



Sustainable Infrastructure Development Strategies (SIDS) for SIDS

ASIA-PACIFIC JUDICIAL CONFERENCE ON
CLIMATE CHANGE ADJUDICATION:
TRENDS AND IMPACTS

7–8 October 2019
Nadi, Fiji

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Outline



- The sustainability challenge
- Increasing response to environment degradation and climate change
- Total Asset Management approach
- Core problems and sustainable solutions for coastal cities
- Examples highlighting role of judges and rule of law
- Key takeaways

The 2030 Agenda for Sustainable Development aspires to a world ...

- Free of poverty with No One Left Behind
- **Able to support the needs of the present and future generations**
- Where ALL are in the journey together.





Sustainable Infrastructure development: An imperative for livability

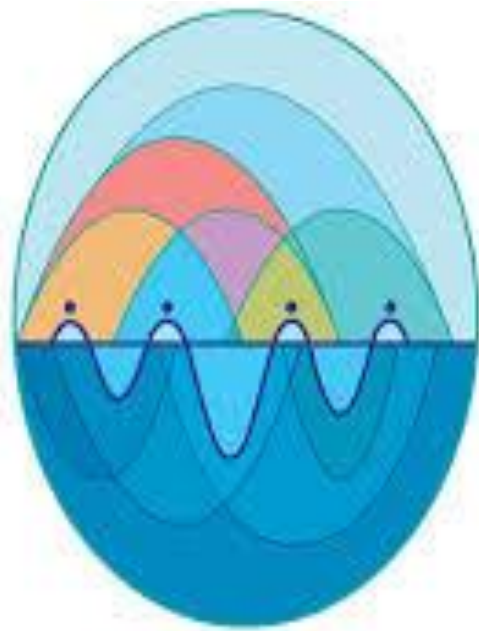


Livability Triangle

“L A W”

The SAMOA Pathway

The SIDS Accelerated Modalities of Action (S.A.M.O.A) Pathway



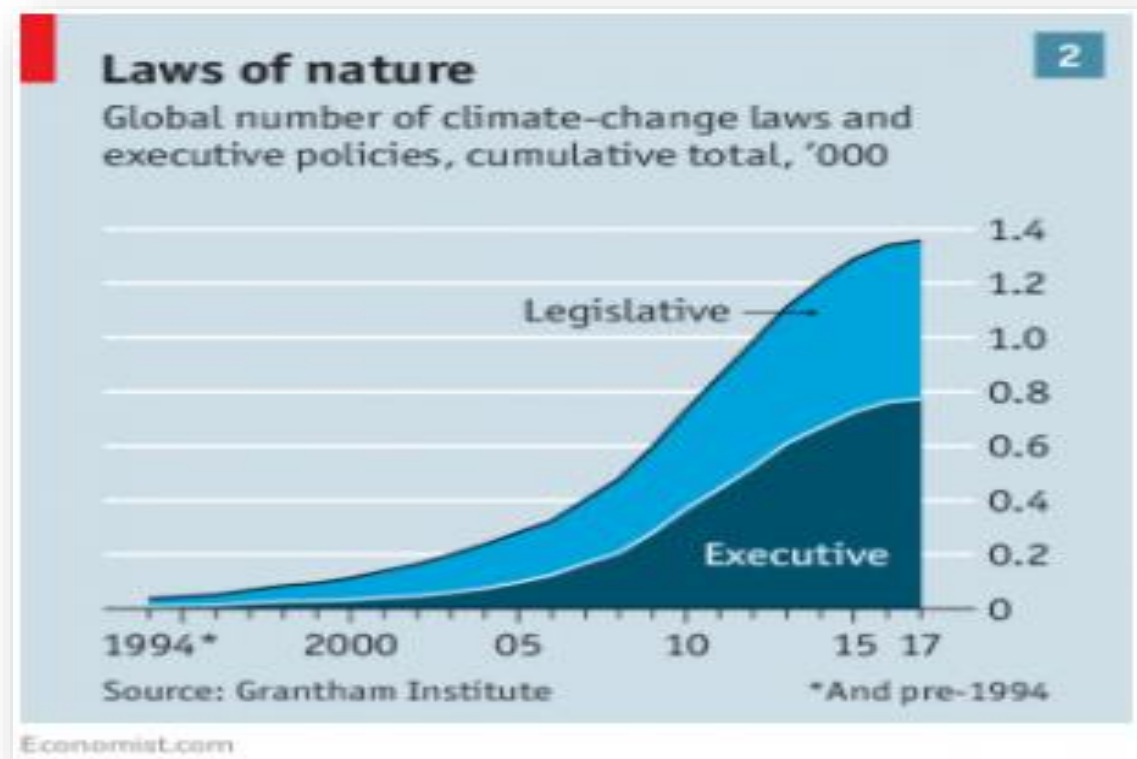
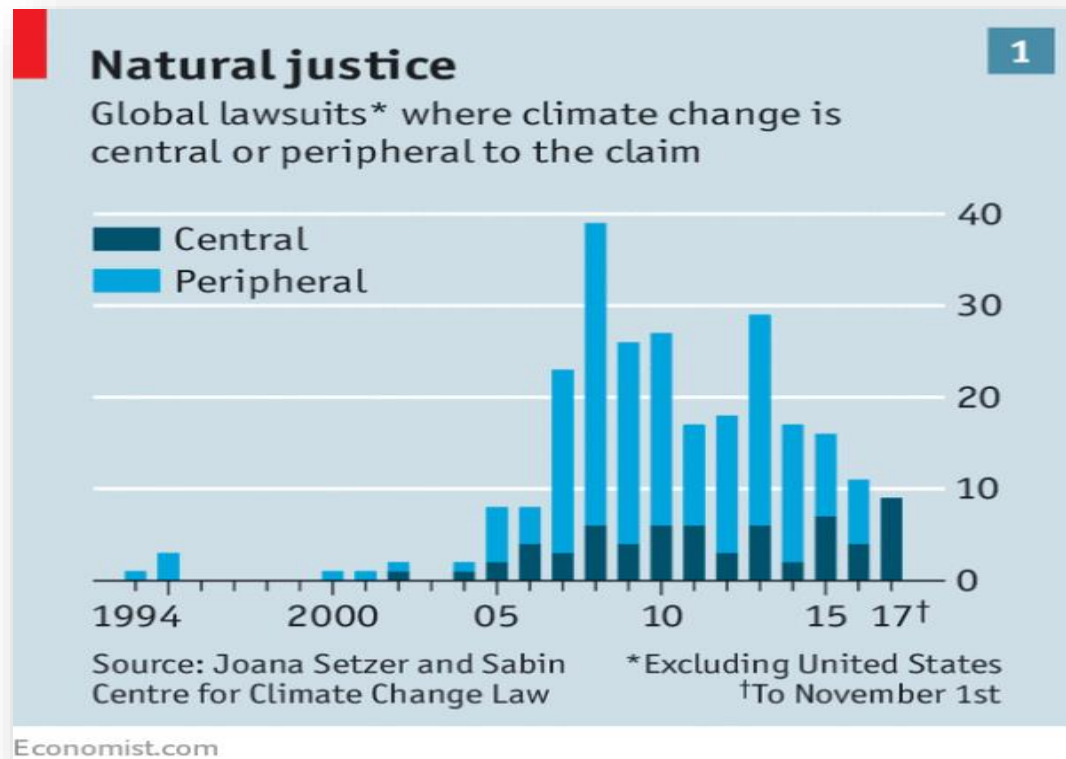
International Year of
Small Island
Developing States
— 2014 —

Prioritizing SIDS

- **International framework**
- **Outcome of the Third International Conference on SIDS in September 2014 in Apia, Samoa.**
- **Mid-term review in 2019**
- **SIDS Partnership Framework Of 300 partners**

Judicial Response to Climate Change is increasing

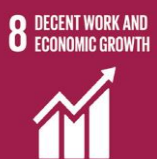
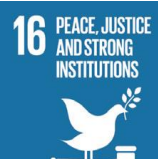
- Growing volume of climate-related commitments where governments can be held to account
- Advances in climate science
- Globally, the number of national climate change laws and policies has swelled from around 60 in 1977 to nearly 1400.



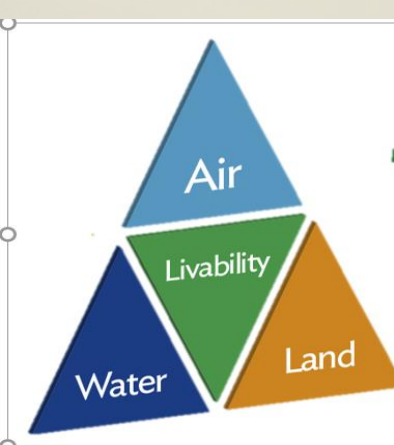
The Urban
Challenge
in SIDS



The Environment and Climate Change Conundrum



Complex Data (butleranalytics.com)



Total Asset Management Resilient Coastal Cities



Funds

Operation and Maintenance
Costs of environment and climate risks
Urban management partnerships (UMP)
Community participation & monitoring

City vision

Institutional Capacity

Resources (human, financial)

Policy and Plans

Operation and Maintenance

City development strategy

Built assets & natural assets

Optimum design solutions

Environment, climate and social
impacts assessments

Planning and

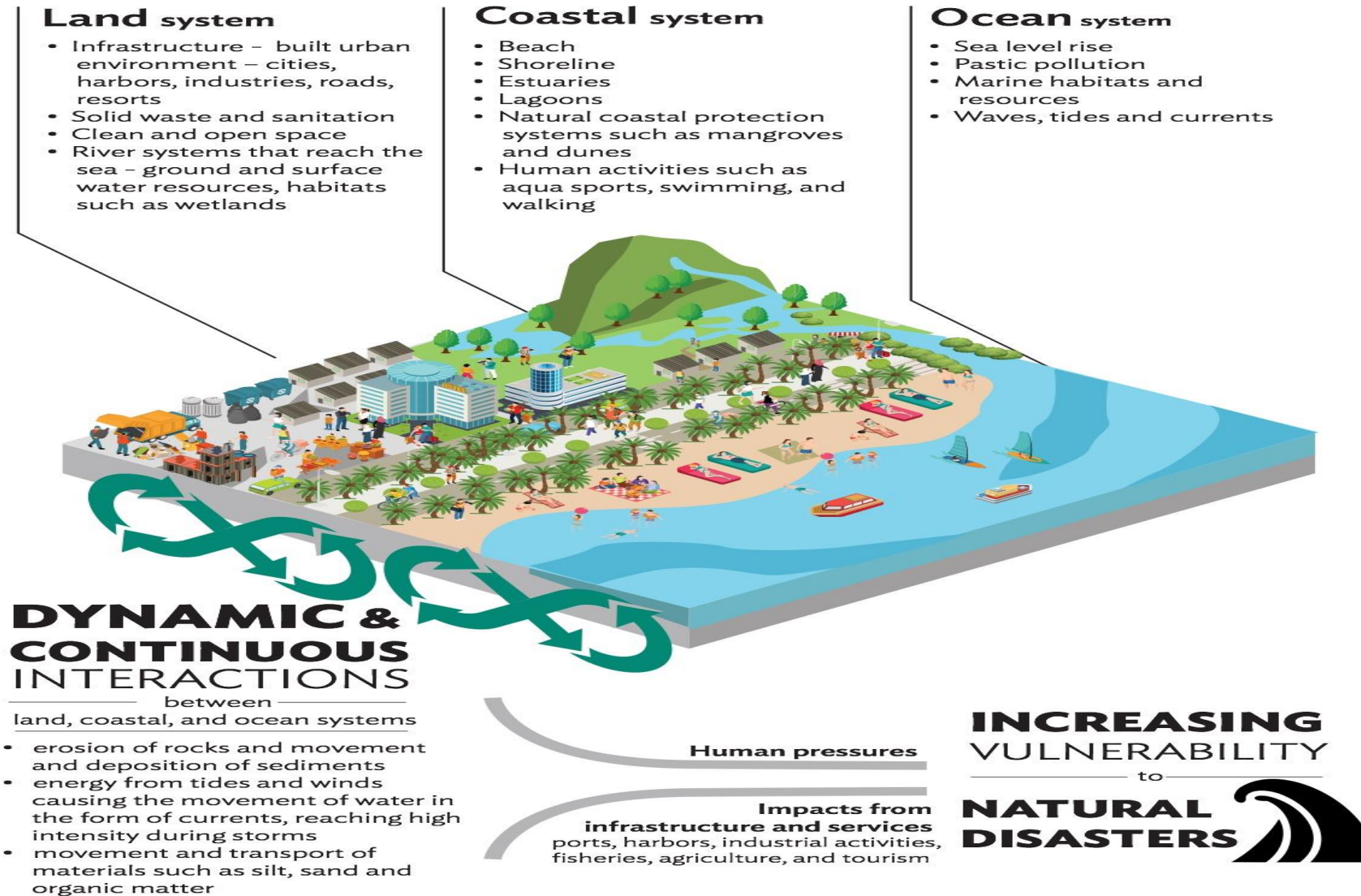
Engineering standards

SIDS

Dynamic
Coastal
Systems



Coastal Eco-systems are Dynamic



Coastal cities : Core problem and causes

Problem: Fragmented planning, ineffective coastal urban infrastructure and ecosystem services and reduced tourism

I. City Management

- Fragmented infrastructure master planning
- Shortfalls in regional policy dialogue

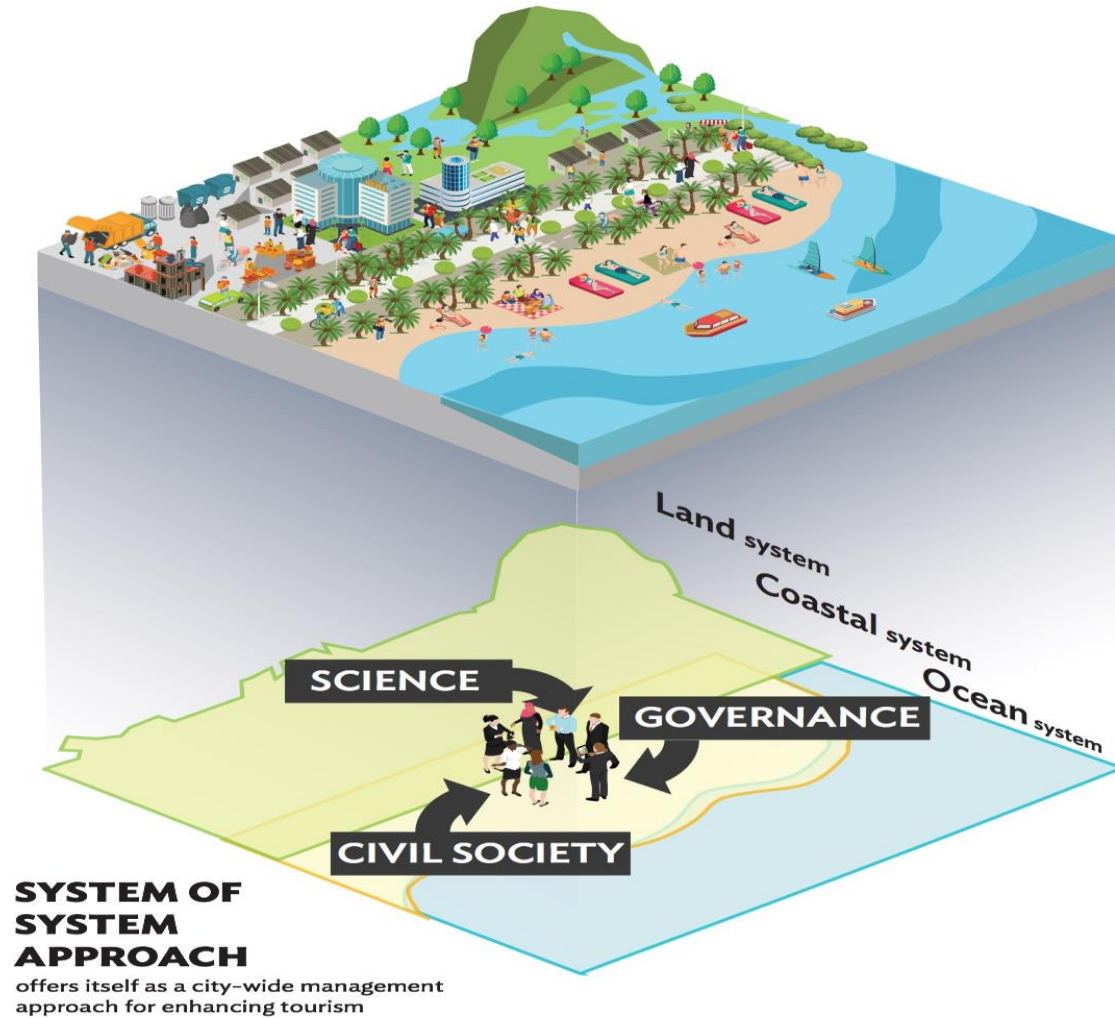
II. Environment pollution & climate risks

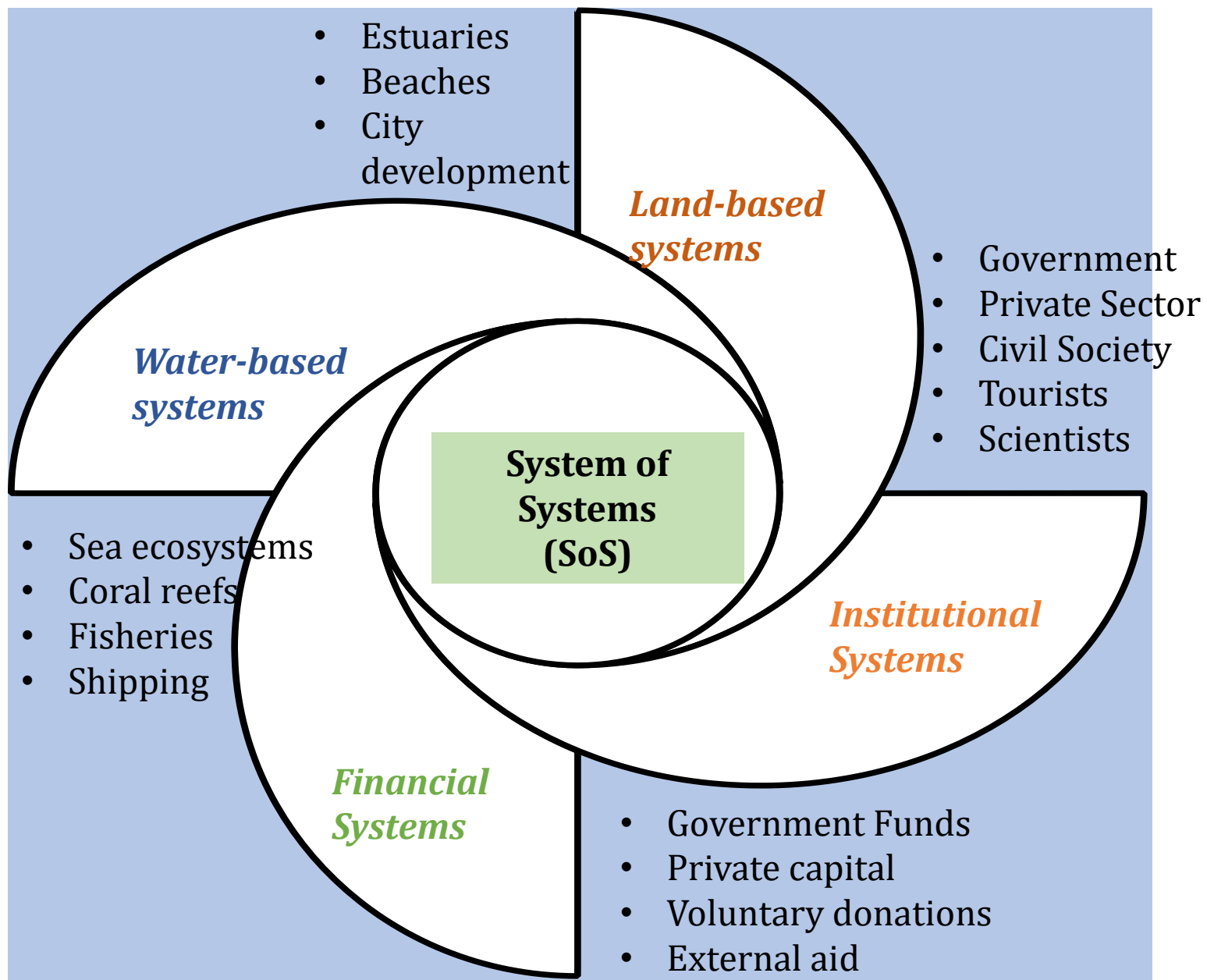
- Absence of solid waste and sanitation mgmt.
- Habitat loss and ecosystem fragmentation
- Sea level rise and climate induced events

III. Coastal Tourism

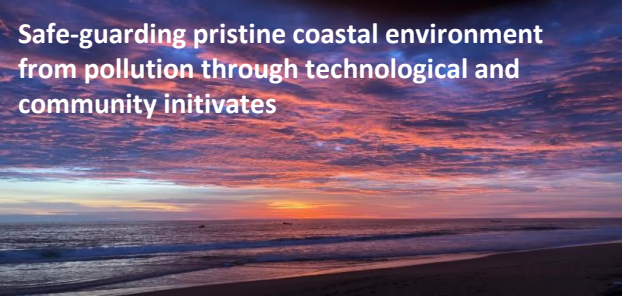
- Natural assets mgmt..
- Absence of cross sector planning between city and tourism plans

Understanding of “systems”





Safe-guarding pristine coastal environment from pollution through technological and community initiatives



Trivandrum Beach,
Credit: By author, S.Vaideeswaran

Tackling wastewater pollution in oceans and seas through appropriate sewage treatment measures



Navi-Mumbai Sewage Treatment Plant
Credit: By author, Vedanti Kelkar

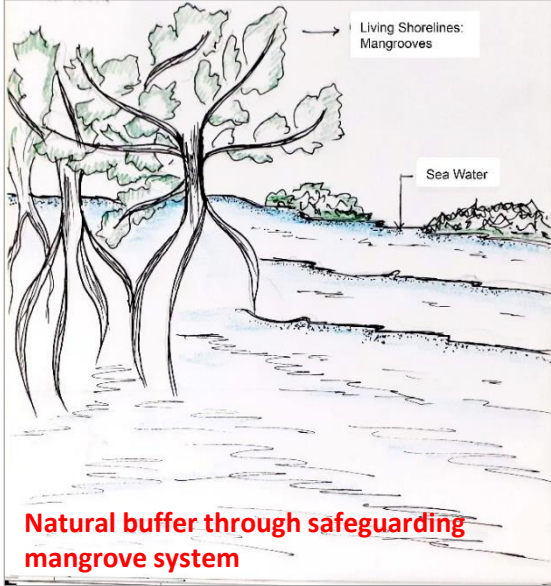
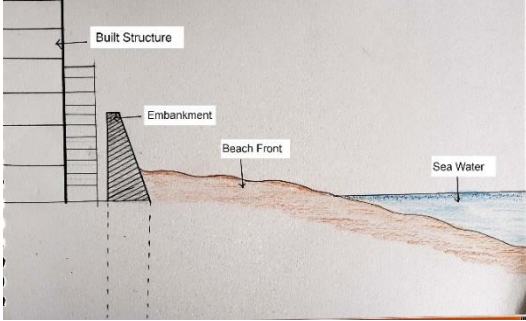
Including local community to care for the cleanliness at coastal fronts through citizen group initiatives



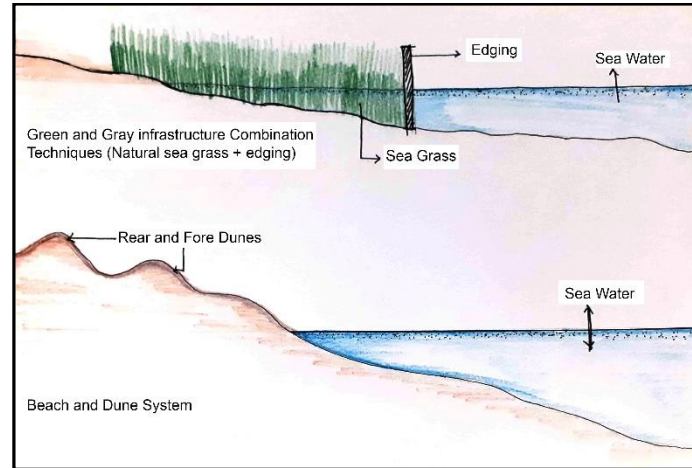
Community group initiative to clean-up Dadar beach in Mumbai
Source: Dadar Beach Clean-Up Facebook Page

Hybrid-solutions for coastal protection

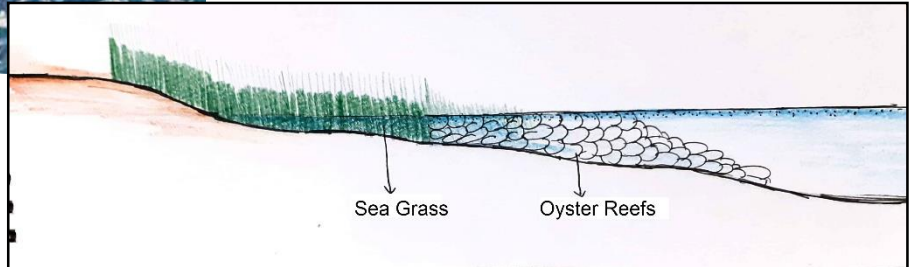
Beach and Embankment Protection
Beach and Embankment Protection



Meeting of the estuary into the sea, Mumbai Coastline
Source: Google Image



Green and Gray infrastructure approaches



Coastal Pollution and Litter

Marina Beach, Chennai ??
Credit: By author, S.Vaideeswaran

Coastal pollution and built/ services/ Community oriented solutions

Examples

Role of Judges

Rule of Law



Mainstreaming Sustainable Development and Climate
Change in Decision making and country strategies

Fiji : Climate Change Bill, 2019

- **Guide's** Fiji's response to climate change through a comprehensive framework - UNFCCC obligations, Paris Agreement,
- **Develop** and implement long term climate change policies, measures and actions to safeguard the future of Fiji and its people
- **Designed** to be a world leading Climate Change Act,
- **Recognizes** Fiji's position as a vulnerable small island nation state.
- **Adopts** a "whole of government" approach to climate change.
- **Places** obligations on State entities and decision-makers under other legislation to incorporate climate change in decisions.
- **Requires** environmental impact assessments to include consideration of climate change as relevant.
- **Supported** by Government procurement and human resourcing for implementation of the Act and
- **Integrates** evidence-based learning on climate change is into the Fiji National Curriculum Framework.

The Fijian Government has posted the draft Climate Change Bill 2019 for public consultations (see attached) and available here: <http://www.economy.gov.fj/images/CCIC/uploads/BILL/Draft-Climate-Change-Bill.pdf>

Transboundary Challenges : Great Pacific Garbage Patch

- Floating debris, 80% from N. America and Asia
- Fishing nets, boaters, offshore oil rigs, and large cargo ships
- Debris dumped into the ocean.

Demands Collective Action



Transboundary challenges: Coral reefs, Fisheries, Food security

Coral Triangle Initiative

- launched in 2007
- 6 countries : Indonesia, Malaysia, and the Philippines, in SE Asia and, and Papua New Guinea, Solomon Islands, and Timor-Leste in the Pacific region

Collective Action



Transboundary Challenges

Shoreline Management : The Mediterranean Protocol

- Binding agreements: national, regional & local initiatives through coordinated action, cooperation and partnership
- An integrated approach
- Signed in Madrid on 21 January 2008
- 15 countries around the Mediterranean Sea, Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, European Union, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey

Collective Action

Integrated in country level ICZM policies and regulations



Philippines- Boracay : Closure

- April 26, 2018 Boracay closed for 6 months
- 400 hotels and restaurants were closed for violation of environmental laws,
- 3 casinos permanently shut down.
- Establishments within the 30-meter shoreline were demolished
- In June 27, 2018, DILG filed a complaint over neglect in issuing building permits

https://en.wikipedia.org/wiki/2018_Boracay_closure_and_redevelopment

<https://edition.cnn.com/2018/04/04/asia/philippines-duterte-boracay-shutdown-intl/index.html>





Environment governance in Thailand Maya Beach Closure- 9 May 2019

- Tropical bay – Phi Phi Island from 'The Beach' to close until 2021
- 2018 tour operators and officials on Phi Phi island recognized unsustainable tourism numbers
- Crisis meeting for shut down decision - Dept. of National Parks, Wildlife and Plant Conservation
- In peak tourist season this 300m-long shore was getting 3,500 visitors a day
- Coral reefs severely damaged

https://www.bbc.co.uk/news/resources/idt-sh/the_beach_nobody_can_touch

Demolition of uncontrolled construction in regulated coastal zones: Kerala, India

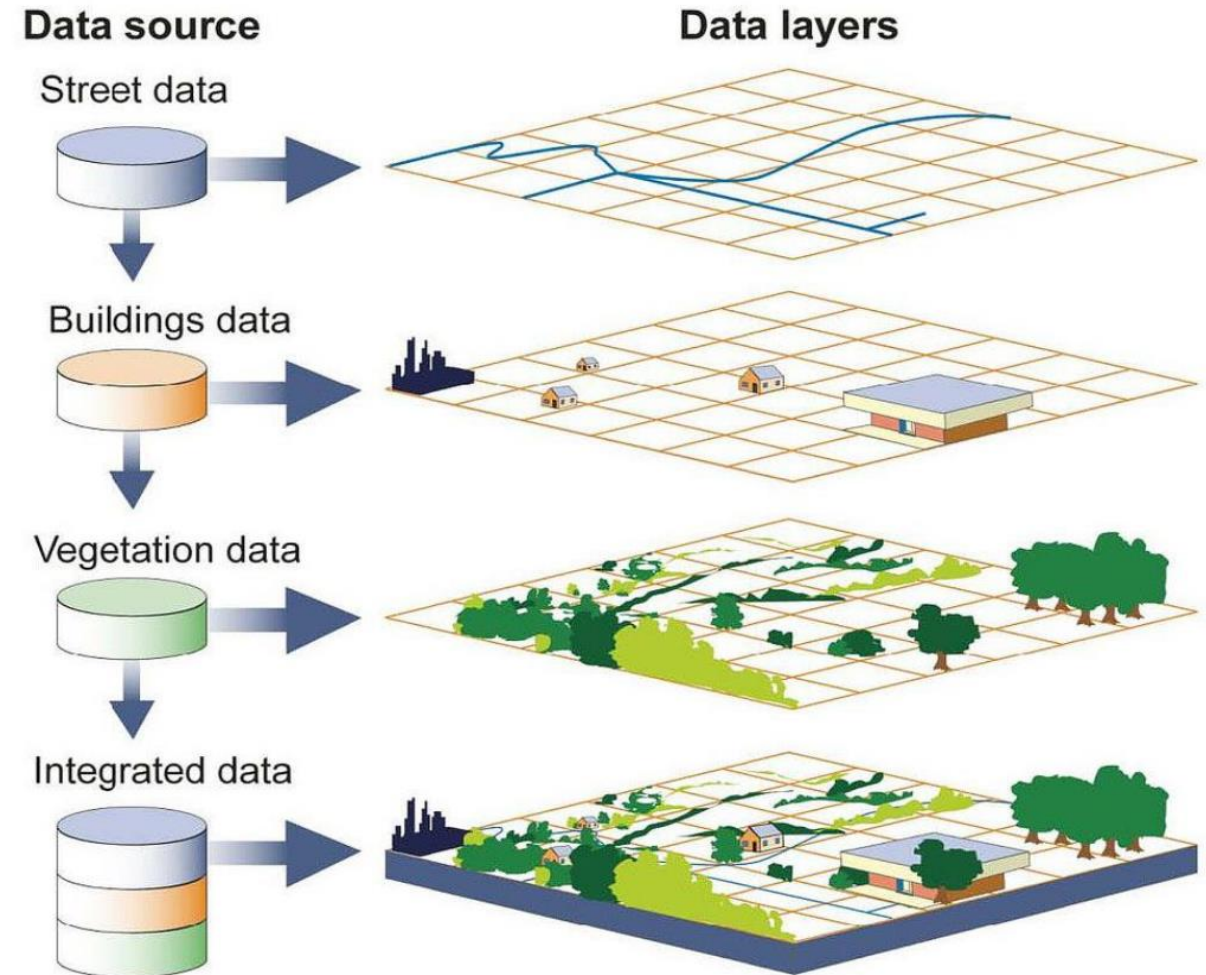
- Illegal high-rise apartments in regulated coastal zones of Kerala India [2018 & 2019 Consecutive years of natural disaster / floods]
- Ordered by Indian Supreme Court order of September 27, 2019
- Mandating the Government to protect the people from natural disasters
- To be completed by February 2020.



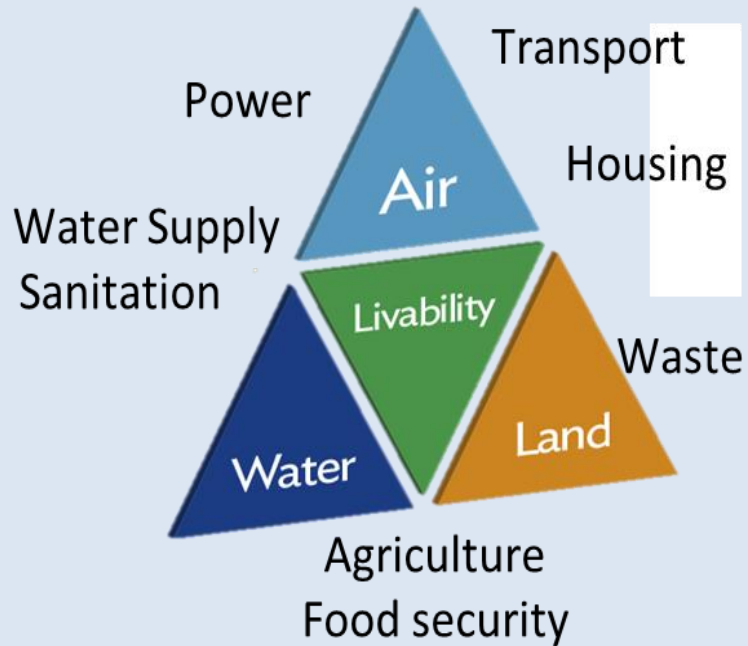
Data as an enabler for decisions

Spatial Data Analysis Explorer (SPADE)

- Geospatial Web platform,
- Open source, cloud hosted
- Layers of geospatial data for maps, engineering design and analysis of impacts and risks
- Assessments of land use, socio economic, safeguards, climate risk and vulnerability
- Country, Regional and City plans and strategies
- Informs location, design, construction and performance of infrastructure investments



(SIDS) for SIDS: Impactful Decisions



Multi-discipline
Vision - Leadership

Decision making tools
Data, Technology



Projects
Standards
Know-how

Policies, Laws, Decrees

Institutions, Incentives
Cross sector

Planning, Implementation
discipline



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Thank You

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