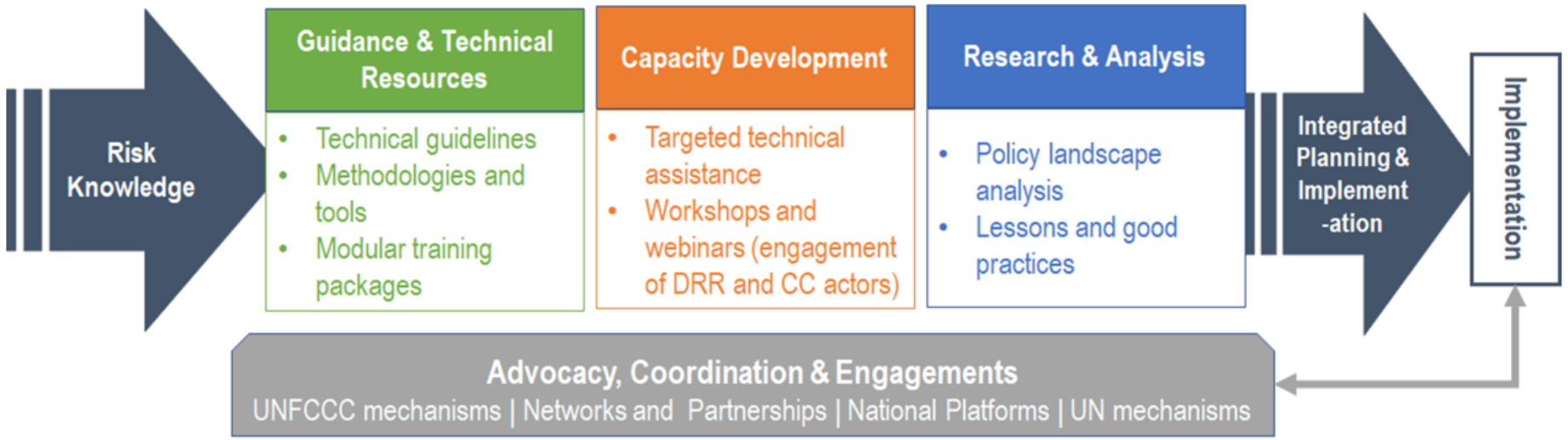
THE POLICY IMPERATIVE

Co-create | **Expand** | **Co-implement**

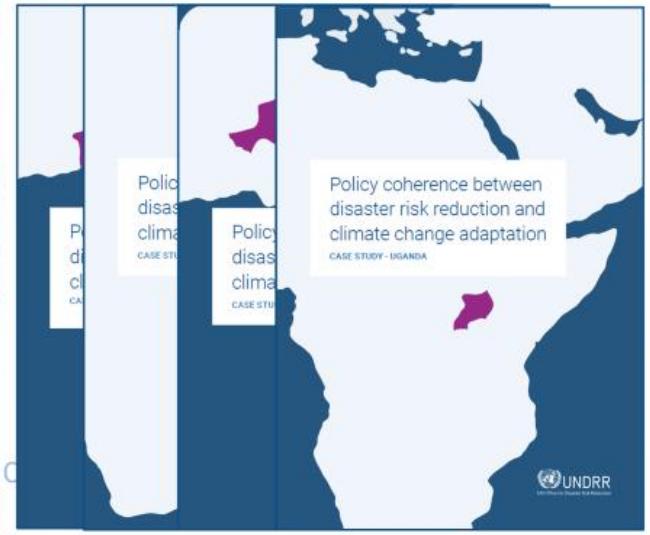
Value of an integrated approach

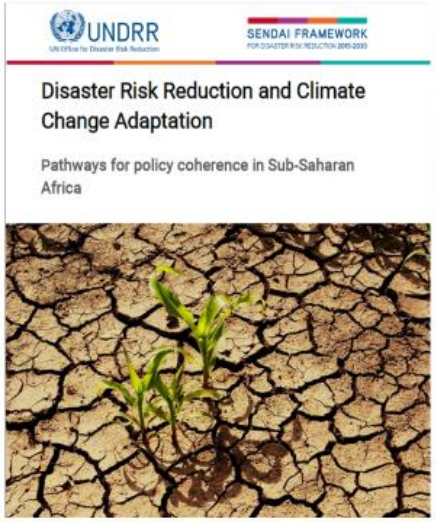
- Amplification of resilient outcomes
  - Integrated approach reduces siloes and enhances reduction in impact from complex and compound disasters
  - Fosters sustainable development beyond just a climate or DRR-centric lens
- Greater efficiency in the use of limited resources
  - Human, financial, technology
- Streamlined planning and implementation of activities
  - Across plans, programmes, strategies
- Covers the short- to long-terms in reducing the impact from climate-related and other hazards
- Benefits from wider range of expertise

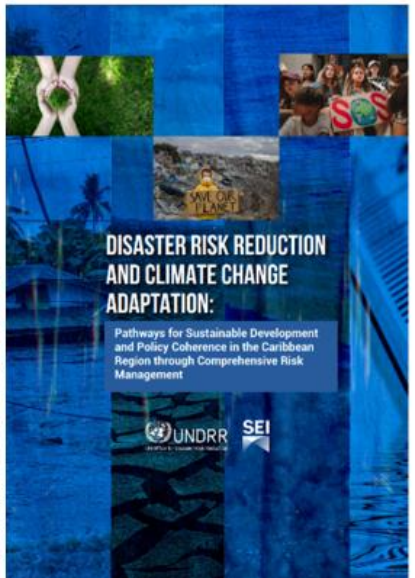
UNDRR's comprehensive risk management approach



UNDRR CRM tools and products

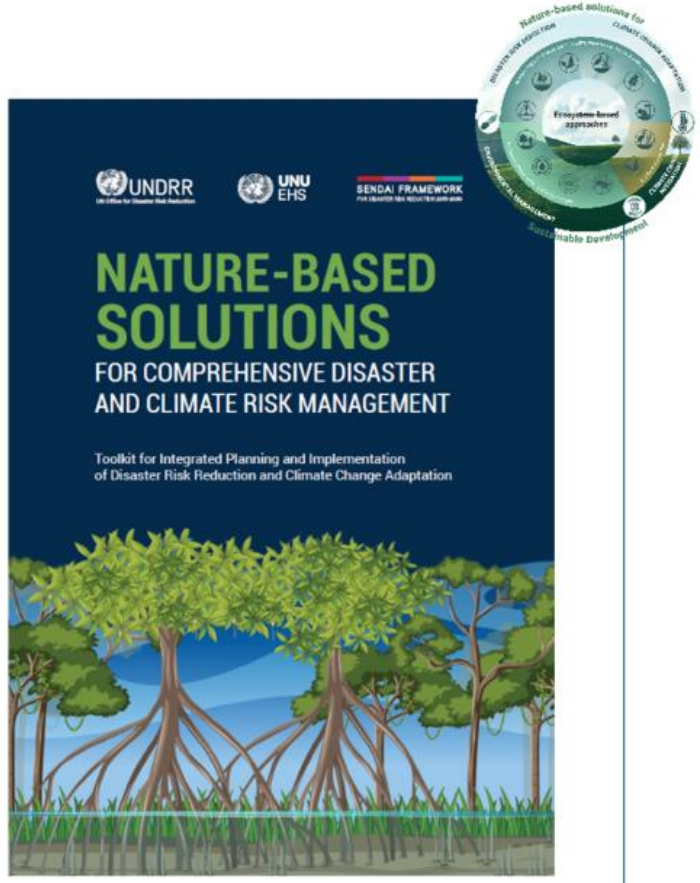






Other Resources

Extending CRM to sectors



CRM Toolkit on nature-based solutions *(UNU-EHS, UNDRR)*

FOOD SYSTEMS SUMMIT 2021 COMMUNITY

Commitment to Action [FAO, UNDRR]
CRM for Food Systems Resilience

CRFS ALLIANCE

Forthcoming:

CRM Issue brief on agri-food systems resilience *(CRFS, UNDRR, CGIAR)*

Forthcoming:

CRM Supplemental Guide for Developing or Updating DRR Strategies *(WHO, UNDRR)*

Technical Assistance to developing countries

SUSTAINABLE DEVELOPMENT GOALS

www.undrr.org/crm

Thank you

UNDRR
UN Office for Disaster Risk Reduction

SENDAI FRAMEWORK
FOR DISASTER RISK REDUCTION 2015-2030

Concepts of DRR and CCA

Definitions of DRR and CCA

- DRR is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and, therefore, to the achievement of sustainable development (UNDRR, 2022)

- CCA is the process of adjustment to the actual or expected climate and its effects so as to moderate harm or exploit beneficial opportunities. CCA also includes the adjustment of natural systems to current and future climate and its effects, and the role of human intervention to facilitate it. (IPCC, 2022)

- Common misconception:
  - DRR as a field strictly connected to the short and mid-term
  - CCA as something that only addresses the long-term

The need for synergy
Adverse impacts of DRR-CCA silos

- **Risk-blind planning can result in maladaptation and new risks**
  - e.g. coastal ecosystems destroyed by constructing dikes and seawalls
  - e.g. flood-proof building on poles collapsing in earthquake risk area

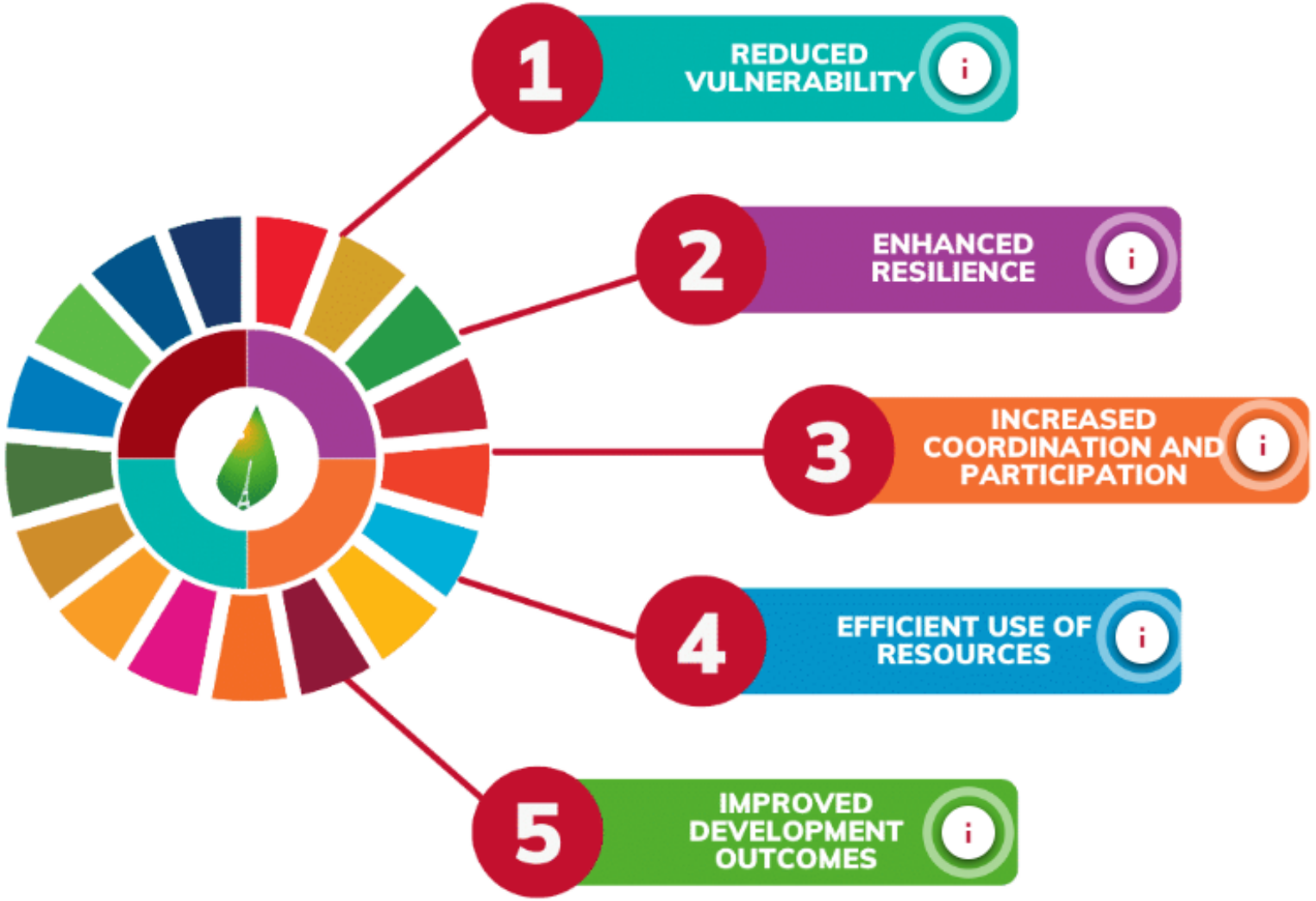
- **Suboptimal utilisation of funds**:
  - E.g. by 2020 US$160-340 billion will be needed to fund adaptation (UNEP, 2022)…
  - …yet from 2010-2019, only 0,5% of disaster-related ODA allocated to DRR (UNDRR, 2021)

- **Duplication**
  - Parallel approaches create duplication of tasks and assessments, overburdening capacity and creating inefficiencies.

- **Increased vulnerability, exposure and inequality**
  - Nothing undermines development like disasters.
  - Disasters disproportionally affect poor
  - When disaster strikes can lose everything they own
  - Cannot eradicate poverty if we do not reduce disaster risk & cannot reduce disaster risk without addressing poverty

Adapted from UNDRR Thought Leadership Course Synergizing Disaster Risk Reduction and Climate Change

The need for synergy
… Key benefits of enhanced synergies



Source: UNDRR Thought Leadership Course Synergizing Disaster Risk Reduction and Climate Change

Bottlenecks & challenges

- Limited data or information
- Limited resources
- Limited community engagement
- Inadequate coordination
- Institutional mandates / roles not always conducive to collaboration
- Horizontal linkages among ministries often not clear (e.g. between those responsible for coordination vs. sectoral implementation)
- Vertical linkages from central ministries and local authorities and communities often not streamlined
- Implementation is directly reliant on adequate funding and clear rules for the allocation of resources

Adapted from UNDRR Thought Leadership Course Synergizing Disaster Risk Reduction and Climate Change

Good practices

- **Scope**:
  - Build institutional arrangements that will support an integrated approach in the long term
- **Information**:
  - Improve information sharing across the silos
  - Wherever possible include disaggregated data on gender, disabilities, socio-cultural, economic backgrounds, etc.
- **Vulnerable communities**:
  - Include most at-risk communities in the planning process.
  - Ensure that their needs are heard and their knowledge leveraged
- **Leadership**:
  - Appoint focal points across different governance levels and departments
  - Foster political will and encourage local ownership of coordination and integration

Adapted from UNDRR Thought Leadership Course Synergizing Disaster Risk Reduction and Climate Change

The need for synergy
Recommended online course

Thought Leadership Course: Synergizing Disaster Risk Reduction and Climate Change Adaptation

In this thought leadership module, developed in partnership with the UN Office for Disaster Risk Reduction (UNDRR), you will explore the fundamental aspects of harnessing Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) synergies and the lessons learnt by those who are at the forefront of comprehensive disaster and climate risk management.

Register for the course

[Video Antonio]

Building Resilience: Integrating Disaster Risk Reduction and Climate Adaptation in Urban Indonesia

Nishchal Sardjoe

Urban Resilience

Country Manager Deltares Indonesia

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30 October 2024

Focusing on Cities

- **Economic and Social Impact:** Cities drive over 70% of Indonesia's GDP, meaning that disruptions from disasters have significant economic and social costs, affecting livelihoods and deepening inequality.
- **Urban Resilience as a National Priority:** The Indonesian government has prioritized resilient city initiatives to enhance sustainability, reduce risk, and support adaptive capacity against climate impacts.
- **Opportunities for Innovation in Urban Settings:** Urban areas allow for innovative DRR and Climate Adaptation solutions, such as Nature-Based Solutions, resilient infrastructure, and early warning systems, which can be scaled nationally.

Designing Flood Resilient Cities: Integrated Approaches for Sustainable Development

Deltares

Kementerian Bappenas

GFDRR
Global Facility for Disaster Reduction and Recovery

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

Deltares

KOTA KITA
A CITY FOR ALL

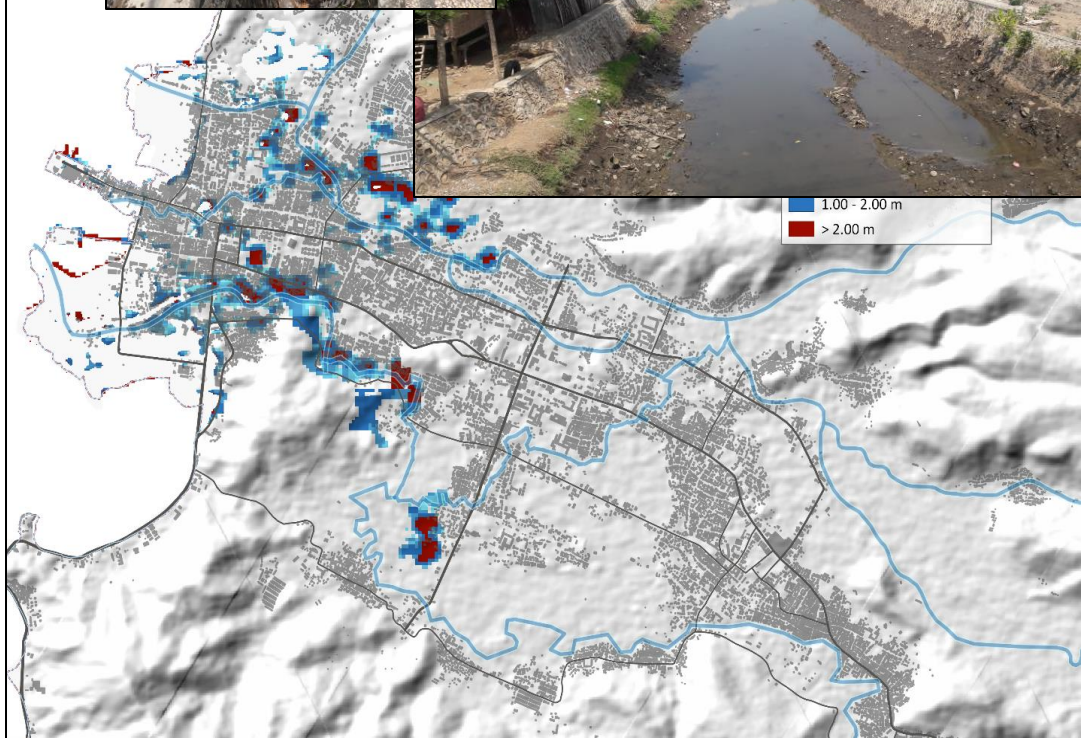
wiratman

one architecture

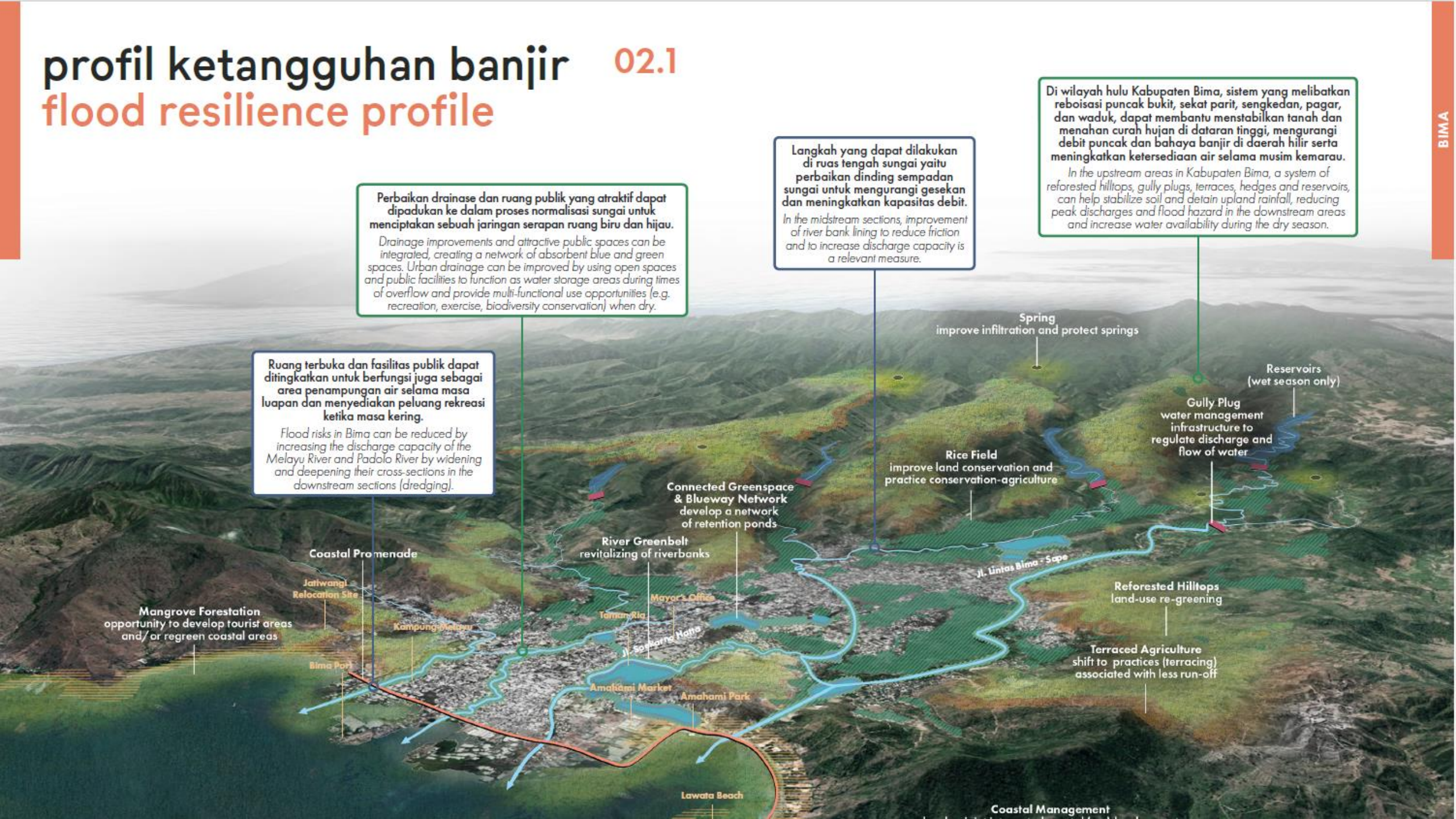
Building Blocks of our Approach

Flood risk and climate adaptation challenges

- At present: mainly fluvial and pluvial risks
- Upstream land-use changes have led to high discharge peaks and high sediment load of the rivers (extreme example: 2016 flood)
- **Within the city:**
  - Degraded downstream embankments
  - Insufficient discharge capacity in the rivers
  - Urban drainage system requires upgrading and maintenance
  - Coastal urbanization, yet without sound protection
- **Threats:**
  - Sea level rise and continued coastal urbanisation without protection
  - Continued land conversion and deforestation upstream, leading to higher discharges and sediment loads
  - Unmaintained urban drainage system
  - Annual expected damages (fluvial flooding) estimated to increase from 1.5 to 12 million USD/year in 'business as usual' scenario without measures
- **Opportunities:** coastal area investments, tourism



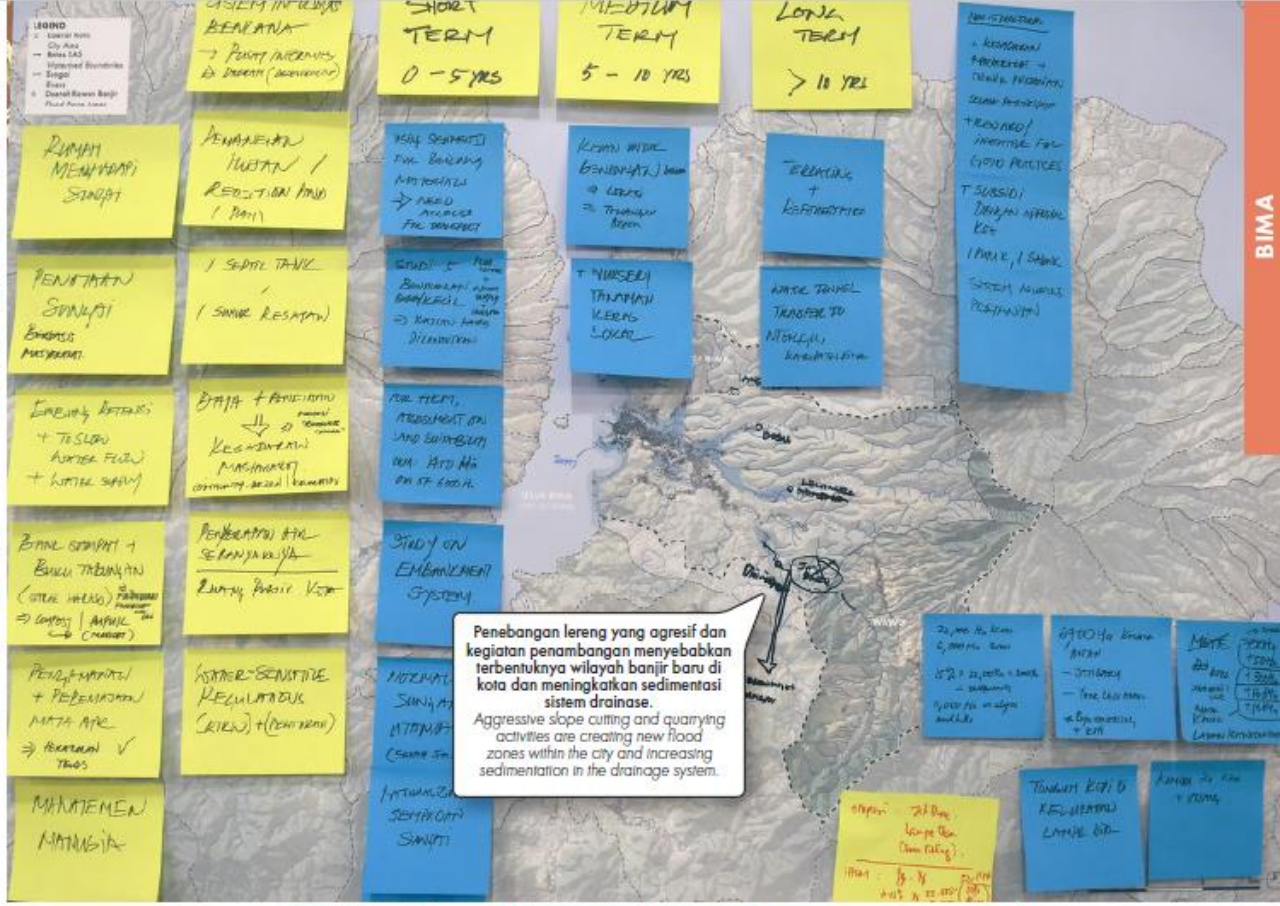
profil ketangguhan banjir 02.1
flood resilience profile



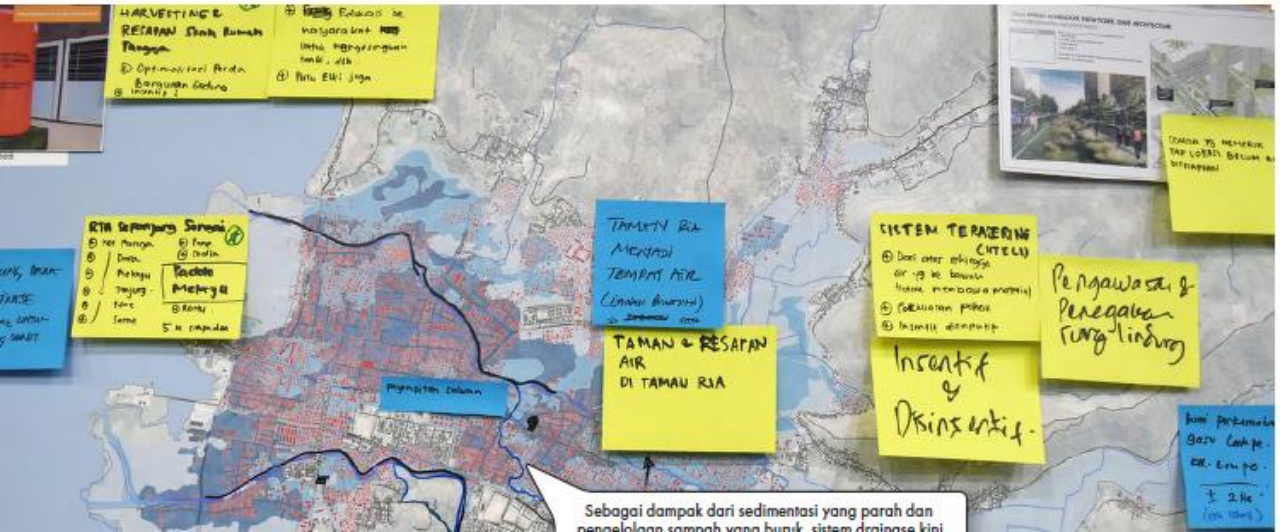
MASUKAN-MASUKAN DARI PARA PEMANGKU KEPENTINGAN

STAKEHOLDER INPUTS

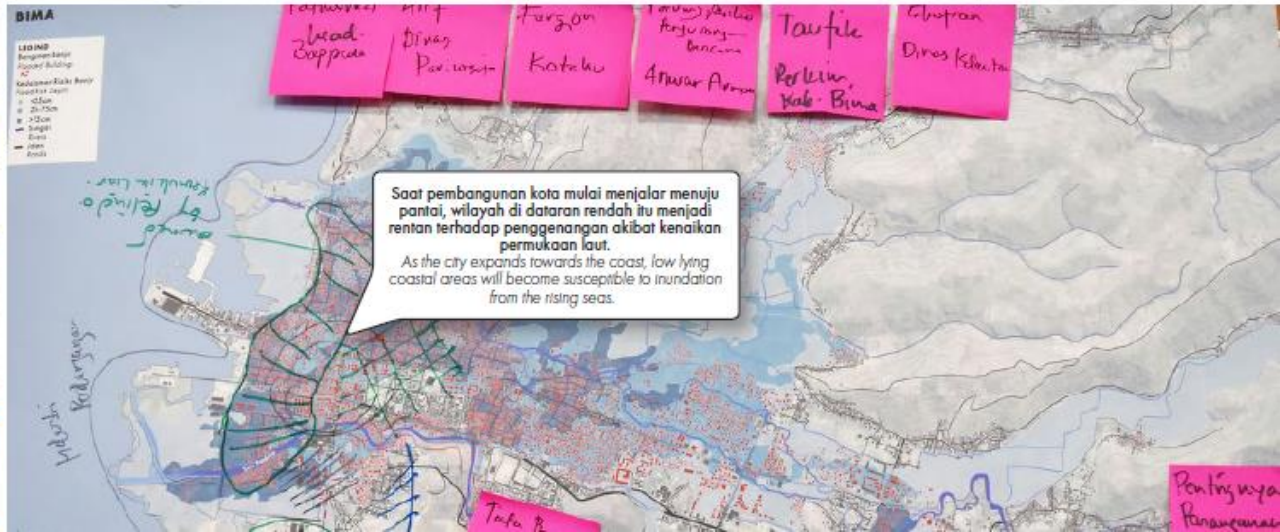
Penebangan hutan dan pertanian agresif mengakibatkan penurunan kapasitas retensi air dan mempercepat sedimentasi. Hal ini memperparah banjir bandang dan meningkatkan usaha yang diperlukan untuk mempertahankan sistem drainase di hilir.
Deforestation and aggressive farming results in reduced water retention capacity, increased erosion, and accelerated sedimentation. This exacerbates flash floods and requires increases efforts in maintaining drainage systems downstream.



Penebangan lereng yang agresif dan kegiatan penambangan menyebabkan terbentuknya wilayah banjir baru di kota dan meningkatkan sedimentasi sistem drainase.
Aggressive slope cutting and quarrying activities are creating new flood zones within the city and increasing sedimentation in the drainage system.

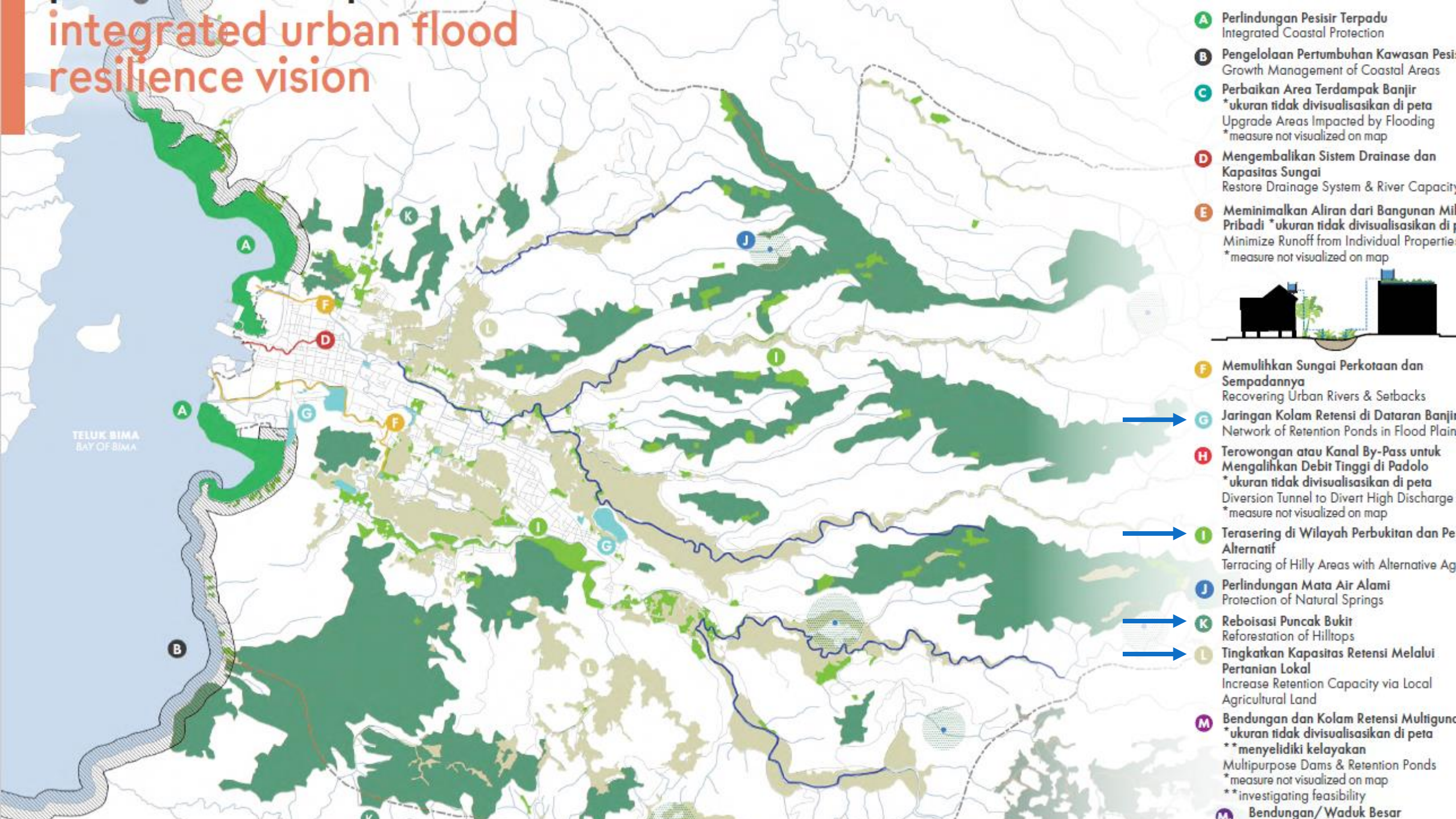


Sebagai dampak dari sedimentasi yang parah dan pengelolaan sampah yang buruk, sistem drainase kini



Saat pembangunan kota mulai menjalar menuju pantai, wilayah di dataran rendah itu menjadi rentan terhadap penggenangan akibat kenaikan permukaan laut.
As the city expands towards the coast, low lying coastal areas will become susceptible to inundation from the rising seas.

integrated urban flood resilience vision



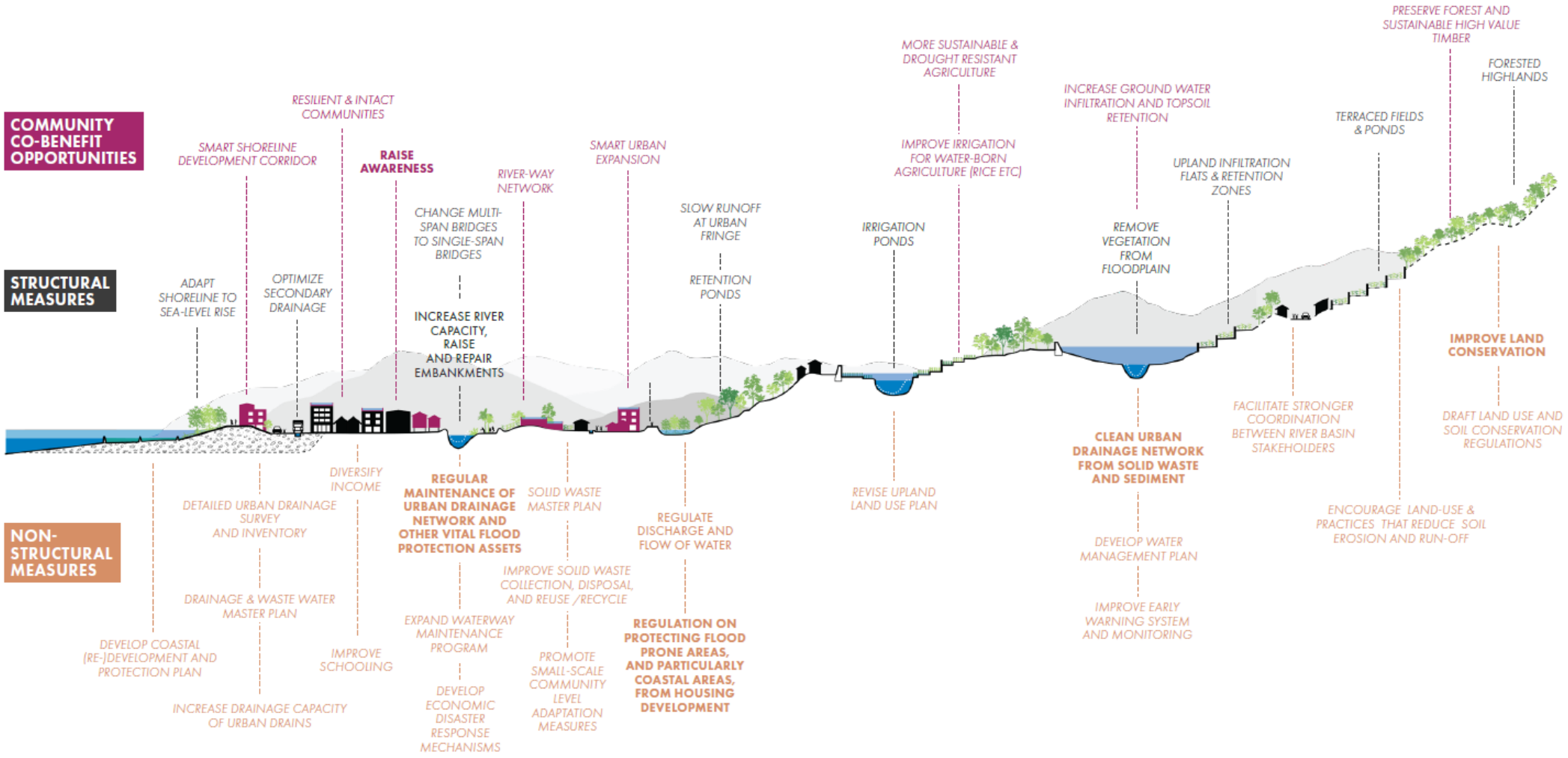
- **Perlindungan Pesisir Terpadu**
  Integrated Coastal Protection
- **Pengelolaan Pertumbuhan Kawasan Pesi**
  Growth Management of Coastal Areas
- **Perbaikan Area Terdampak Banjir**
  ***ukuran tidak divisualisasikan di peta**
  Upgrade Areas Impacted by Flooding
  *measure not visualized on map
- **Mengembalikan Sistem Drainase dan Kapasitas Sungai**
  Restore Drainage System & River Capacity
- **Meminimalkan Aliran dari Bangunan Mil Pribadi *ukuran tidak divisualisasikan di p**
  Minimize Runoff from Individual Properties
  *measure not visualized on map

- **Memulihkan Sungai Perkotaan dan Sempadannya**
  Recovering Urban Rivers & Setbacks
- **Jaringan Kolam Retensi di Dataran Banji**
  Network of Retention Ponds in Flood Plain
- **Terowongan atau Kanal By-Pass untuk Mengalihkan Debit Tinggi di Padolo**
  ***ukuran tidak divisualisasikan di peta**
  Diversion Tunnel to Divert High Discharge
  *measure not visualized on map
- **Terasering di Wilayah Perbukitan dan Pe Alternatif**
  Terracing of Hilly Areas with Alternative Ag
- **Perlindungan Mata Air Alami**
  Protection of Natural Springs
- **Reboisasi Puncak Bukit**
  Reforestation of Hilltops
- **Tingkatkan Kapasitas Retensi Melalui Pertanian Lokal**
  Increase Retention Capacity via Local Agricultural Land
- **Bendungan dan Kolam Retensi Multiguna**
  ***ukuran tidak divisualisasikan di peta**
  ****menyelidiki kelayakan**
  Multipurpose Dams & Retention Ponds
  *measure not visualized on map
  **investigating feasibility
- **Bendungan/ Waduk Besar**

VISI KETAHANAN BANJIR TERPADU
INTEGRATED FLOOD RESILIENCE VISION

02.2.2

Bringing together the identified opportunities and measures to address the existing underlying flood problems leads to an integrated vision to improve flood resilience. Building blocks are defined for the four identified key physical domains in which many of the root causes that underpin the current and future flood problems can be found. Together, these building blocks form an integrated vision which can address the various current and future flood problems sustainably, and improve (urban) flood resilience significantly.

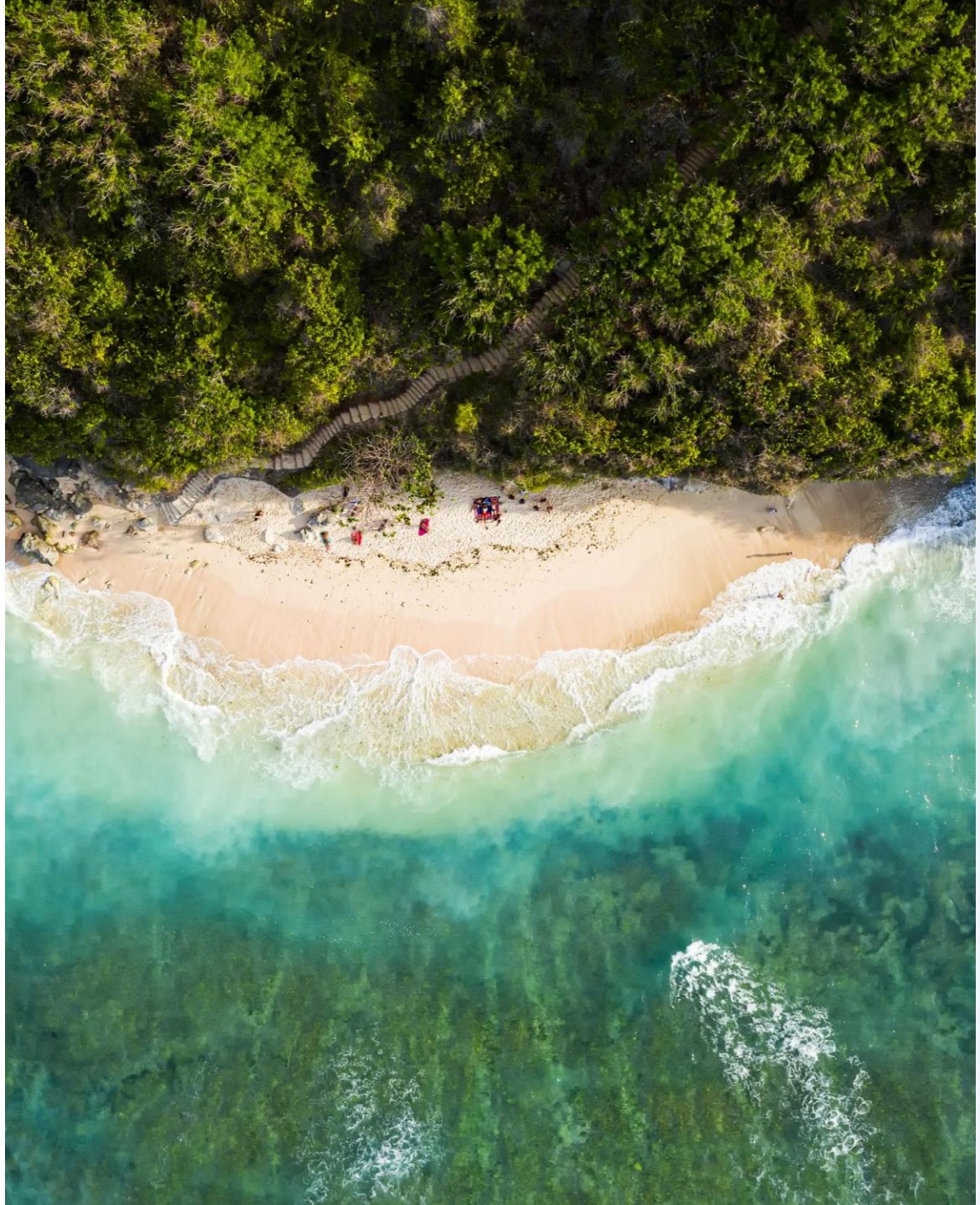


Lessons Learned

- **Integrated, Multi-Stakeholder Coordination:** effective alignment among national, regional, and local agencies ensured that urban flood challenges were addressed comprehensively, fostering shared ownership and accountability.

- **Emphasis on Capacity Building and Local Ownership:** investing in local capacity empowered Indonesian agencies to take ownership, strengthening program execution and ensuring sustainability of flood resilience measures.

- **Flexible, Adaptive Project Design:** the program's flexibility allowed for adjustments to changing urban conditions and community needs, maintaining relevance and achieving better resilience outcomes.



Lessons Learned

- **Data-Driven Decision-Making and Knowledge Sharing:** using data for risk assessment led to targeted interventions in high-risk areas, while knowledge-sharing platforms promoted best practices across cities, increasing national impact.

- **Importance of Sound Technical Preparatory Work:** comprehensive preparatory assessments (e.g., hazard mapping, hydrological modeling) provided a solid foundation for targeted and effective interventions, supporting efficient decision-making and resource use.


“Embrace complexity: strategically align DRR and climate adaptation efforts to build resilience in our rapidly changing urban landscapes”

Contact

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