



Reconciling the Catchment: A City-Basin case study from Lao PDR









Actionable insights from the GEF Funded UNDP-DWR Integrated Climate Resilience project

Plenary session 2:

"City-Basin dialogue for water security: reconciling urban, coastal and rural developments"

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Divergent Geographies, Symmetrical Risks

Luang Prabang City			Xe Bang Hieng Basin
<p>UNESCO World Heritage urban center and tourism economy.</p> 	<p>Core Asset at Risk</p> <p>Primary Hydrological Hazard</p> <p>Ecosystem Degradation</p> <p>Required Intervention Scale</p>	 <p>15 target villages across 5 districts; vital rice paddies and agricultural livelihoods.</p>	
<p>Pluvial flooding (surface water accumulation due to poor drainage and intense rainfall).</p> 		 <p>Severe fluvial (riverine) flooding alternating with acute agricultural drought.</p>	
<p>Rapid urbanization polluting and filling in the traditional, manmade network of urban wetlands.</p> 		 <p>Deforestation and unsustainable farming in the headwaters destroying natural water retention.</p>	
<p>Micro-level (urban drainage, pond restoration, ward-level planning).</p> 		 <p>Macro-level (10,000 hectares of forest protection, multi-district flow management).</p>	

The Shared Language of Reconciliation

Bridging Luang Prabang's city streets and Savannakhet's agricultural basins through three converging frameworks.

IWRM

EbA

IWRM
(Integrated Water Resources Management)

The allocation engine. Ensuring cross-sectoral water management that balances urban consumption with rural agricultural needs.

Climate Resilience

EbA
(Ecosystem-based Adaptation)

Nature as infrastructure. Utilizing wetland restoration and reforestation to absorb climate shocks before they reach concrete channels.

ICM

ICM
(Integrated Catchment Management)

The overarching boundary. Managing the flow of water from ridge to reef, ignoring arbitrary political lines to manage the whole basin.

The Rural Dialogue: 5-Year ICFMS Action Plan (2025–2029)



The Mechanism: Integrated Climate-Resilient Flood Management Strategy (ICFMS) across 15 high-risk villages.



District Deployment (The Where)

Champhone	Sivilay, Phiaka, DongMeung
Songkhone	Songkhone, KaengDone, Huaykhor
Xonbuly	Nonsavang, MeungHong, Najanyai
Sepone	Sobsalou, KaengHuapa, KaengThamae
Nong	NongVilay, SaVeue, TangAlaiNeua



Natural Buffers (The How)

Surpassing initial goals:
28,422 trees planted
(517 ha) and **3,903 ha**
designated for natural
ecological restoration to
absorb upstream
volume.

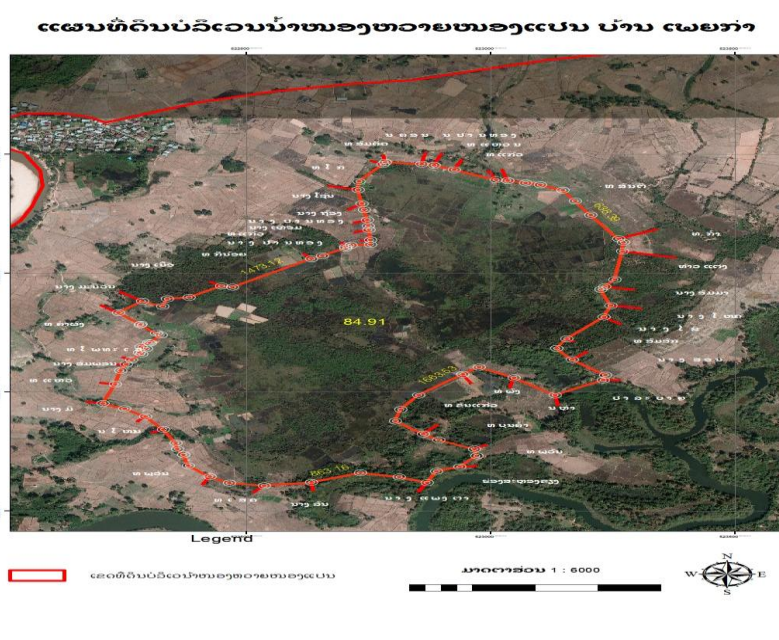


Physical Defenses (The What)

\$600,000 allocated for critical
hard and soft disaster
prevention infrastructure to buffer
extreme fluvial floods and
acute droughts.



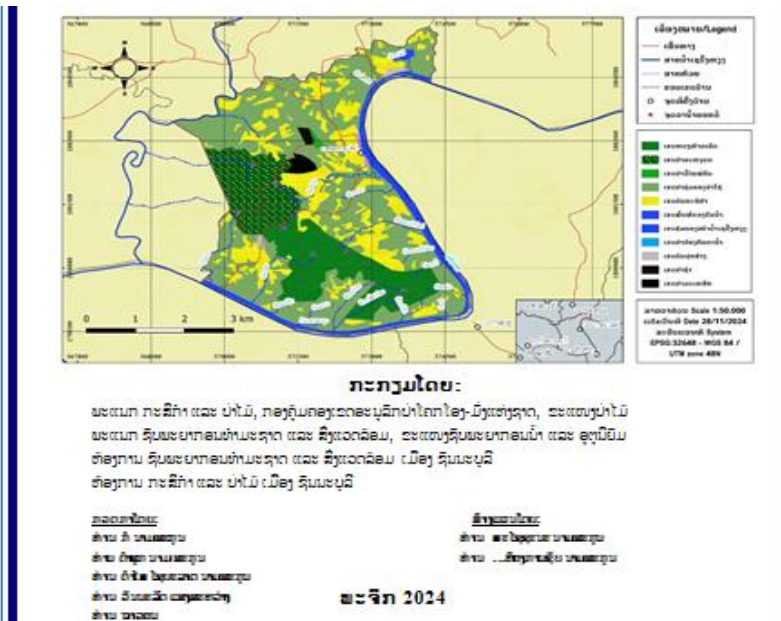
Solar water pumps in Ban Phiaka (Champhone) and Ban Najanyai (Xonnabouly)



Wetland Boundary Demarcation - Champhone
Survey of degraded forests - Nong, Xepon,
Xonnabouly and Luang Prabang



Consultation process for establishment of
Community Conservation Agreements (CCA)



Urban Intervention: Heritage Protection Through Wetland Restoration

Strategic Focus: The Integrated Climate-Resilient Flood Management Strategy (ICFMS) for Luang Prabang City.

The Mechanism: The city's inclusion on the UNESCO World Heritage list was partly due to its historical manmade network of wetlands. Rapid development threatens these systems.

EbA Outcomes for Urban Resilience



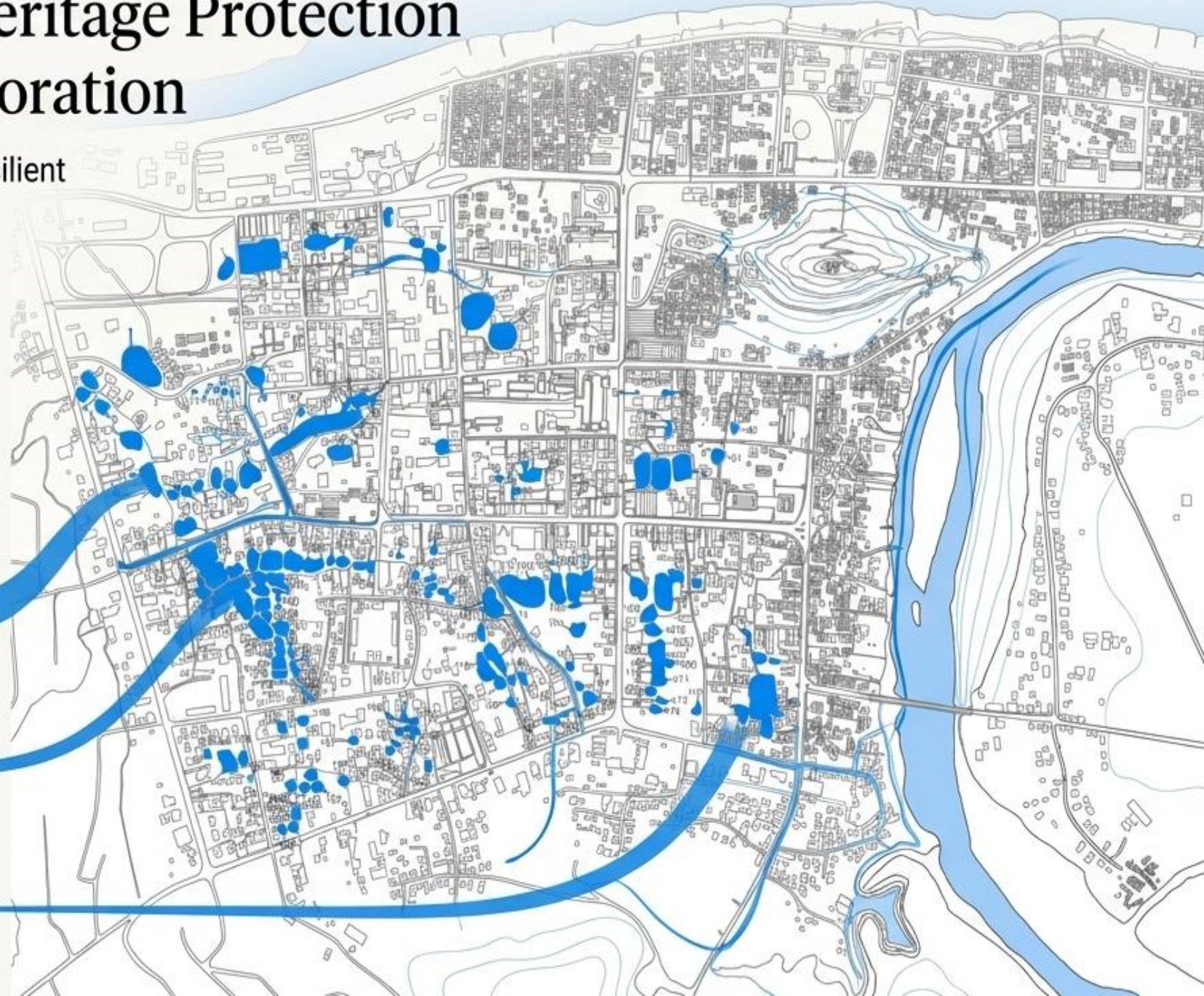
1. Flood Mitigation: Restoring wetlands captures surface runoff, directly reducing pluvial flood risks during extreme rainfall events.



2. Water Quality: Natural systems provide essential treatment for household wastewater effluent.



3. Thermal Regulation: Preserving the blue-green infrastructure cools the dense urban microclimate.



Synthesizing the City-Basin Dialogue

Three Takeaways for Reconciling Global Catchments:

1.

A Shared Diagnostic Language

Urban and rural areas will always face different symptoms (pluvial ponding vs. fluvial inundation), but they **require the exact same holistic cure** (IWRM, EbA, ICM).

2.

Nature as the Ultimate Infrastructure

Forest restoration in the rural basin is not just an ecological victory; it is direct, quantifiable flood protection for the downstream city.

3.

Governance Requires Inclusion

Strategies like the 5-Year ICFMS are only resilient when **marginalized communities are funded and empowered as active participants** in the basin's dialogue.



Thank you
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