

PolyUrbanWaters Concept for Sam Neua City

April 2020

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



**POLYURBAN
WATERS**

Introduction: Project Goals, Benefits, Outcomes

1. Sam Neua City introduction - current situation
2. PolyUrbanWaters Project
3. Where does Sam Neua want to be in the future?
4. What needs to be done in order to achieve the vision of the city?

Main Goals

Polycentric approaches of **water sensitive urban development** contribute to achieving:

Overall Goal

Sam Neua's Vision

a green, clean, climate change resilient, peaceful and beautiful city

Balanced urban development

in line with the **Agenda 2030** of the Lao People's Democratic Republic.

Project Goal

Sam Neua as a **model city** in Laos through establishing:

integrated planning that uses instruments for **polycentric water sensitive urban development**.

Contributes to establishment of **polycentric governance /management schemes**

for full range of public and private entities

4 Key Project Outcomes

Outcome A

**Baseline study
“Water in Sam
Neua 2021”**

used in urban
planning processes

Outcome B

**Future
scenarios of
“Water in Sam
Neua
2030/2045”**

used in decision
making for water
sensitive urban
development

Outcome C

**Polycentric
models for
water sensitive
urban
development**

elaborated and their
implementation
supported.

Outcome D

**Approach and
instruments
are:**

- Part of DHUP recommendations
- Part of PTTI training
- Continuously developed by SEA-wide network

1. Sam Neua City introduction - current situation

Where the city is now?

Outcome A

Baseline study

“Water in Sam Neua 2021”



Output 1

A jointly produced baseline study of the state of water in Sam Neua 2021



Output 2

Stakeholders have the capacity to make use of baseline study “Water in Sam Neua 2021”

2. PolyUrbanWaters Project

3. Where does Sam Neua want to be in the future?

4. What needs to be done in order to achieve the vision of the city?

Local stakeholder perspectives on water relevant challenges is Sam Neua

- Managing consequences of anticipated changes:
 - Water demand
 - Wastewater management
 - Water quality
 - Solid waste management
 - Investments
 - Urbanization
 - Vulnerability to climate change



What are the expected changes coming to Sam Neua?

- Greater Mekong Sub-region Development Program
- New airport
- New hospital
- Rapid population increase expected
- Urban expansion

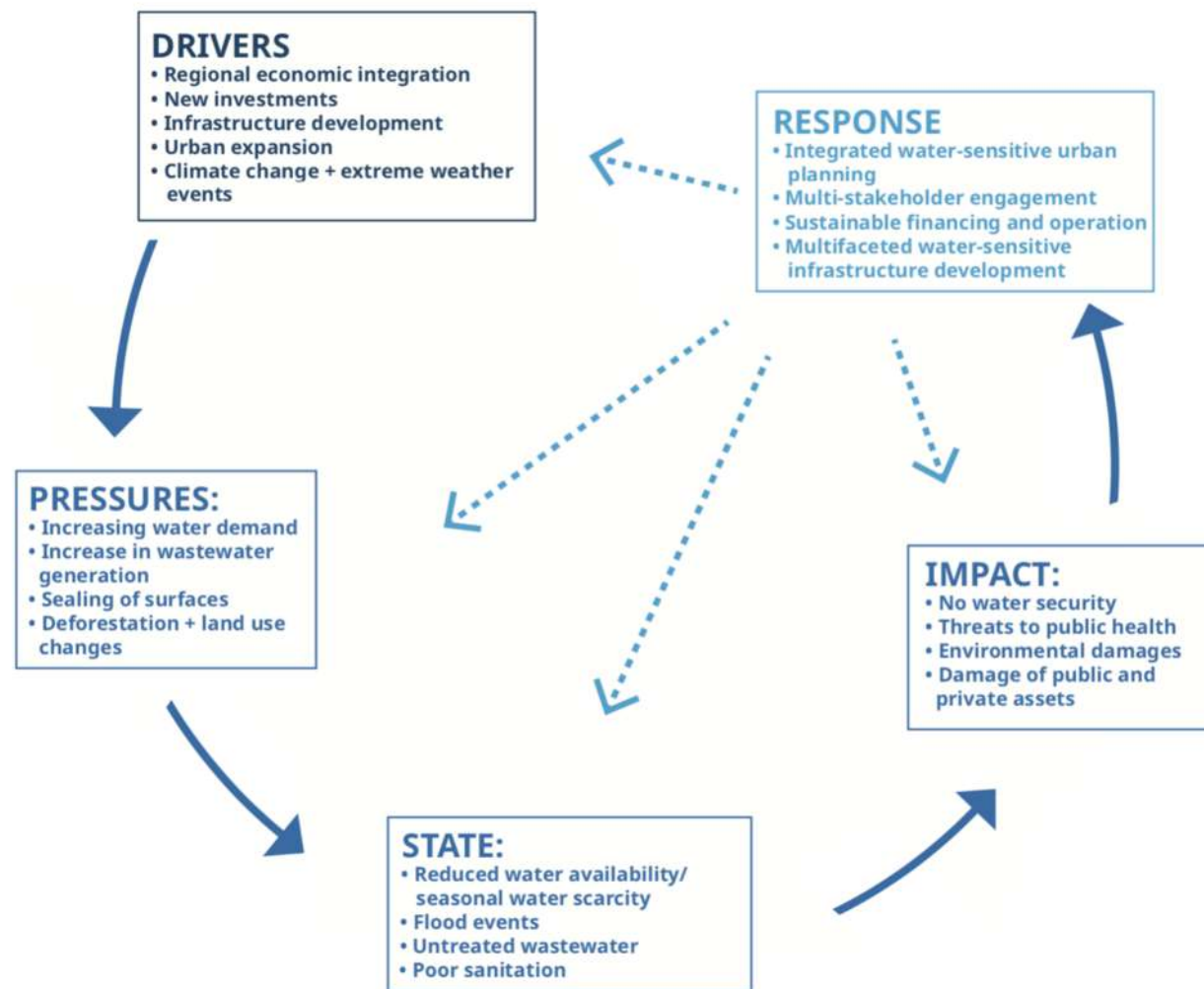
How can the city maintain control over urban development and planning?

Rank in 2045	NAME	2015	2035	2045
1	Vientiane Capital	505'672	1'114'172	1'571'365
2	Pakse	60'587	321'901	595'444
3	Phonesavanh	35'496	171'951	378'457
4	Savannaketh	70'999	208'955	358'470
5	Luang Prabang	57'265	145'649	232'283
6	Sayaburi	23'223	84'557	161'349
7	Oudomxay	21'303	57'340	94'074
8	Houaixay	16'547	52'601	93'783
9	Samneua	17'461	46'055	74'795
10	Luang Namtha	16'902	44'139	71'329
11	Thakek	30'829	50'881	65'366
12	Sekong	11'727	27'803	42'810
13	Salavanh	9'651	24'276	38'502
14	Pakxane	15'178	26'457	34'931
15	Attapeu	14'672	24'549	31'754

Population Projects to 2045 (SDC, 2018)

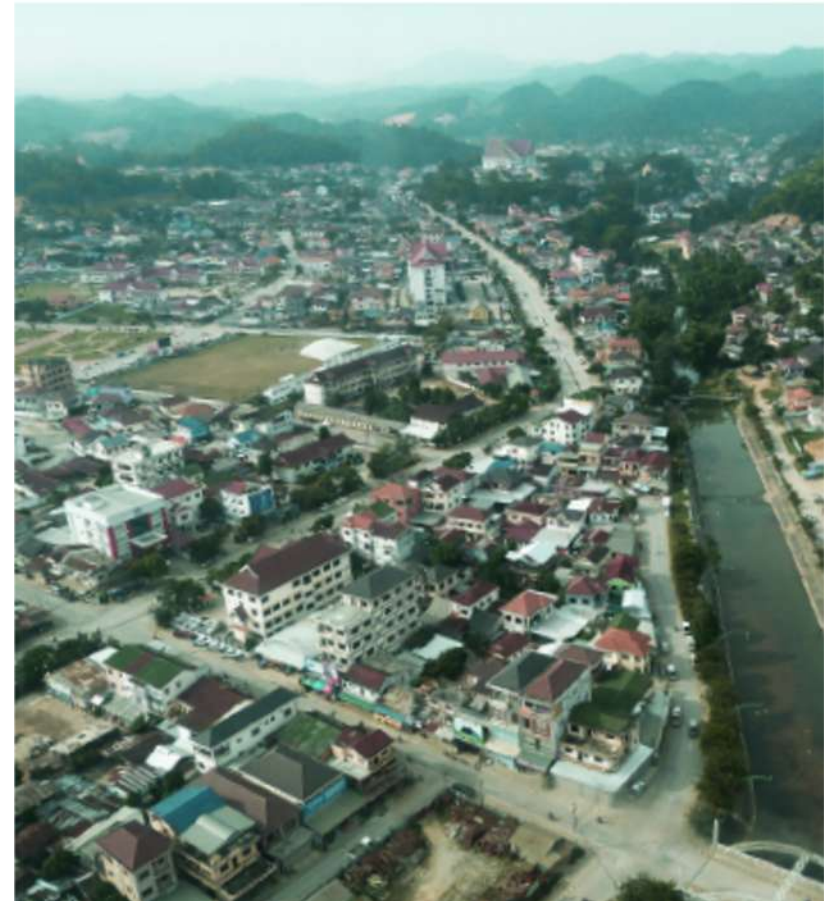


Development dynamics and its impact on water resources



Sam Neua's priorities for development

- **Urban Planning**
 - Shaping balanced urban growth
- **Wastewater Management**
 - Sustainable systems for increasing population
- **Water security**
 - Water security for a growing population
- **Stormwater management**
 - Safe & clean city
- **Solid waste management**
 - Healthy & clean city



1. Sam Neua City introduction - current situation

2. PolyUrbanWaters Project

What are the objectives of the project?

How can PolyUrbanWaters support Sam Neua?

3. Where does Sam Neua want to be in the future?

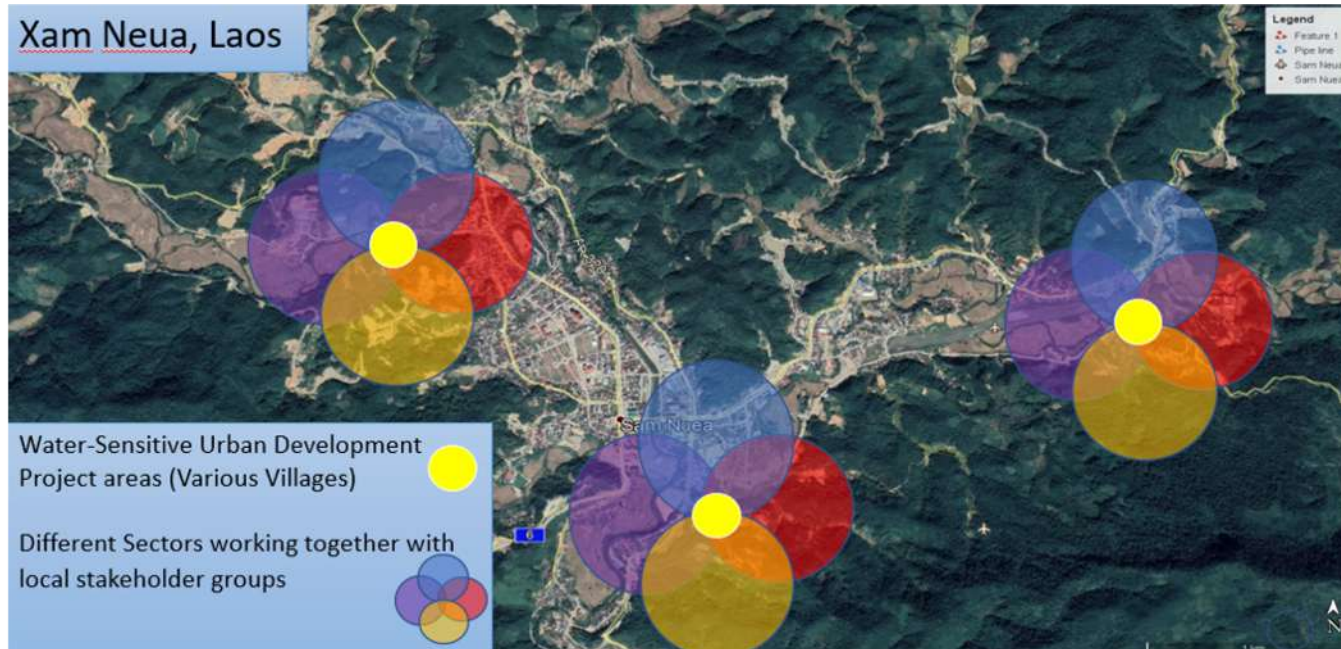
4. What needs to be done in order to achieve the vision of the city?

Polycentric approaches for the management of urban waters

- ➔ **Developing capacities, tools & methods to face future challenges with modern, water-sensitive and strategic planning**



What is the Polycentric Approach?



- **Different sectors, local government and communities work together** in planning and decision-making for development of **multiple sub-centres (e.g. villages)** in a city
- Integrates **urban planning** with **water management**
- Integrates **centralized** and **decentralized approaches to water management**
- Integrates **existing planning processes that already function and are valued** by stakeholders
- Improvements are made **progressively , step by step**, over a long time and in line with **local capabilities** and **resources**

Responsibilities and benefits of different stakeholders in the project

Level	Stakeholder	Involvement	Benefits
National	<ul style="list-style-type: none"> - Ministry of Public Works - Department of Housing and Urban Planning (DHUP) - Public Works and Transport Research Institute 	<ul style="list-style-type: none"> - Facilitation - Data provision - Upscaling 	<ul style="list-style-type: none"> - International cooperation - SDG localization - Partner cities (Indonesia, Kambodia)
Provincial/ Municipal	<ul style="list-style-type: none"> - Department of Public Works and Transport - Department of Natural Resources and Environment - Department of Planning & Investment - Urban Development and Administration Authority of Sam Neua (UDAA) 	<ul style="list-style-type: none"> - Local facilitation - Participation - Co-development of methods & Tools - Testing of methods & tools 	<ul style="list-style-type: none"> - Polycentric planning capacity - Handling of digital tools - Water-sensitive plans for development - Methods & tools to develop own projects
Village	<ul style="list-style-type: none"> - Village Heads - Head of Unit - Women Union of Village - Youth Union of Village - Residents 	<ul style="list-style-type: none"> - Participation - Testing of methods & tools 	<ul style="list-style-type: none"> - Involvement in planning - Water security - Planned steps towards vision realization - Improved cooperation with Government

1. Sam Neua City introduction - current situation
2. PolyUrbanWaters Project

3. Where does Sam Neua want to be in the future?

What is the vision of the city?

How can water-sensitive planning help achieve this vision?

Outcome B

Future scenarios of “Water in Sam Neua 2030/2045”

➔ Output 3

Scenarios “Water in Sam Neua 2030/45” are elaborated through a co-production process.

➔ Output 4

Scenarios “Water in Sam Neua 2030/2045” used for strategic decision making on the planning level, for budget allocation and for applying for SDG-oriented funding from international sources

Outcome C

Polycentric models for water-sensitive urban development and support for implementation

➔ Output 5

Co-production and co-design of three models: i) a new water-sensitive settlement area; ii) a water-sensitive public space; and iii) a community based used/waste water management scheme.

➔ Output 6

Elaboration of planning instruments, operation/business models and financing schemes for implementation of exemplary polycentric models.

➔ Output 7

Capacity building for stakeholders to implement exemplary models of water sensitive urban development.

4. What needs to be done in order to achieve the vision of the city?

The vision of the city: green, clean, peaceful and beautiful

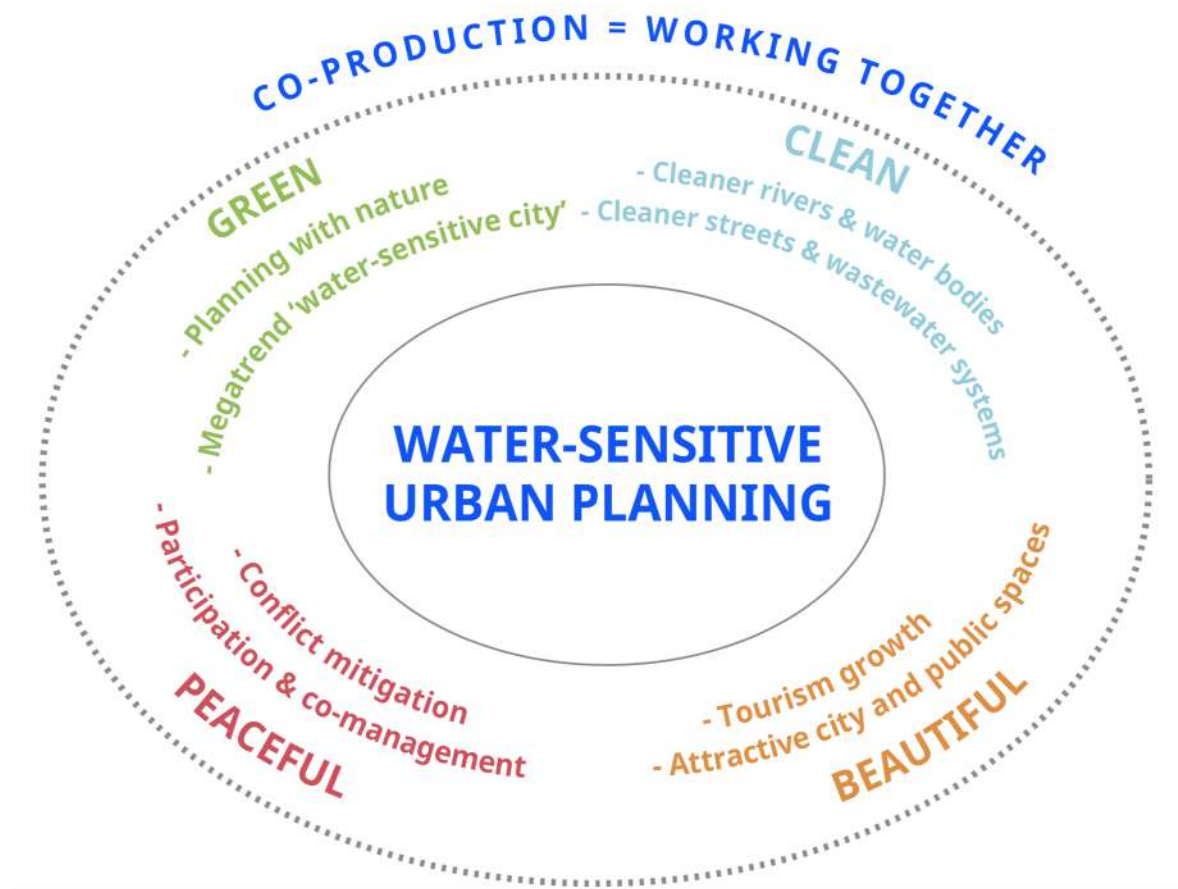


What does this mean for sustainable water management in the city?

➔ **Water-sensitive urban planning**

The “green, clean, peaceful and beautiful” vision

How can water-sensitive urban planning help to realize this vision?



How can Sam Neua benefit from water-sensitive planning?

- Supports the “green, clean, peaceful and beautiful” vision

& thereby helps to achieve the SDGs:

- Capacity to confront planning challenges
- Integrated water resources management
- Safer wastewater management
- Water security
- Resilience to climate change
- Opportunities for sustainable business

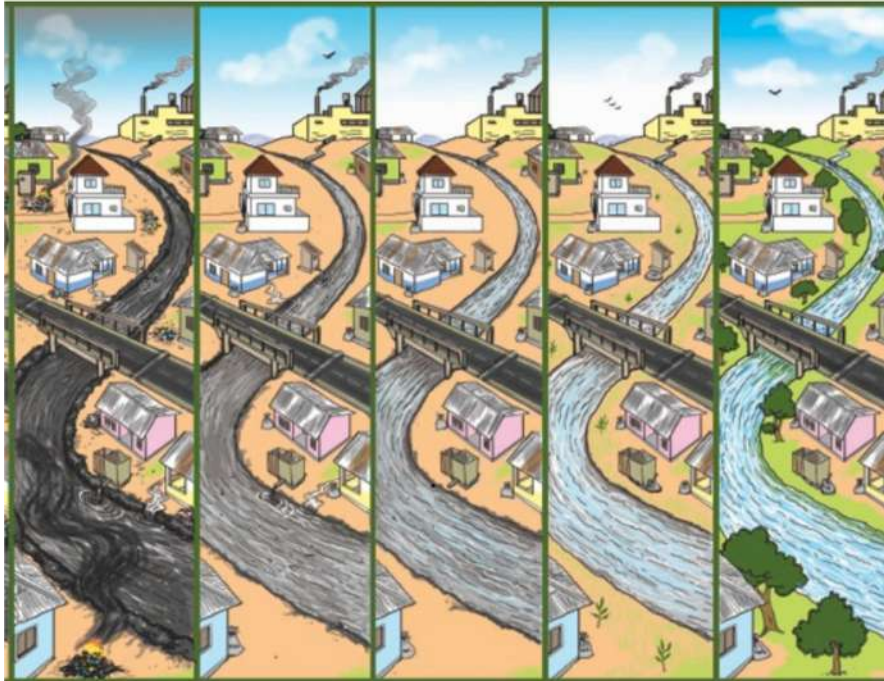


- **Creates instruments for intersectoral urban planning**

PolyUrbanWaters will promote “Water for the Future” with Sam Neua.

The city will become a ‘model’ city for the region, showing how to plan and prepare for sustainable, water-sensitive transformation.

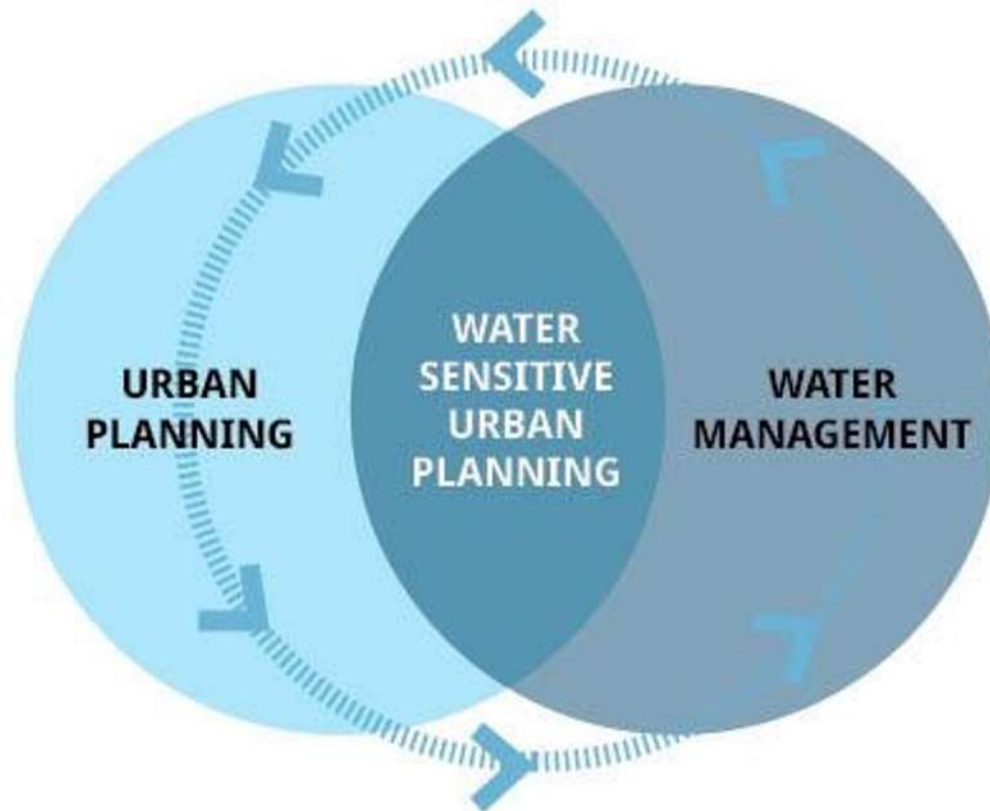
What does it mean to develop **water-sensitive urban planning** for Sam Neua's vision?



Step-by-step approach

- Development steps are in line with **local capabilities** and **resources**
- Development steps can be aligned **with existing planning processes**
- Transition over a **longer time frame**

What does it mean to develop **water-sensitive urban planning** for Sam Neua's vision?



First step: Understand the current situation & emerging risks

Water in the City 2021

Baseline assessment of **existing**:

- Water resources (availability, demand, quality)
- Benefits from nature
- Urban planning approaches
- Planning instruments and methods
- Challenges & vulnerabilities
- Opportunities for the city

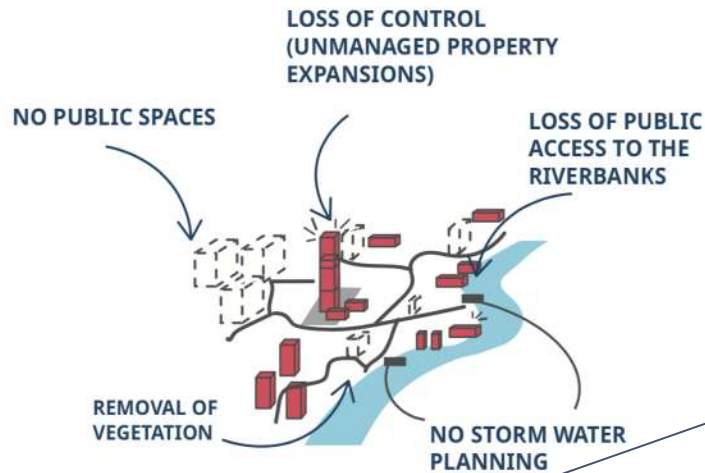
➔ **Strengthening local capacities to assess, quantify & evaluate resources availability and planning options**



Water in the Future

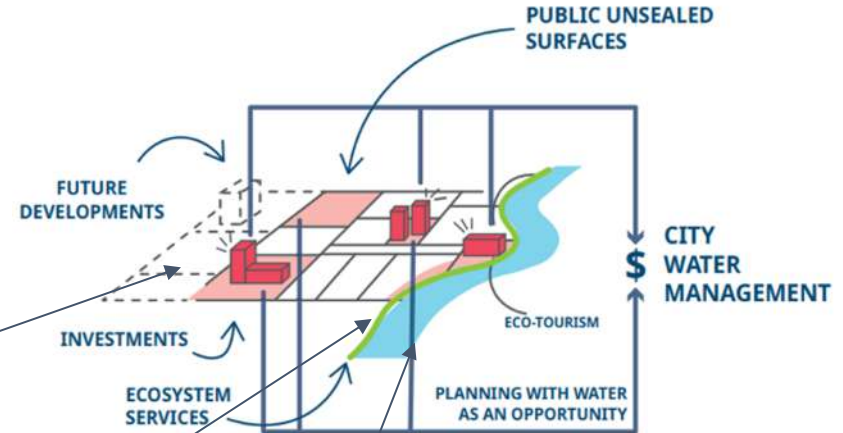
How will the city look in 2030? In 2045?

UNPLANNED DEVELOPMENT



Planned developments help **reduce demands, improve water storage, integrate stormwater systems, etc.**

PLANNED DEVELOPMENT (with a water-sensitive approach)



Vegetation helps improve water quality and supply ecosystem services

Planning for eco-tourism prioritizes **ecosystems** and supports business growth

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What actions are needed?

What are potential solutions - catalogue of options ?

Outcome D:

Approaches and instruments are:

- **1. Included in DHUP recommendations**
- **2. Included in PTTI training**
- **3. Continuously developed by SEA-wide network**

➔ Output 8

Tools and instruments elaborated in Sam Neua are to be used at the national level.

➔ Output 9

The results and products of the “Sam Neua process” form an integral part of the PolyUrbanWaters process in the SEA region and therefore strengthen practice oriented research and capacity building.

Developing transferable tools and models for a 'new water-sensitive urban expansion area'



An integrated water-sensitive planning model with tools and instruments that are transferable will be developed and tested in the urban expansion area

How can we work towards this future vision?

Our focus is the **co-development of strategies** that help Sam Neua to plan, build and implement water-sensitive urban planning.

Together, we can develop and apply tools and methods to:

- Assess water-related risks & opportunities
- Build scenarios
- Create transition pathways (actor-based step-by-step plans) towards water sensitive urban planning for the future
- **Support processes or applications to achieve these goals:**
 - technical support in the process of applying for financing
 - link the city with relevant studies and existing financing models

What we are unable to support

- The PolyUrbanWaters project is **unable to focus on solid waste** or the implementation of highly technical infrastructure, we are **not in the position** to build infrastructure, and we are unable to provide financing.

PolyUrbanWaters' Action Package: Stakeholder Involvement

How can we make sure that we achieve this water-sensitive best-case scenario?

By working together towards a water-sensitive future

- **Stakeholder involvement** will be crucial at all stages

Water Sensitive Governance	Technical Training	Participatory Workshops	Co-management	Regional (SEA) Knowledge-Hub
<p>Tools for integrated urban planning and water management</p> <p>Tools for co-production</p>	<p>Tools for resources assessment</p> <p>Capacities for evaluation of resources and spatial planning for the future</p>	<p>Co-creation of scenarios and step by step plans how to reach the visions</p> <p>Capacities to strengthen plans and to be ahead of development</p>	<p>Involvement of different stakeholders and the city itself in management processes of different solutions</p> <p>Capacities of citizens to play an important role in future urban management</p>	<p>Connecting with other SEA cities to learn together and strengthen regional bonds and capacities</p> <p>Building capacities to communicate regionally and to develop education materials</p>

Catalogue of options

PolyUrbanWaters team will work together with the city to find different instruments and tools that can lead to achieve the goals of the city.

Tools for integrated planning



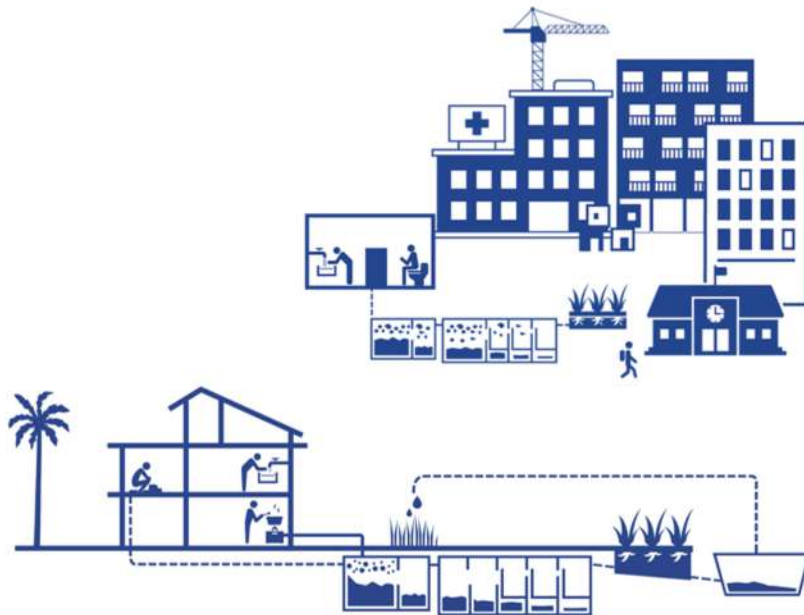
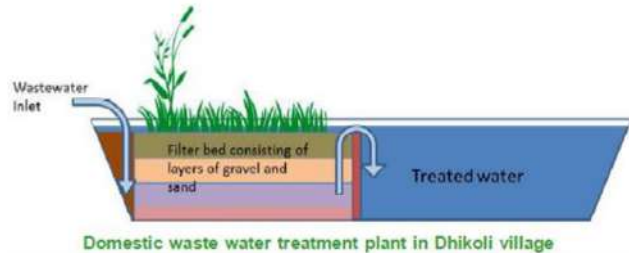
Catalogue of options

Technical Tools



Catalogue of options

Tools for storm and wastewater management



Tools to improve water quality / ecosystem services



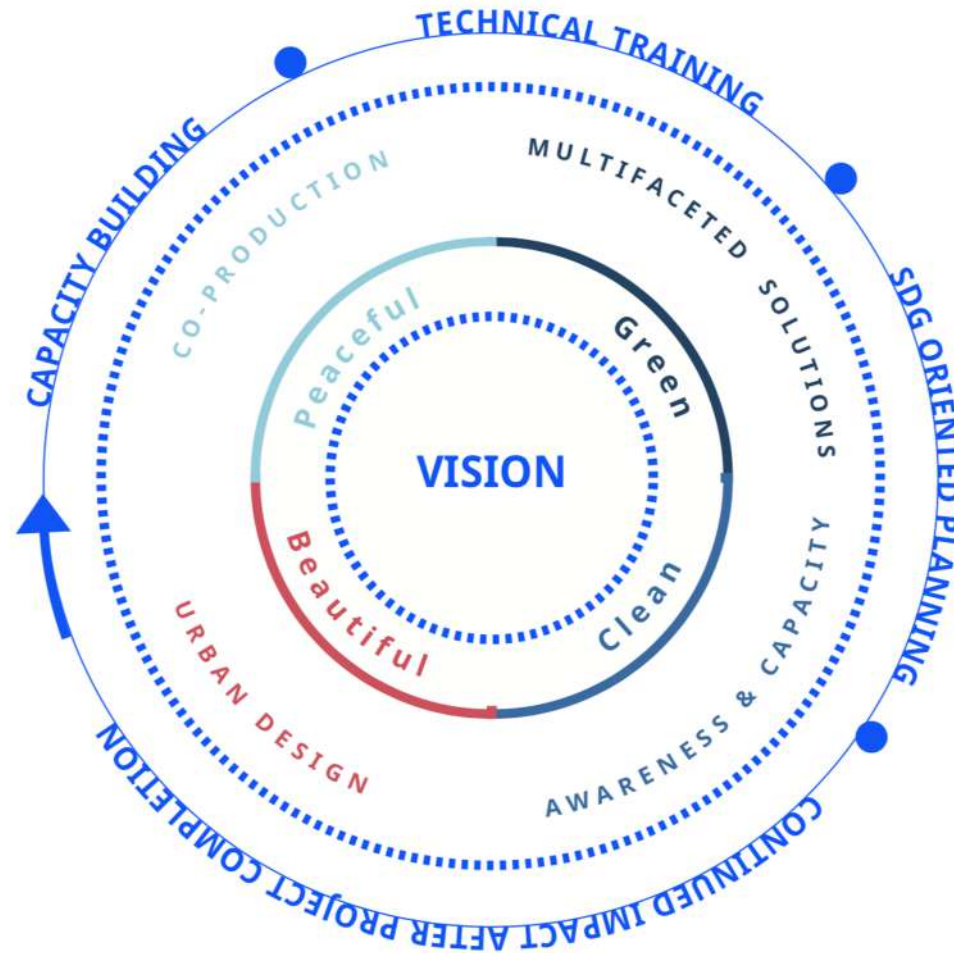
Catalogue of options

Integrating tools: water-sensitive urban planning



Polycentric approach to management of urban waters in Sam Neua

Vision & Planning for a water-sensitive future



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Picture Slide 14: BORDA 2016, *PART 1 City Sanitation Planning, Urban Environmental Sanitation*

Picture slide 16: Denver Post, 2019. Accessed on 05.04.2020 via: <https://www.denverpost.com/2019/11/10/zanzibar-tests-drones-spraying-rice-fields-malaria/>

Picture 1 Slide 23: International Water Association, 2020 (<https://iwa-network.org/projects/nature-for-water-and-sanitation/>)

Picture 2 Slide 23: Barry Wilson Project Initiatives, 2020. Accessed on 05.04.2020, via <http://www.initiatives.com.hk/sponge-city.html>

Picture 3 Slide 23: Ixtenso Magazine for Retailers, 2020. Accessed on 07.04.2020, via <https://ixtenso.com/logistics/demand-for-drone-delivery-in-e-retail-is-high.html>

Picture 4 Slide 23: Hageplex Technologies Limited, *A Simple Expectation Guide to GIS Training in Nigeria*. Accessed on 04.04.2020 via: <https://images.app.goo.gl/5cd4wGuEgz3onUHG9>

Graphic 1 Slide 24: Development Alternatives Newsletter, 2016. Accessed on 05.04.2020 via: https://www.devalt.org/newsletter/jun16/of_2.htm

Graphics 2 & 3 Slide 24: BORDA, Accessed on 07.04.2020, via: <https://www.borda.org/solutions/>

Drawing slide 25: BORDA 2017, *Dewats Systems*.

Appendix Detailed Project Outcomes

Outcome A:

Local/national government and other entities make use of baseline-analysis “Water in Sam Neua 2021” for informed decision making in urban planning



Output 1:

Baseline-analysis “Water in Sam Neua 2021” is elaborated through co-production between Public Works Training Institute, entities of local government, local stakeholders and PolyUrbanWaters partner network (SEA/Germany).



Output 2:

Stakeholders on national and local level develop capacities to make use of baseline-analyses “Water in Sam Neua 2021” by interlinking information on water cycle, the urban development dynamics, the existing water risks and water opportunities for the city.

Outcome B:

Local/national government entities and other stakeholders from private sector, communities and water operators make use of scenarios “Water in Sam Neua 2030/2045” for strategic decision making for water sensitive urban development.



Output 3:

Scenarios “Water in Sam Neua 2030/2045” elaborated through co-production between Public Works Training Institute, entities of local government, stakeholders from private sector/communities and PolyUrbanWaters partner network (SEA/Germany).



Output 4:

National and local government entities make use of scenarios “Water in Sam Neua 2030/2045” for strategic decision making on the planning level, for budget allocation and for applying for SDG-oriented funding from international sources.

Appendix

Detailed Project Outcomes

Outcome C:

Exemplary polycentric models for water sensitive urban development are elaborated and their implementation supported.



Output 5:

In co-production with public entities, investors, water operators and communities/households, three models are designed: 1) one new water sensitive settlement area; 2) one water sensitive public space; and 3) one community based used/waste water management scheme.



Output 6:

Elaboration of planning instruments, operation/business models and financing schemes for implementation of exemplary polycentric models.



Output 7:

Capacity building for stakeholders to implement exemplary models of water sensitive urban development.

Outcome D:

The PolyUrbanWaters approach and instruments are:

- a. endorsed in DHUP recommendations**
- b. used by the PTTI for practice oriented research, capacity building and technical guidance throughout Laos**
- c. continuously developed by the SEA-wide PolyUrbanWaters network.**



Output 8:

Tools and instruments elaborated in Sam Neua are to be used on national level.



Output 9:

The results and products of the “Sam Neua process” form an integral part of the PolyUrbanWaters process in the SEA region and therefore strengthen practice orientated research and capacity building.