

Cambodia: City Resilience, “Challenges and the Way Forward”

**Cities for All Conference 2018
at the
Cambodia-Korea Cooperation Center (CKCC)
Phnom Penh, November 29-30**

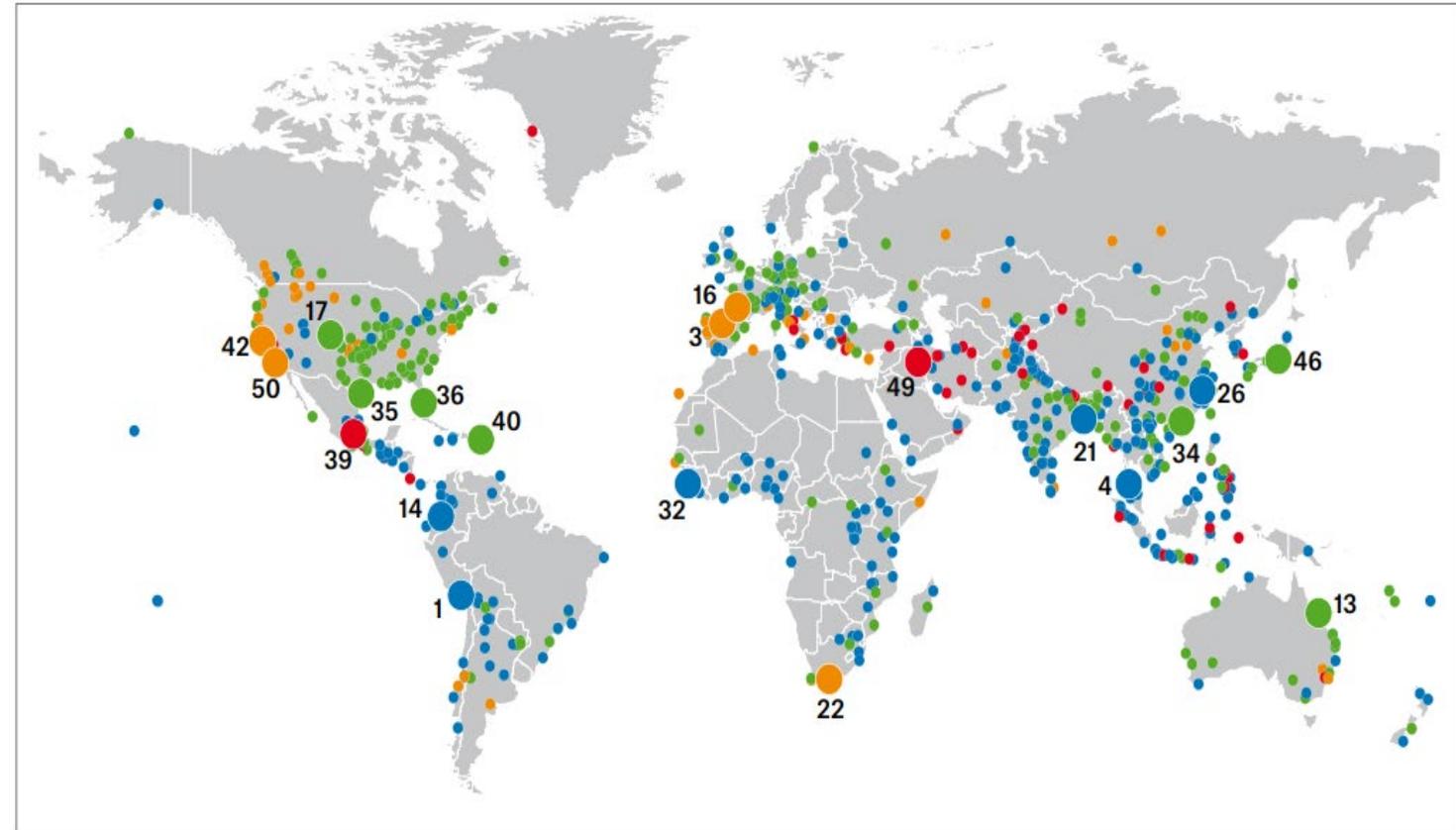
Jointly Developed by:

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Declan O’ Leary (CIUS Advisor)**

Global Context I

- In 2017, 730 natural disaster events were reported
- Together with other global drivers
 - Population growth,
 - Rapid urbanisation,
 - Increased asset values
- Expected to be more frequent and even greater impacts of water-related disasters.

Topics Geo - World map of natural catastrophes 2017



730 loss events, thereof

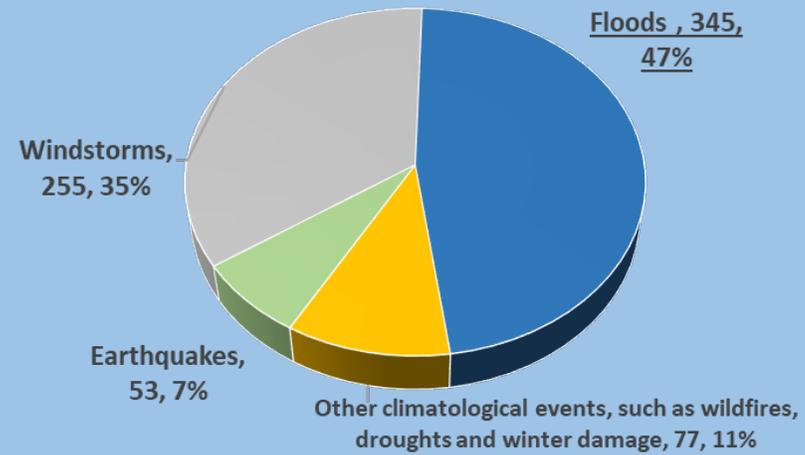
○ 20 most significant events in terms of overall or insured losses and/or fatalities

- Geophysical event: Earthquake, tsunami, volcanic activity
- Meteorological event: Tropical storm, extratropical storm, convective storm, local storm
- Hydrological event: Flooding, mass movement
- Climatological event: Extreme temperature, drought, wildfire

Global Context II

Types Natural Catastrophes 2017,

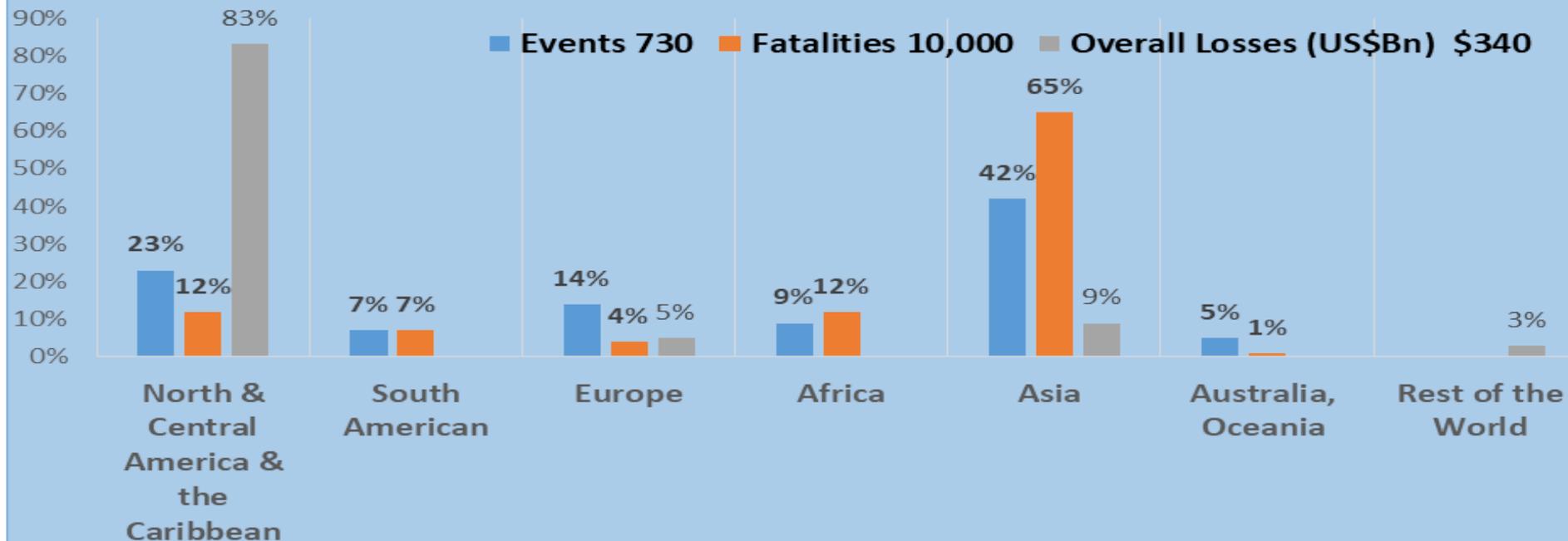
(Source: Munichre 2018)



Natural Catastrophes 2017

% of, Event , Fatalities & Overall Losses by Region

(Source: Munichre 2018)



Regional Context

- Typhoon and storm events in Southeast Asia will likely become more extreme, with monsoon-related precipitation likely increasing across Southeast Asia (IPCC 5th report)
- Also a number S.E Asia countries, including Cambodia, were identified as climate change hotspots (IPCC 4th report), with increasing drought risks

This map shows number (>800) of reported “significant/large” disasters in ASEAN countries between January 2012 to July 2017 (ADInet, 2017)

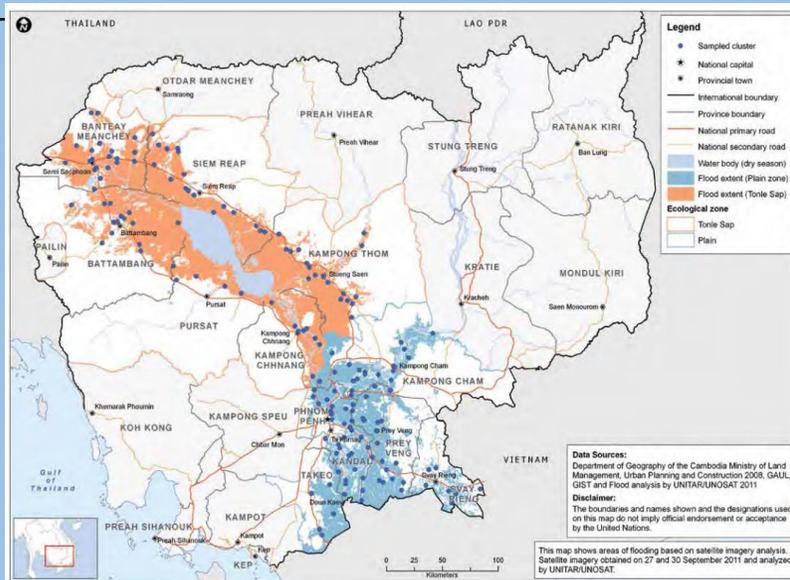


Country Context

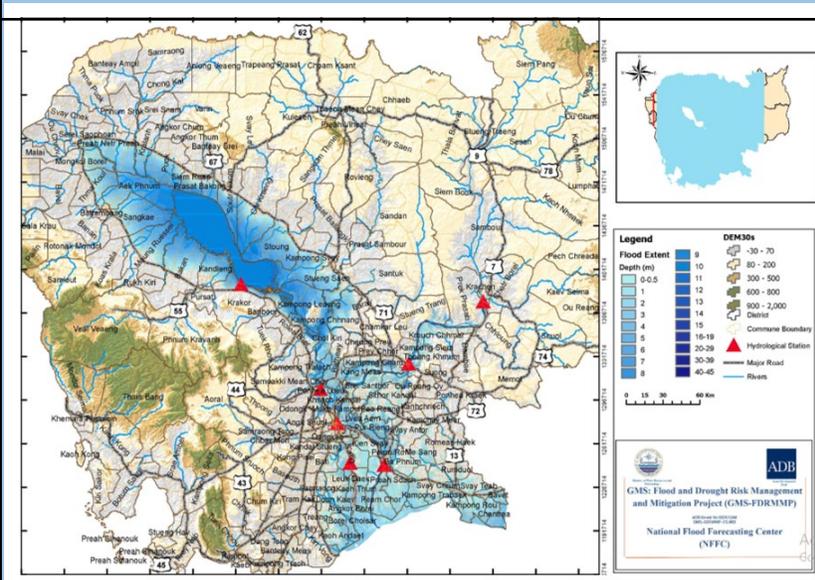
Cambodia is categories one of the most vulnerable countries in the region and globally (ranked #17) for a number of reasons including

- Continued high subsistence agricultural dependence by the rural population
- Evolving response systems are still (internationally) considered weak
- High frequency of climate induced disasters compound by the country's hydro-geography

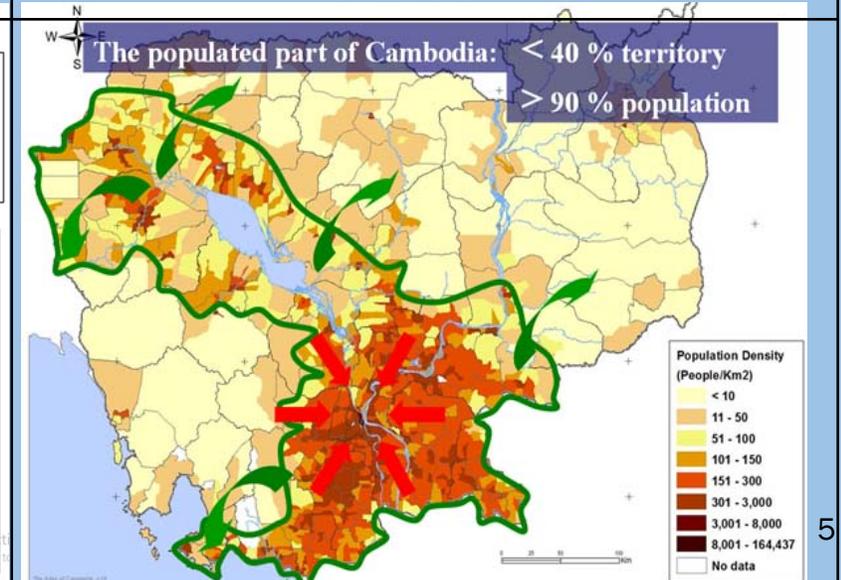
Tonle Sap & Plains Flooding 2013



Flood Risk & Population Distribution



Population Distribution



Urbanisation (Global-Regional-National)



Global

- Half the world's population have lived in urban areas since 2009 (UNDESA 2009).
- Today (2018), 55% of the world's population live in urban areas (WUP 2018).
- This expected to increase to 68% of the global population by 2050. Adding 2.5 billion additional people.
 - With 90% of this increase taking place in Asia and Africa (WUP 2018).

Regional

- For the 11 countries in Southeast Asia urbanisation rates have risen 38% in 2000 to 50% by 2020 (WUP 2018)
- And are projected to rise to 66% of the regional by 2050

National (Cambodia)

Internationally reported rates of urbanisation in Cambodia have under-estimated the current situation, with the UN reporting (WUP2018)

- 22% of population living in urban areas in 2015
- This is projected to rise to 29% by 2030, and 41% by 2050

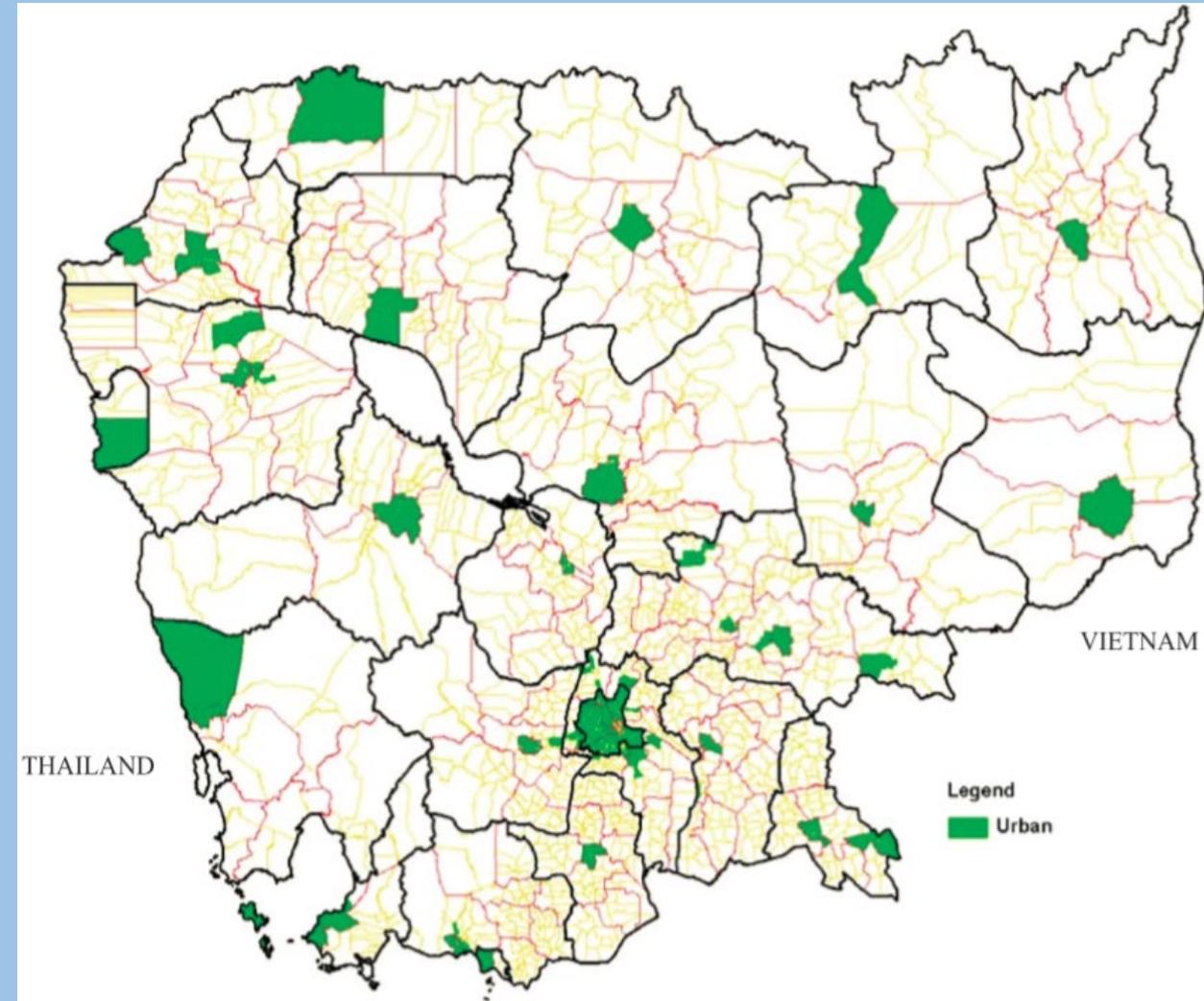
However national studies based on the (2nd) Reclassification of Urban Areas (MoP/NIS 2011) and those undertaken with ADB support (CDTA 8121) indicated that, 27% of the national population were living in urban areas (in 2008), and this has since surpassed the 30% marked and is rising!

Cambodia's Urbanisation

Cambodia currently has 27 designated urban centres,

- The Capital Phnom Penh (*the Primary urban centre*)
- The 24 Provincial & Two Border Municipalities (Bavet, & Poipet) (*jointly secondary urban centres*)

However, limited regard has been given to the often rapidly growing and transitioning Tertiary Urban / District centres around the country.



Urban Challenges

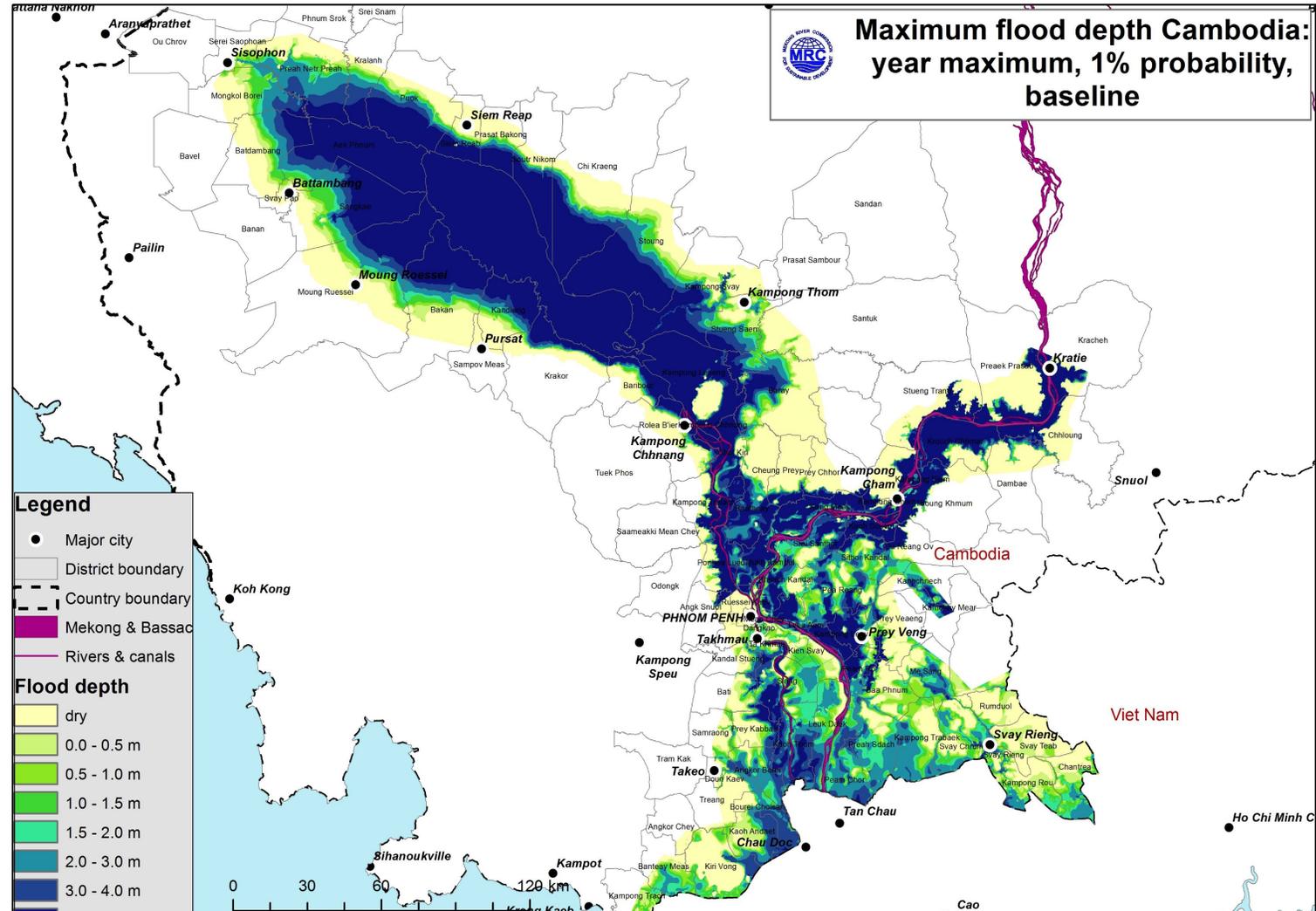
Thoughts on Urban Resilience

<u>UNHABITAT</u>	<u>World Bank</u>	<u>ADB</u>	<u>USAID</u>
<p>Resilience refers to the ability of any urban system to withstand and to recover quickly from multiple shocks and stresses and maintain continuity of service</p>	<p>As the ability of a system, entity, community, or person to adapt to a variety of changing conditions and to withstand shocks <u>while still maintaining its essential functions</u></p>	<p>“Is the capacity of cities to function, so that the people living and working in cities—particularly the poor & vulnerable—survive and thrive no matter what stresses or shocks they encounter”</p>	<p>“The ability of people, households, communities, countries and systems to mitigate, adapt to, and recover from shocks & stresses in a manner that reduces chronic vulnerability & facilitates inclusive growth</p>

SO ITS' COMPLEX!

Urban Challenges I-Flooding & Draining

- The majority of Cambodia’s municipalities (~20/27) are located on flood plains (as are many of the other ‘urban centres’, either
 - Along the Mekong catchment, including
 - Around the Tonle Sap, or
 - Are coastal
- They are (increasingly) prone to flooding due to:
 - **Rapid and rampant development,**
 - Which is transforming and hardening the land, increasing runoff and flooding.
 - **Deficient drainage systems,**
 - With improvements lagging behind developments, which overwhelms the additional capacity being provided.



Urban Challenges II–Deficient Urban Infrastructure



- Common problems for most Cambodian urban centres:
 - Deficient and lacking Urban Infrastructure Planning Capacities at sub-national levels
 - Limited Urban Infrastructure Investment Planning, and
 - No Dedicated Urban Financing Facilities (with limited private sector involved)

This is compounded by

- Over centralised infrastructure development centred on Phnom Penh
- Controlled by line ministries often reliant on Development Financing, and

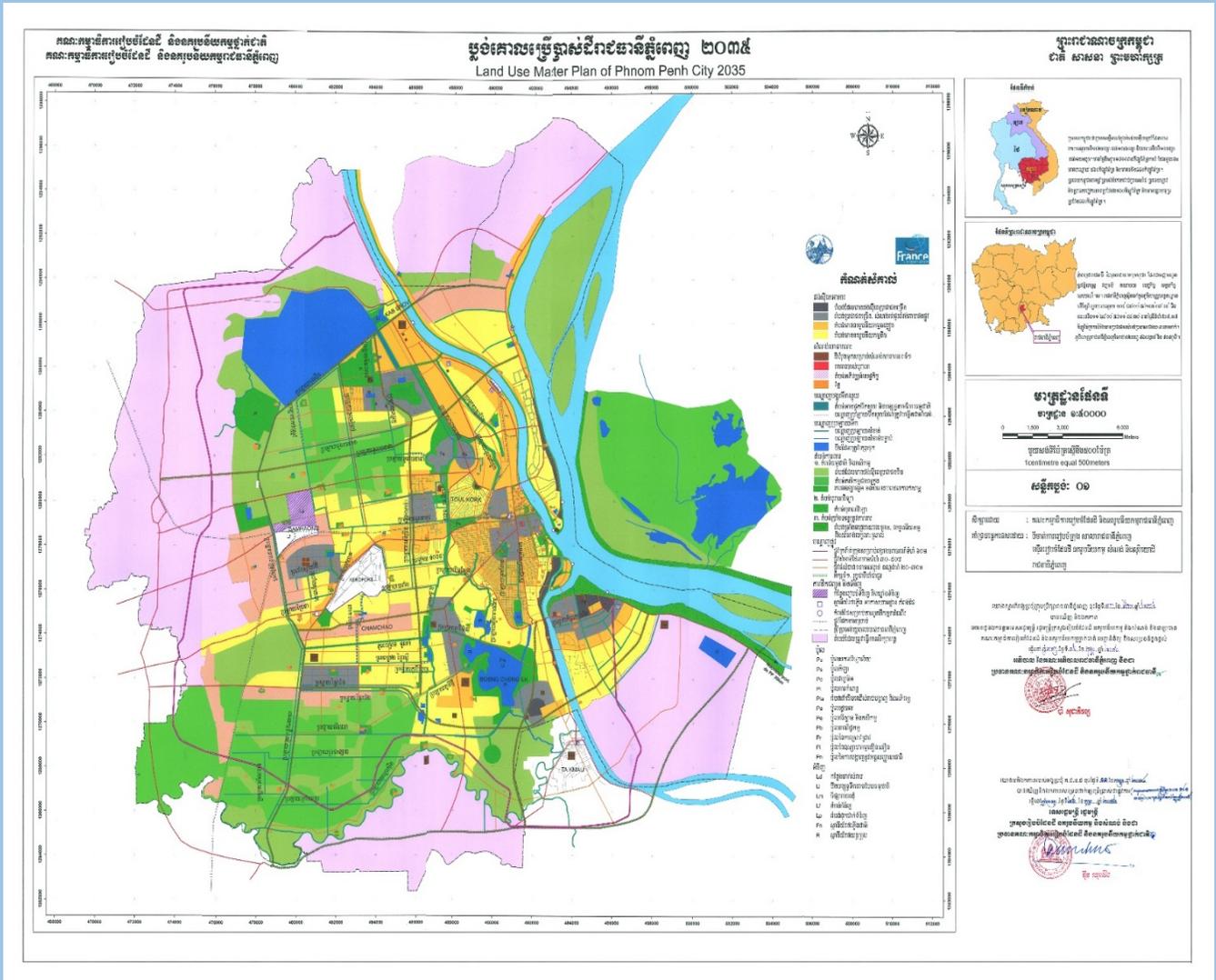
Urban Challenges III- Lagging Integrated Urban Planning



There is a lack coherent, integrated urban planning

Planning MUST be ahead of development?

- They lack coherence and an integrated approach of other sector needs and requirements;
- The lack of enforcement vs. rapid urban development
 - Possibly due to being poorly communicated, elaborated in terms of guidance, and understood.



Urban Challenges IV – Fragmented Responsibilities



A further challenges to urban resilience is the continued fragmentation of responsibilities

MLMUPC	MPWT	MoWRAM	MoE	MCFA	MIH	MOI	MoEF
Land use planning and construction control	Roads, urban drainage, Wastewater (new) parks, aspects of SWM (dumpsites), Ports, Railways, etc...	Evolving water resources monitoring and coordination	Responsible for all aspects of the Environment , water, and air pollution,, SWM, conservation and protection	Urban Heritage	Urban Water Supply Industrial regulation	Responsible for all civil administratio n and support sub-national planning & development systems	Financial planning, budgeting allocation, and accounting system

While these (and others) all have roles, various inter-ministerial mechanisms have been established, but their effectiveness in coordination and cooperation is questioned,

Urban Challenges V-Financing Requirements



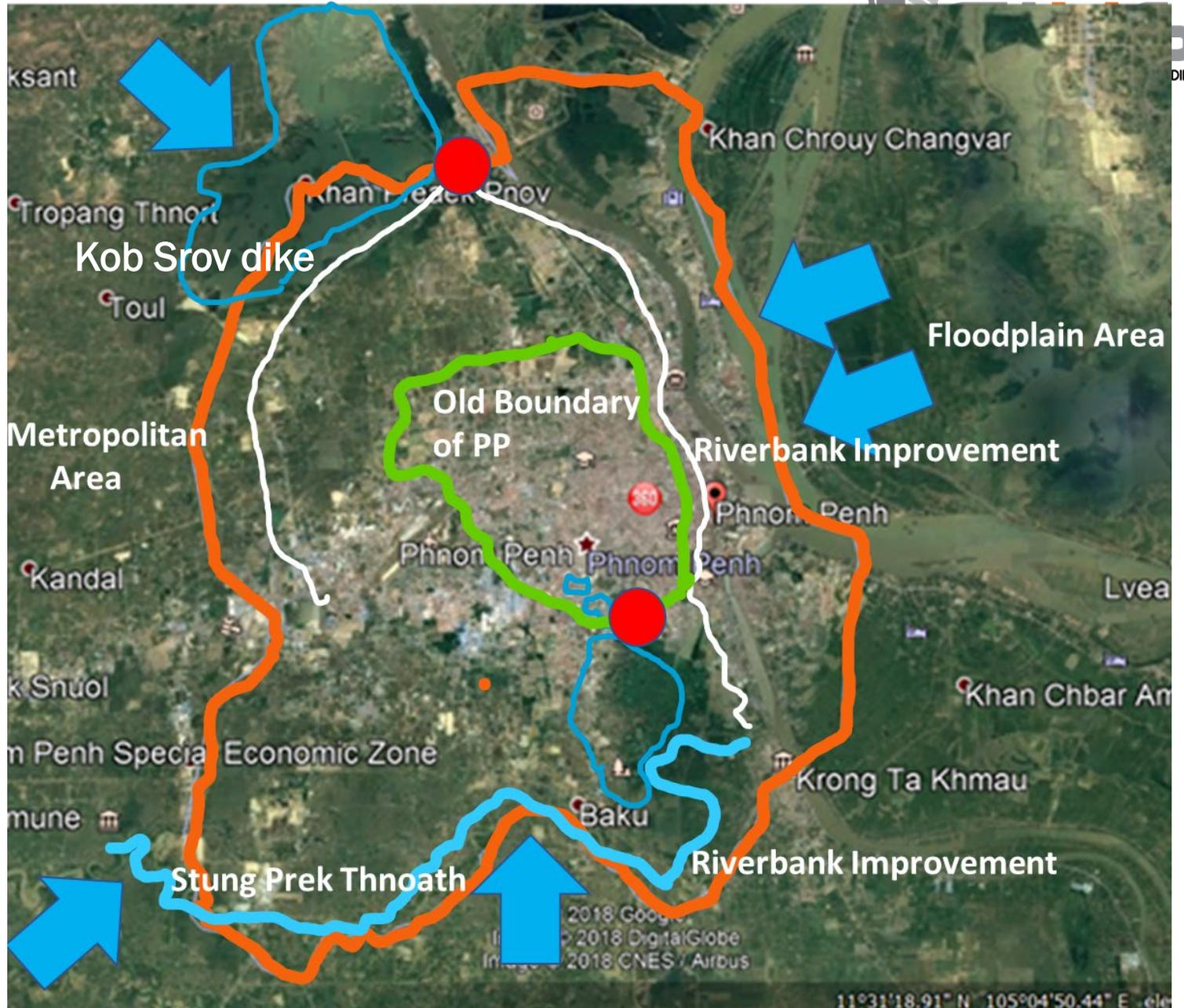
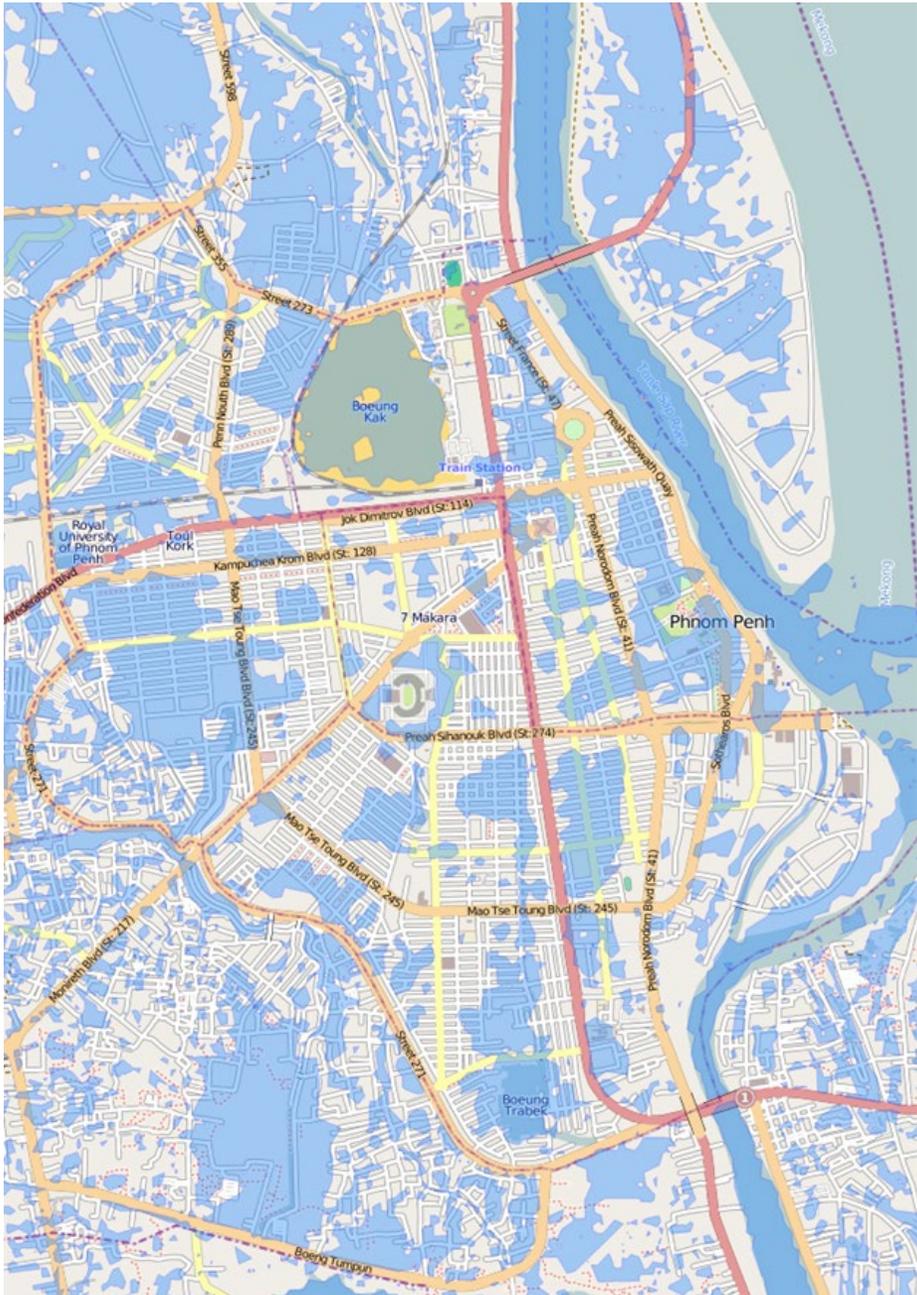
- Without clear insights into city and urban financing requirements for resilient cities.
- The following national figures (top row) based on current investment trends and
- Extrapolating from these on likely urban requirements (bottom row), this indicates that **at least** US\$30.5 billion of urban infrastructure will need to be investment in by 2040.

Cumulative Infrastructure Investment (US\$ Billion, 2015 prices & exchange rates)								
	Road	Rail	Airports	Ports	Telecoms	Electricity	Water	TOTAL
Estimate National 2016-2040 (investment need)	27	3	1	1	26	25	5	87
Estimated Investment Gap b/t current trends & needs	11	2	0	1	7	7	0	28
<u>Estimated Urban Requirements (~35%)-2040</u>	<u>9.5</u>	<u>1.1</u>	<u>0.4</u>	<u>0.4</u>	<u>9.1</u>	<u>8.8</u>	<u>1.8</u>	<u>30.5</u>

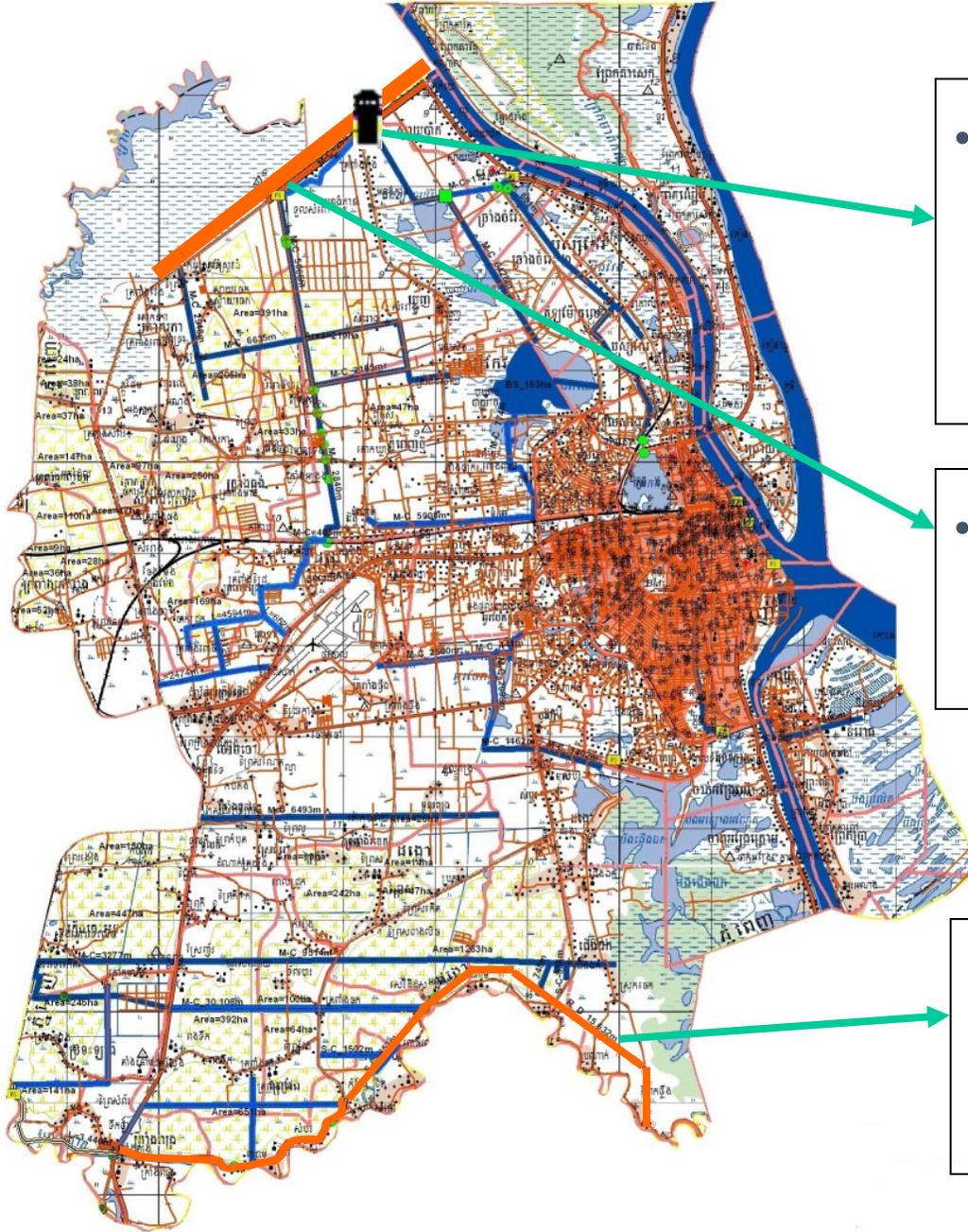
Urban Resilience - The Way Forward

- **IMPLEMENT** The Cambodian Sustainable Development Goals (CSDG) and their mainstreaming into the forthcoming National Development Framework (PP, RSIV-NSDP 2019-2023)
- **SDG Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable**
- **ADAPT and APPLY** tools like the City Resilience Framework help to address these two critical questions
 1. What are the characteristics and capacities of a city that can adapt and grow in the face of these challenges?
 2. What distinguishes a resilient city from one that collapses in the face of disruption and adversity?





DIKE REINFORCEMENT AND PUMPING STATION CONSTRUCTION



- Kop Srov Pumping Station
 - 50,000 m³/h Capacity
 - 2010 by National Budget and
 - Administrated by PPCH

- Kop Srov Dike Water Front
 - 2001-2002, by ADB Loan and
 - Administrated by MOWRAM

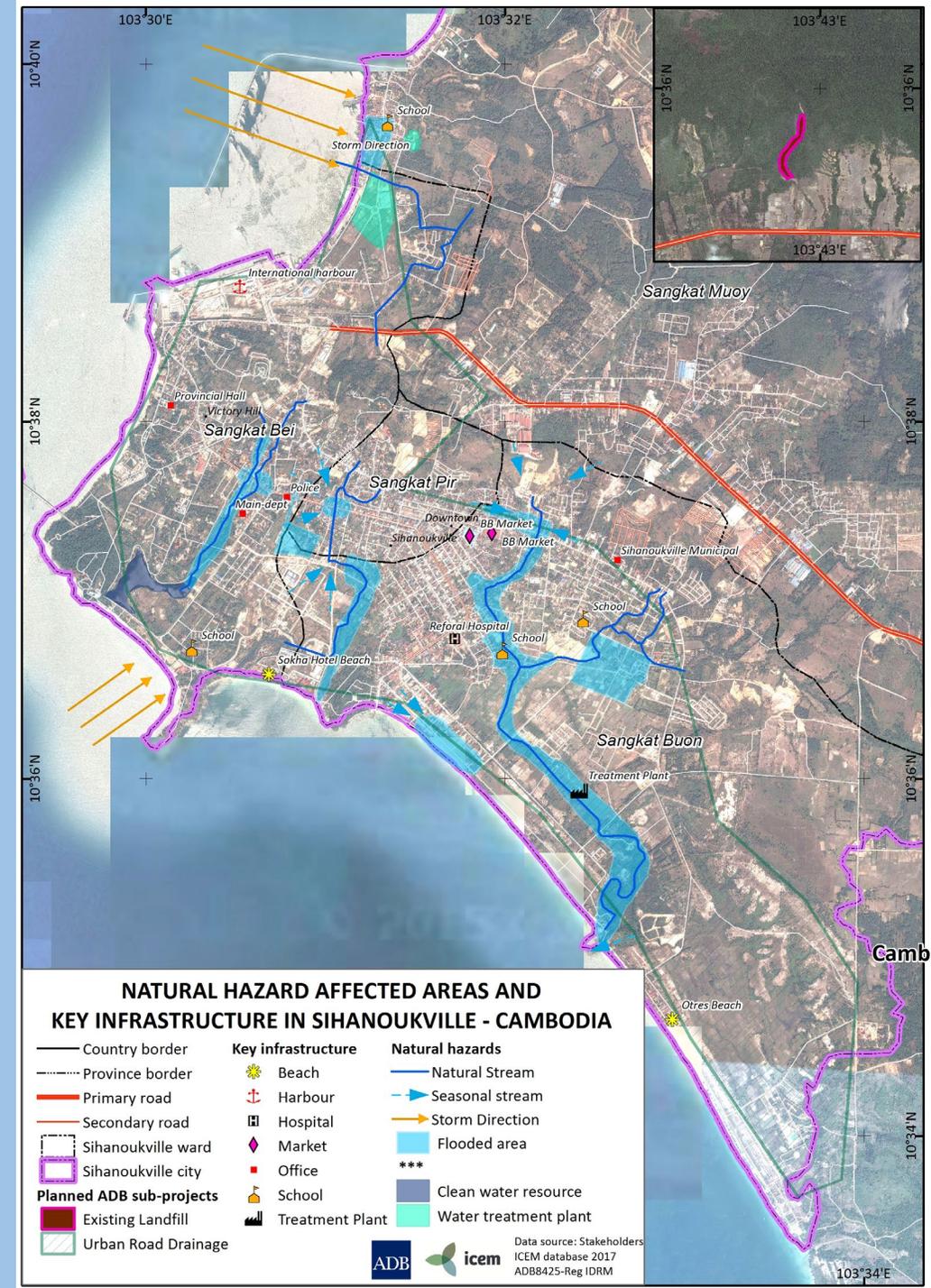
- Prek Thnot River Edge Dike
 - 2007-2008, by National Budget
 - and Executed by MOWRAM



Kob Srov Dike Waterfront, 2018

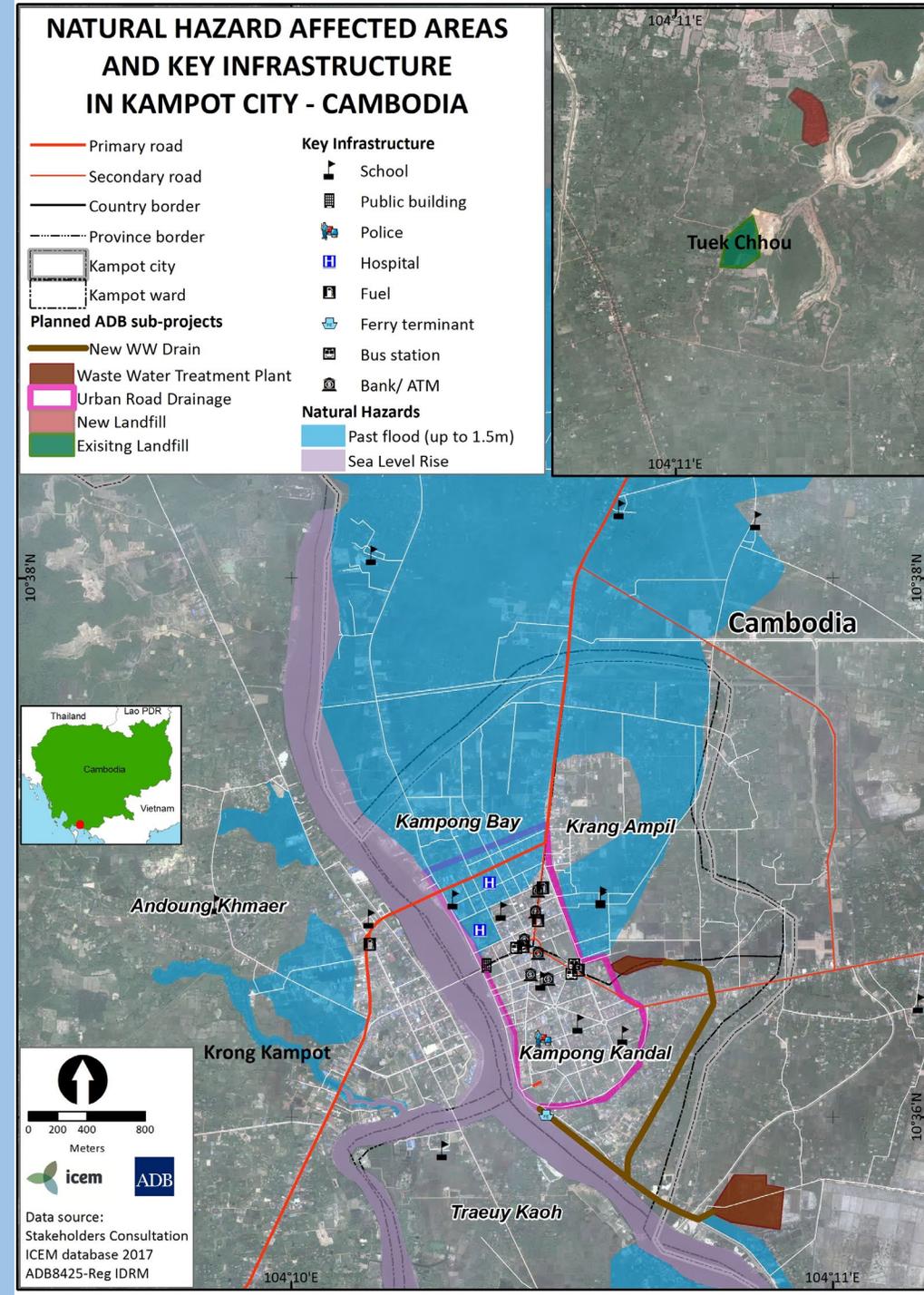
Natural Hazard Mapping, Sihanouk Ville

Overlaying natural hazards, with critical and social infrastructure (ADB-TA 8425 REG)



Natural Hazard Mapping, Kampot

Overlaying natural hazards, with critical and social infrastructure (ADB-TA 8425 REG)



Conclusion



used
utilities
current
features
zones
enforce
human-made
decay
discipline
clutter
settlements
local
pedestrians
landscape
examined
predominate
countries
alignposts
signs
dense
unive
varying
detailed
also
resy
sy

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Scoping Study on Strengthening Urban Resilience in Southeast Asia, ADB 2016

Thank You!