



SUSTAINABLE INFRASTRUCTURE: IMPORTANCE, TOOLS & WAY FORWARD

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INFRASTRUCTURE INVESTMENT GAPS 2016-2030

- For Southeast Asia/Pacific,,: **\$32 trillion**
- For entire A/P: **\$26 trillion**

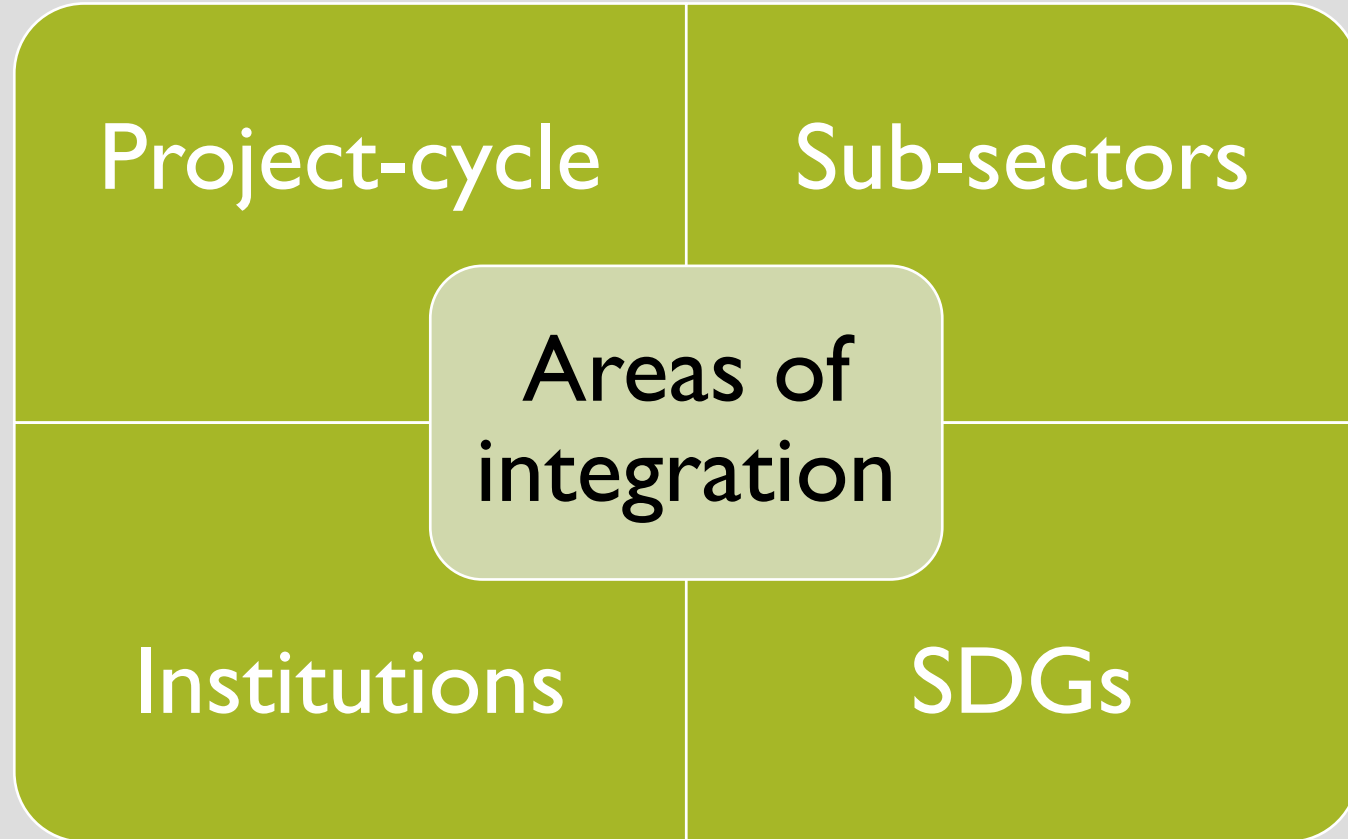


LACK OF INTEGRATION = PROJECT FAILURE



Source: Inter-American Development Bank

WHAT TO INTEGRATE?



Governments to:

- Prioritize integrated approach to infrastructure
- Make institutional arrangements
- Seek implementation support from development partners

KAYSTONE PHOMVIHANE, LAOS AN INTEGRATED, NATURE-BASED APPROACH

- Susceptible to **increased flooding**
- ADB formed Kaystone Climate Change Core Group to **assess issues/find solutions.**
- **Integration of stakeholders** with broad consultation of stakeholders
- Restoration of river beds as a **nature-based solution** to flooding.



Source: ICEM

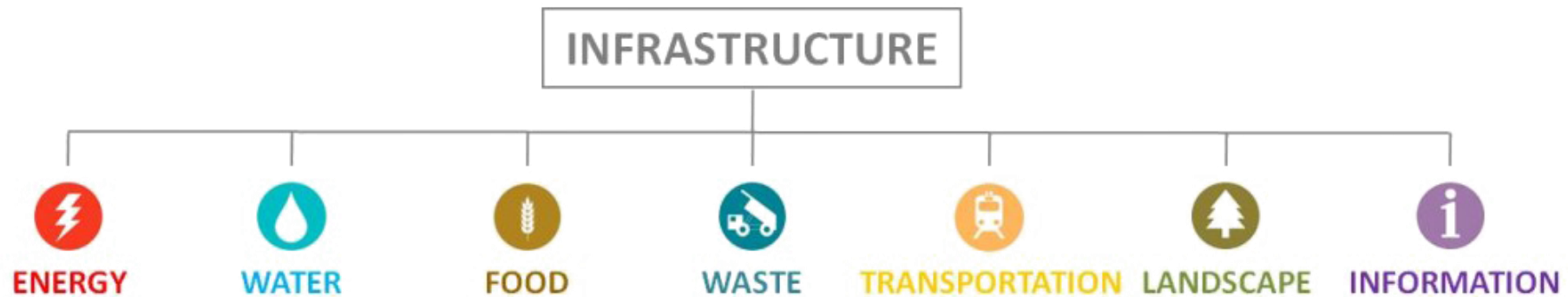
TOOLS AT SYSTEM LEVEL I

Planning Guidelines for Sustainable Cities

- Holistic & interdisciplinary approach
- Environmental, social and economic sustainability for each infrastructure system



Applied to city as an organization of integrated infrastructure systems:



TOOLS AT SYSTEM LEVEL 2

National Infrastructure Systems Modelling (NISMOD)



- Interdependencies
- Forecast demands
- Infrastructure decisions



Aim:

To develop/demonstrate a new generation of data, simulation model & tools to inform analysis, planning & design of national infrastructure

HO CHI MINH CITY, VIETNAM

NISMOD FOR ASSESSING ADAPTATION TO SEA LEVEL RISE

Methodology

- **Exposure & vulnerability** assessed through flood maps
- **Two indicators of risk:** damage to assets & # of potential casualties
- Simulate implementation of **adaptation measures &** calculate effectiveness



Outcome

- **Ring dike** would protect inner city but increase risk in more rural districts
- **Elevating areas** at risk and **dry proofing** buildings will reduce impacts to city as a whole
- **Combinations of measure** seen as **optimal solution**

WAY FORWARD & WHAT YOU CAN DO

- Raise awareness of integrated approach to infrastructure as a system
- Promote application of integrative tools & institutional arrangements
- Request development partners to support knowledge sharing, capacity building, & access to green finance.