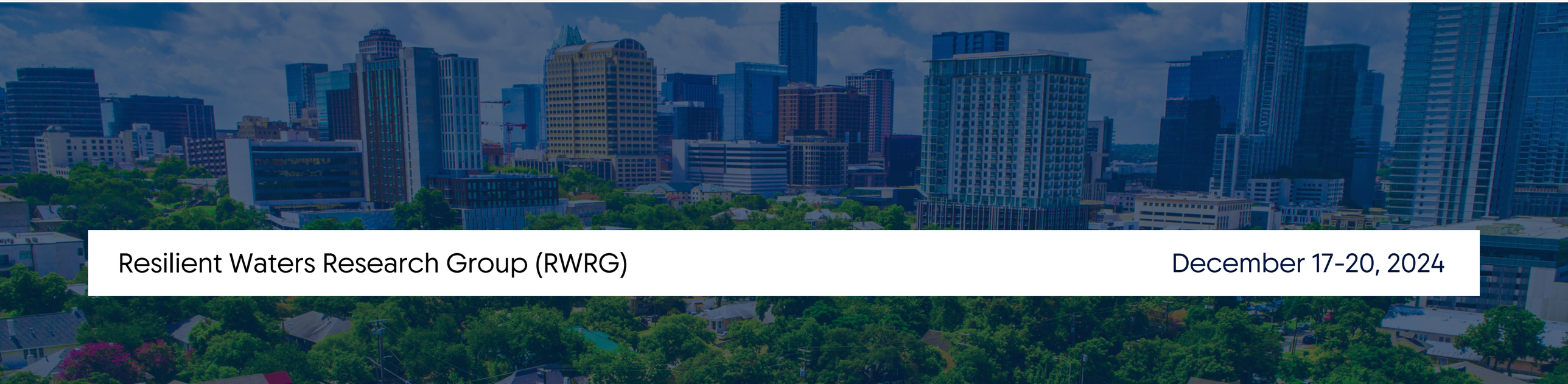
“Gamification”:
An innovative tool to build Urban-coastal resilience with nature



Resilient Waters Research Group (RWRG)

December 17-20, 2024

Group Composition

BIMALI

Cyclonic Storm Surges
Nature Based Solutions
Disaster Resilience
Coastal Oceanography
Climate Change

CHINTHAKA

Hydromet Hazards
Nature-based Solutions
Big Data in Water Management

NUWANI

Urban Planning
Creating resilient urban areas
Community engagement in DRR
Urban Flooding

FAHAD

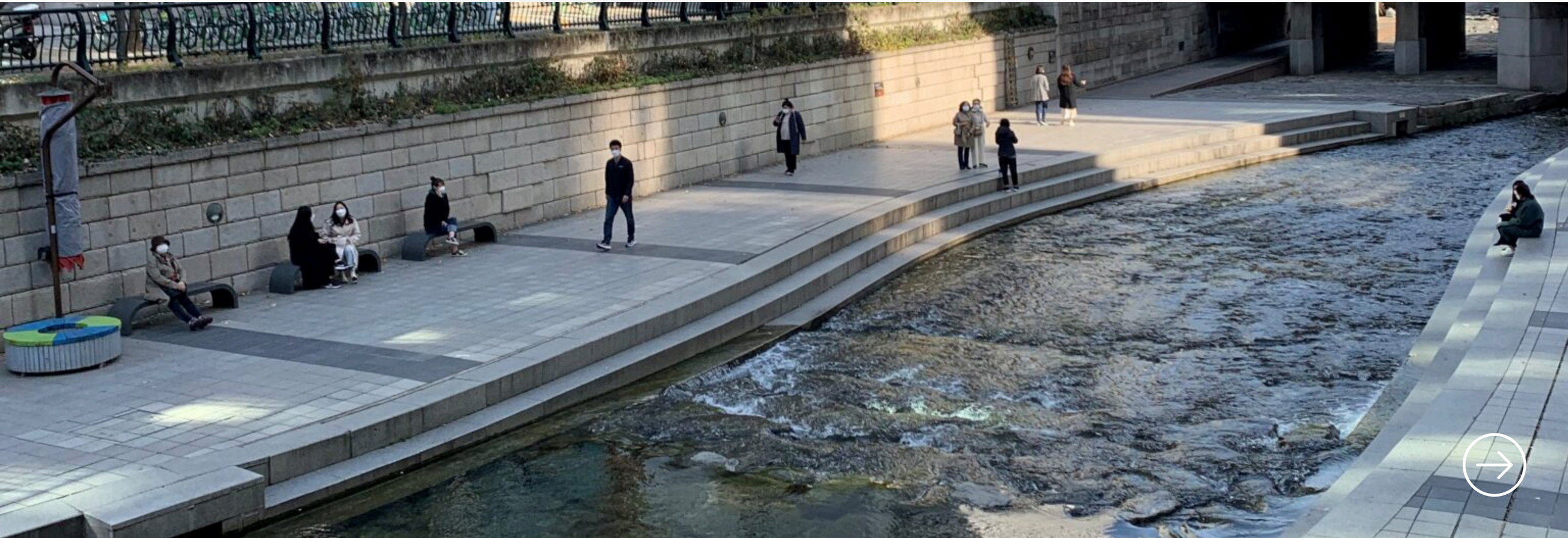
Hydrology
Stormwater Management
Nature-based Solutions
Climate Change
Eco-system Based Adaptation

MICAH

Public Policy
Architecture
Game-based Learning
Gender Studies
Risk Management
Community Engagement

RESEARCH PROBLEM

There is a lack of awareness on nature-based solutions (NbS) for addressing urban and coastal flooding. Thus, NbS are not prioritized in disaster risk reduction decision-making.



Potential Core Areas

01

Disaster Risk Reduction (HMH)

02

Climate Change Adaptation and Mitigation

03

Urban Coastal Nature-based Solutions

04

Awareness Raising through Gaming

SDG Goals

13 CLIMATE ACTION
1 NO POVERTY
11 SUSTAINABLE CITIES AND COMMUNITIES
6 CLEAN WATER AND SANITATION
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
15 LIFE ON LAND

SDG Targets

Take urgent action to combat climate change and its impacts

SDG 13.1

Strengthen resilience and adaptive capacity to climate-related hazards and diasasters in all countries

SDG 13.3

Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

SDG Targets

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

SDG 15.2

Promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

SDG 15.9

Integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts

SDG Targets

Make cities and human settlements inclusive, safe, resilient and sustainable

SDG 11.3

By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

SDG Targets

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

SDG 9.4

By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

SDG Targets

End poverty in all its forms everywhere

SDG 1.5

By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

SDG Targets

Ensure availability and sustainable management of water and sanitation for all

SDG 6.1

By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters