

# PolyUrbanWaters SURE Status Seminar Nature Based Solutions – Green infrastructure development

4th May 2022

Polycentric approaches to the management of urban water resources in South-East Asia

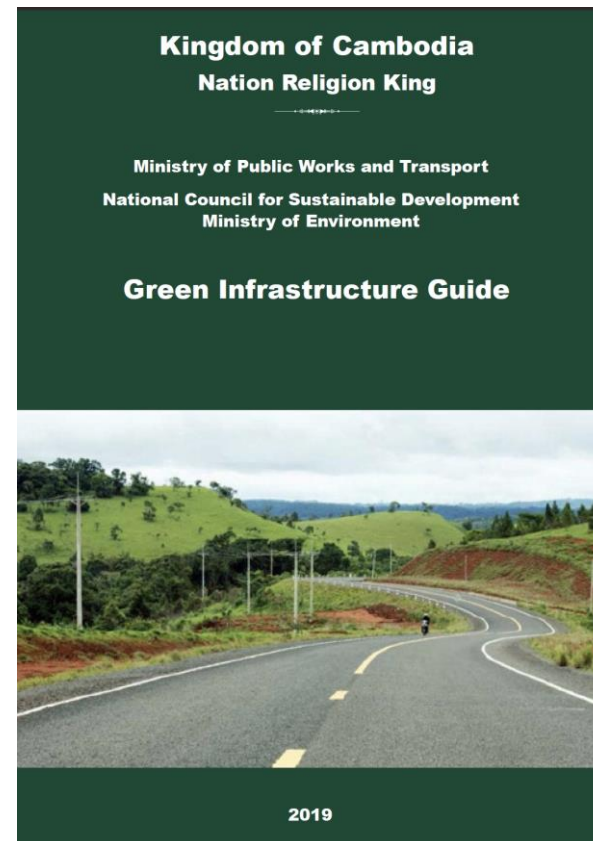
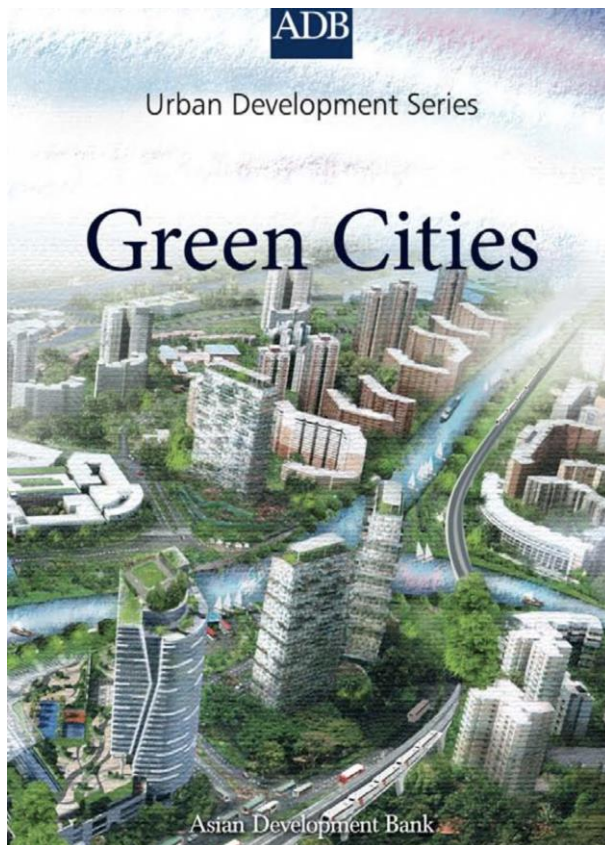


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WATERS**

# Content

- I. To frame PolyUrbanWaters approach within the sustainable development of NBS
- II. To frame value of existing NBS and support local decision making in two partner cities of PolyUrbanWaters

# Trends in South-East Asia



# Polycentric approaches on the management of urban waters

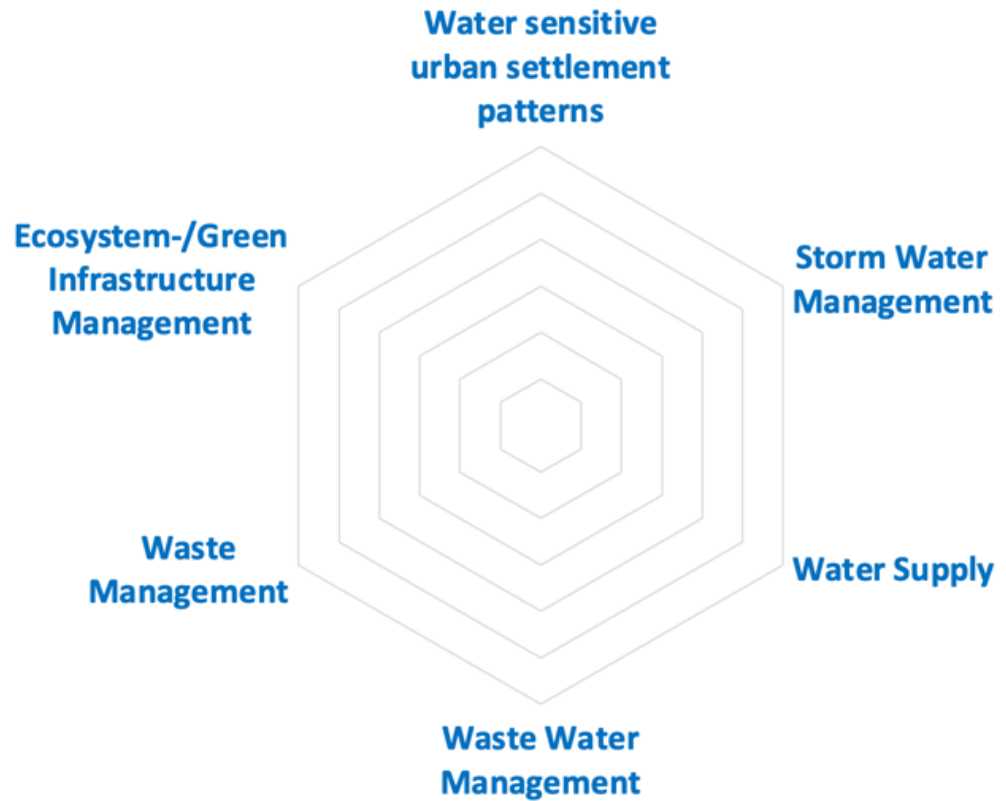
- Inspired by concepts such as "water-sensitive cities", "sponge cities" and "water-wise cities"
- Their modularity enables local governments and relevant stakeholders to act effectively, proactively and flexibly in accordance with their capacities.

## Key features of many secondary and tertiary cities in SEA

- Drivers of socio-economic growth and transformation
- Urban development strongly driven by dynamic real estate market (strong vested interests)
- Due to lacking institutional and capacities, rather weak mandates and insufficient funding local government act rather re-actively than pro-actively.

Nature based solutions are cross-cutting to water sensitive urban development

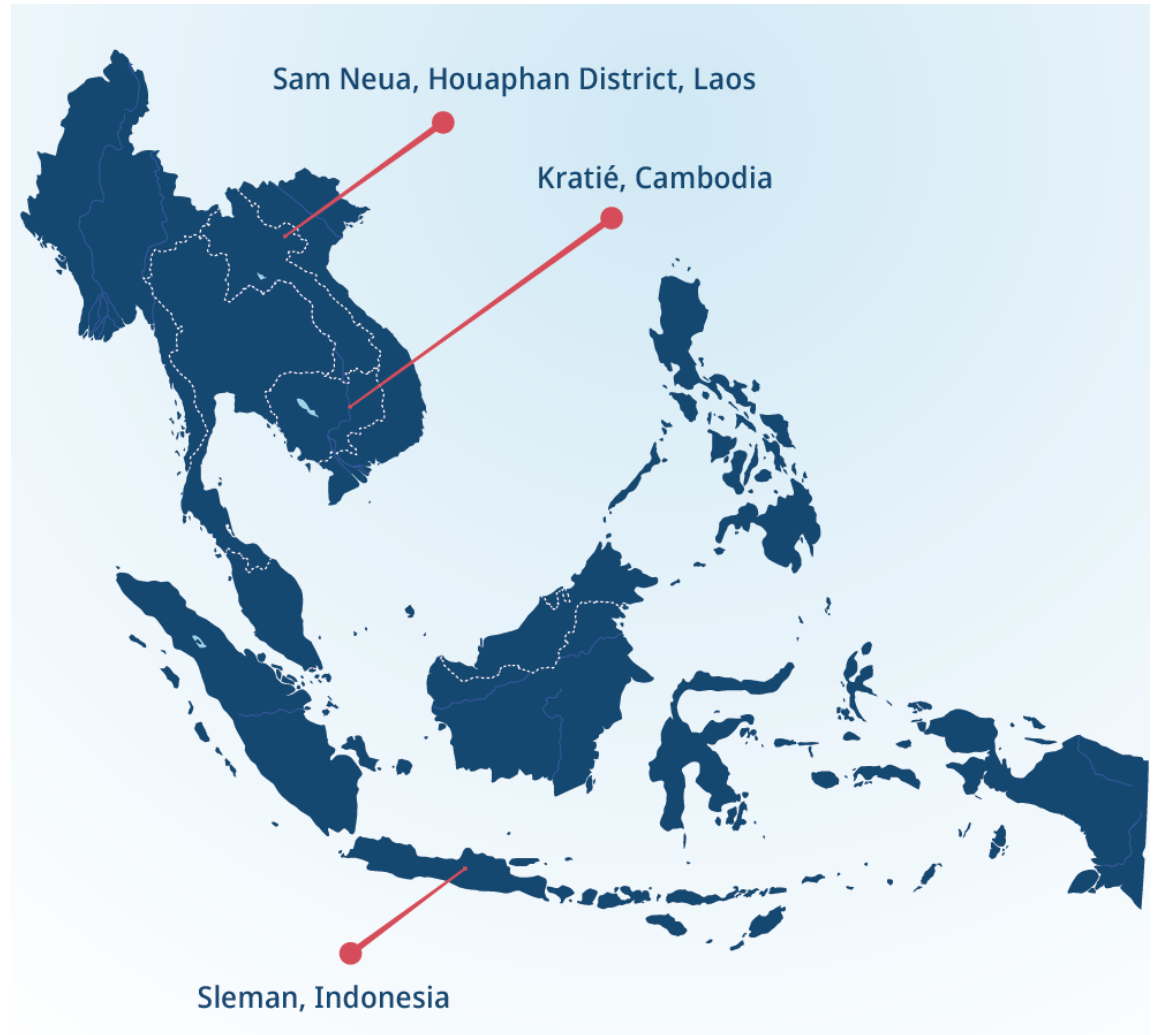
NBS and grey infrastructure development should complement each other in a meaningful way





In order to be effective and sustainable,  
NBS have to be in line with  
local conditions and interest and capacities of  
local stakeholders  
(financing and management)

# Partner Cities





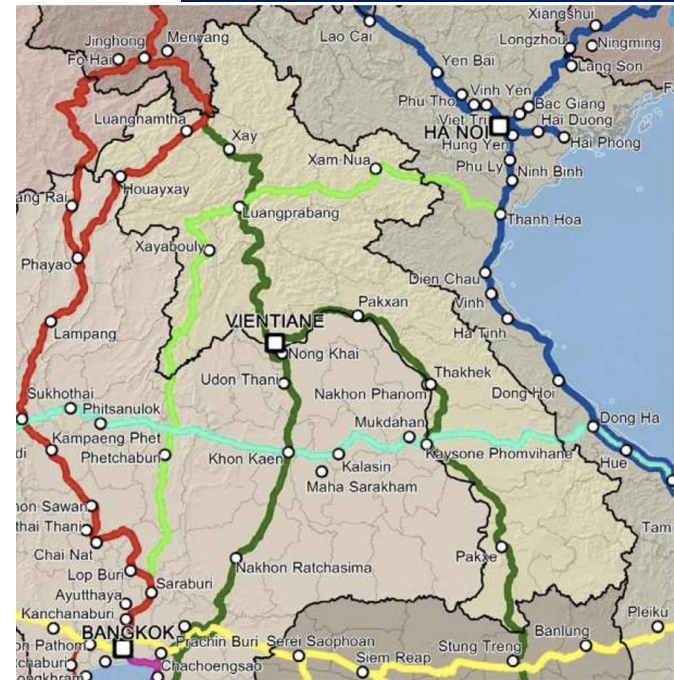


# Sam Neua, Laos



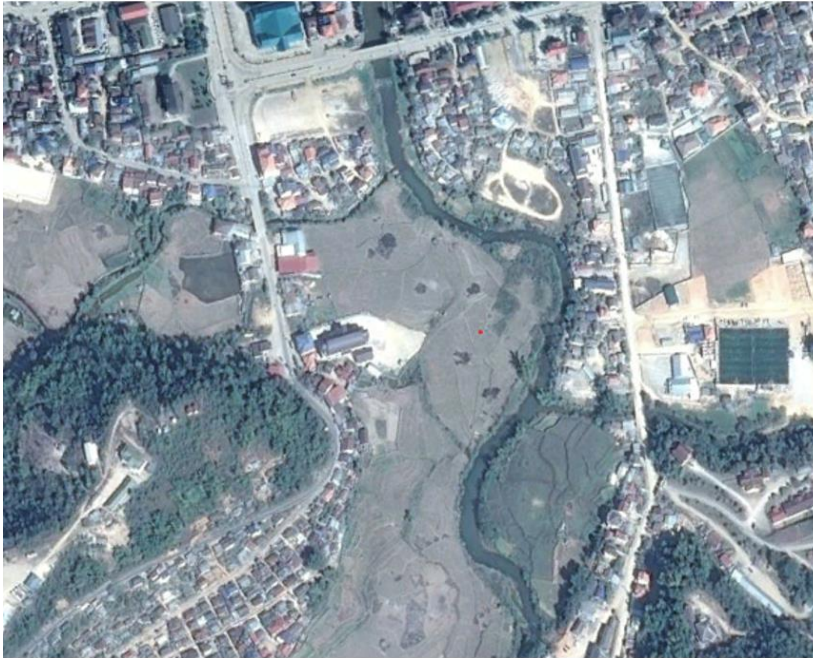
# Key features of Sam Neua

- Provincial capital
- Planned hub of Greater Mekong Subregion (GMS)
- It is expected that population will grow from 30.000 to 45.000 inhabitant until 2030 and double until 2045





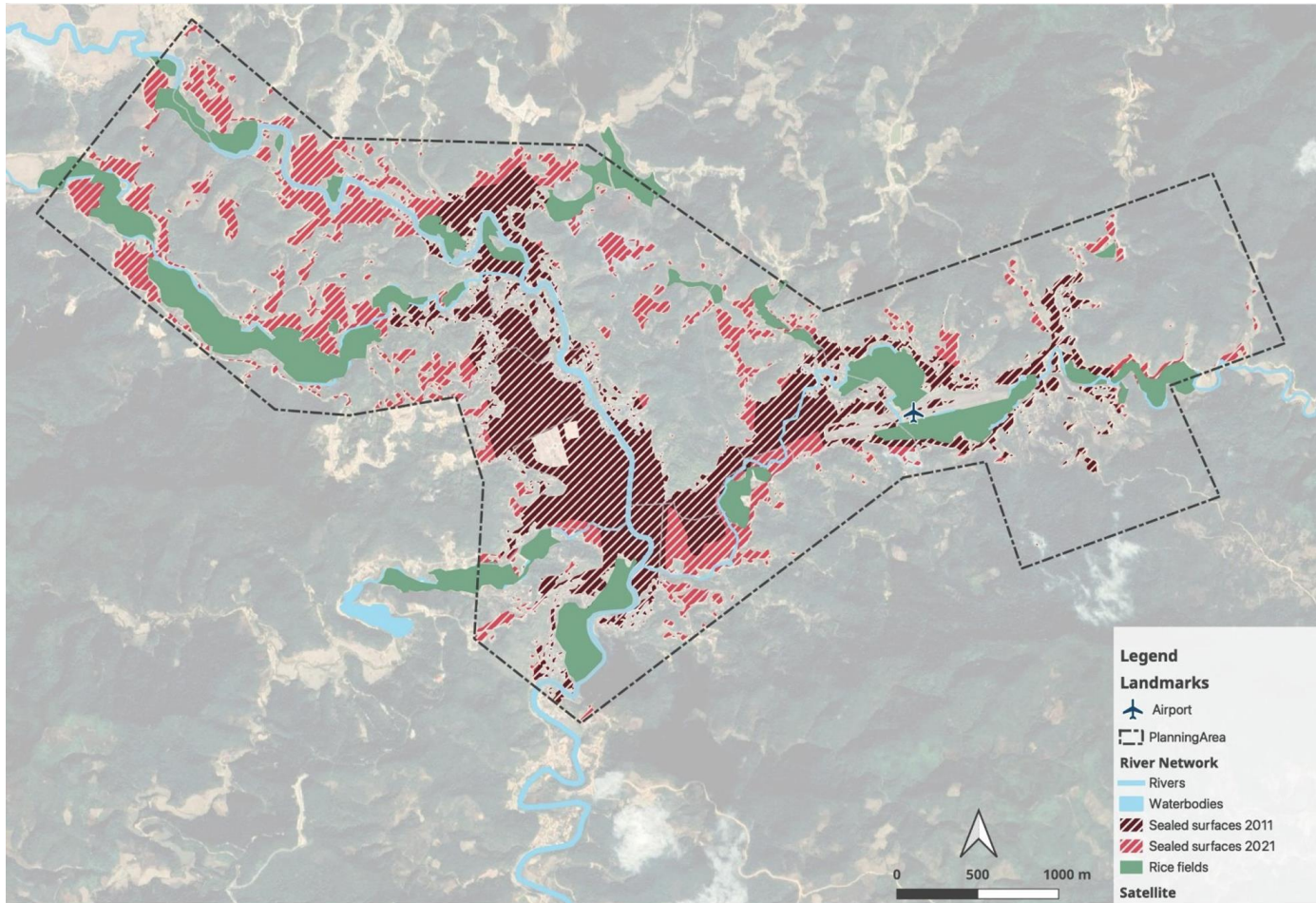
# Topographie and existing NBS of Sam Neua



**Urban Growth of Sam Neua  
– loss of NBS water buffers**



**Urban Growth of Sam Neua  
– loss of NBS water buffers**



# Sam Neua – land use changes 2011-2021



**Land use change  
in the water catch  
ment area  
(deforestation)**

**Loss of water  
buffers (paddy  
fields =NBS)**

**Sealing of surfaces**

**Increased  
frequency of heavy  
weather events**

**=**

**Increased  
flood  
vulnerability**

# Urban development trends in Sam Neua

- Sam Neua risks to fail partially its vision of a “green, clean and peaceful city”
- Increasing weakening urban water systems and its water related resilience
- Exponentially increasing water, flood and climate change vulnerability



# Discussions with local government in Sam Neua

- What are the existing NBS to be protected and to be sustainably managed?
- What are options to develop and manage sustainably new NBS/green spaces?
- How to complement NBS/green infrastructure development with grey infrastructure development to realize the Sam Neua's vision?



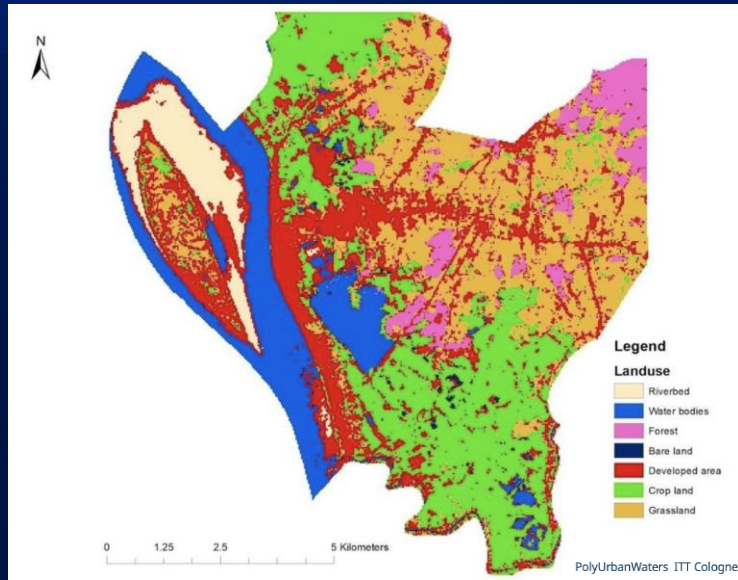
# Kratie, Cambodia

# Key features of Kratie

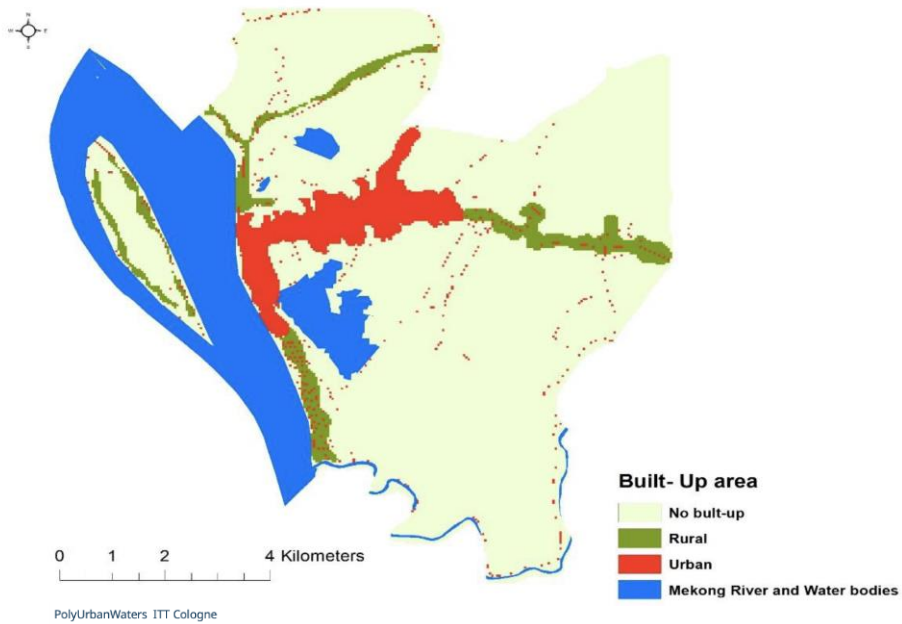
- Provincial capital
- Expected to be integrated in the Economic Corridors of Greater Mekong Subregion (GMS)
- Currently ca. 30.000 inhabitants



# Kratie – Flood vulnerability



# Kratie – The ecological, social, cultural and economic value of urban wetlands



# Value of urban wetland in Kratie

- Crucial for urban water balance, local climate and flood management
- Important for livelihood of communities in peri-urban area (agriculture and fishery)
- Key for livability and attractiveness of Kratie and its development as Tourist destination



# Pressure on urban wetland in Kratie

- Wetland filling for construction activities
- Increasing unplanned urban sprawl in peri-urban areas
- Discharge of pollutants from urban areas and agriculture



# Potential impacts of wetland losses

- Character of the city of Kratie will change significantly
- Increased vulnerability to climate change (local climate, water systems, floods)
- Loss of livelihood (communities) and weakening of economic potential (tourism)







## Addressing potentials for sustainable management of urban wetland in Kratie

- Contextualizing the value of urban wetlands in context of the overall urban development plan of Kratie
- Support informed decision making of local government
- Through multi-stakeholder processes, identifying options for sustainable management of wetlands

# Key learnings for shaping successful cooperation with cities

- Frame NBS/Green Infrastructure Development within the given/future socio-economic context
- Take perspective, mind set, interests and language of decision makers and relevant stakeholders
- Sustainable development/management of NBS/green infrastructure needs long term perspective – it has to be done with the local capacities, considering local governance structures and may contribute to emergence of new governance schemes

**Thank you for your attention**  
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