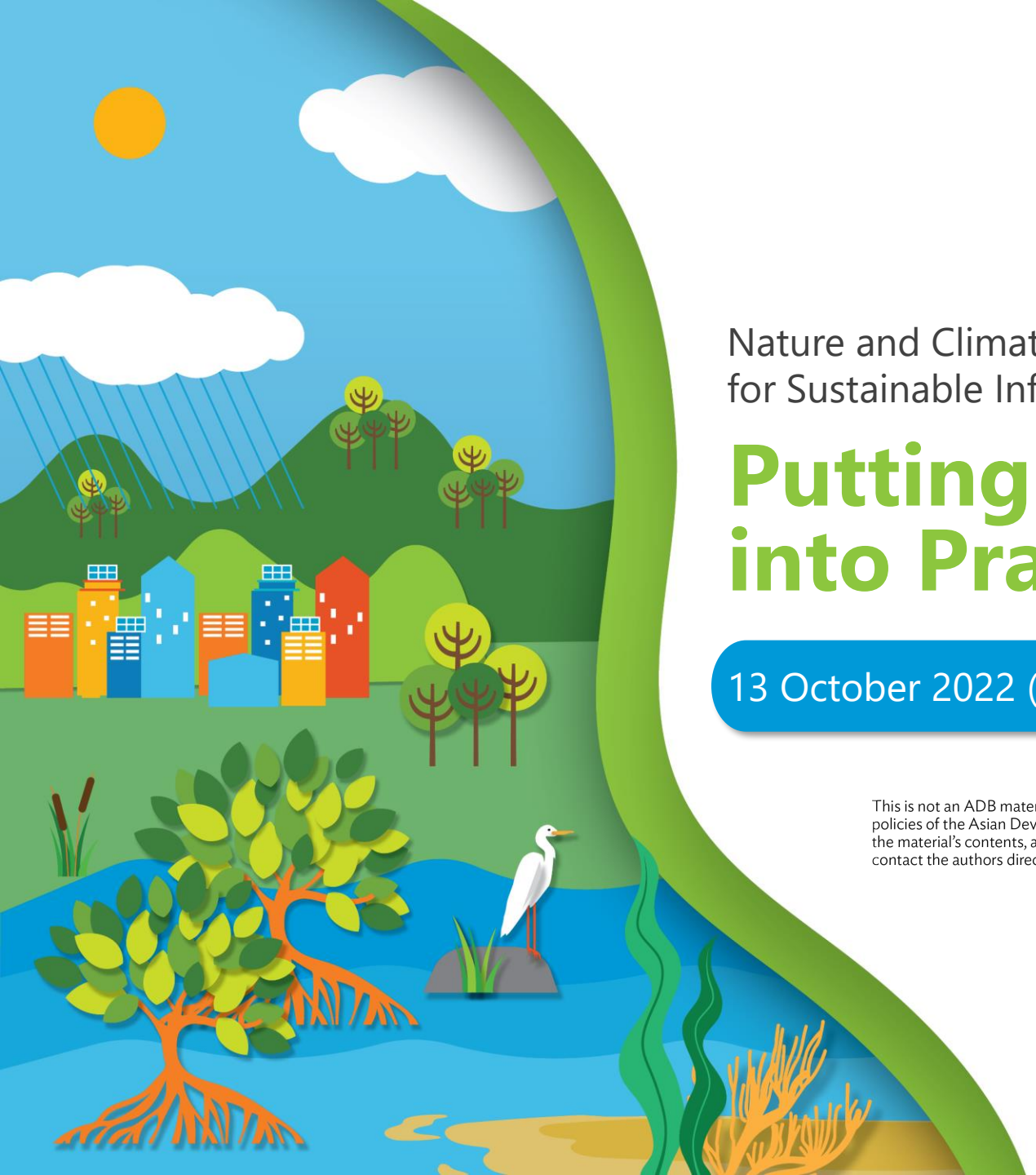


Nature and Climate Nexus: Promoting Nature-Based Solutions for Sustainable Infrastructures in Asia and the Pacific

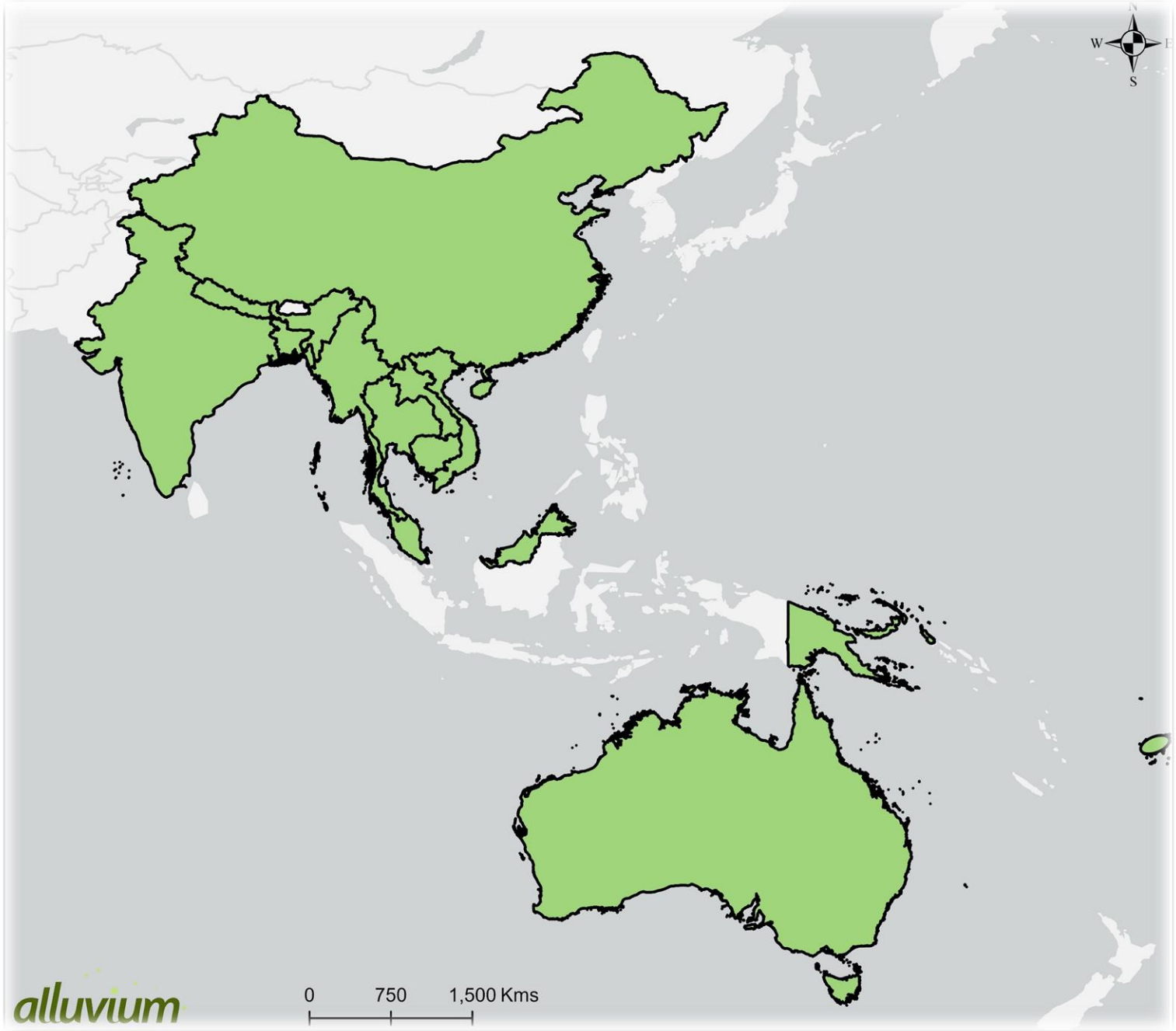
Putting Nature-Based Solutions into Practice through Innovation

13 October 2022 (Thursday) / 1 – 2 pm (Philippines, GMT +8) / MS Teams

ALLUVIUM GROUP INTRODUCTION

The Alluvium Group brings together 6 companies with a common vision

We work across Asia and the Pacific



We are involved in the latest science and applied research

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

CENTRE FOR WATER, CLIMATE AND LAND

IN PARTNERSHIP WITH

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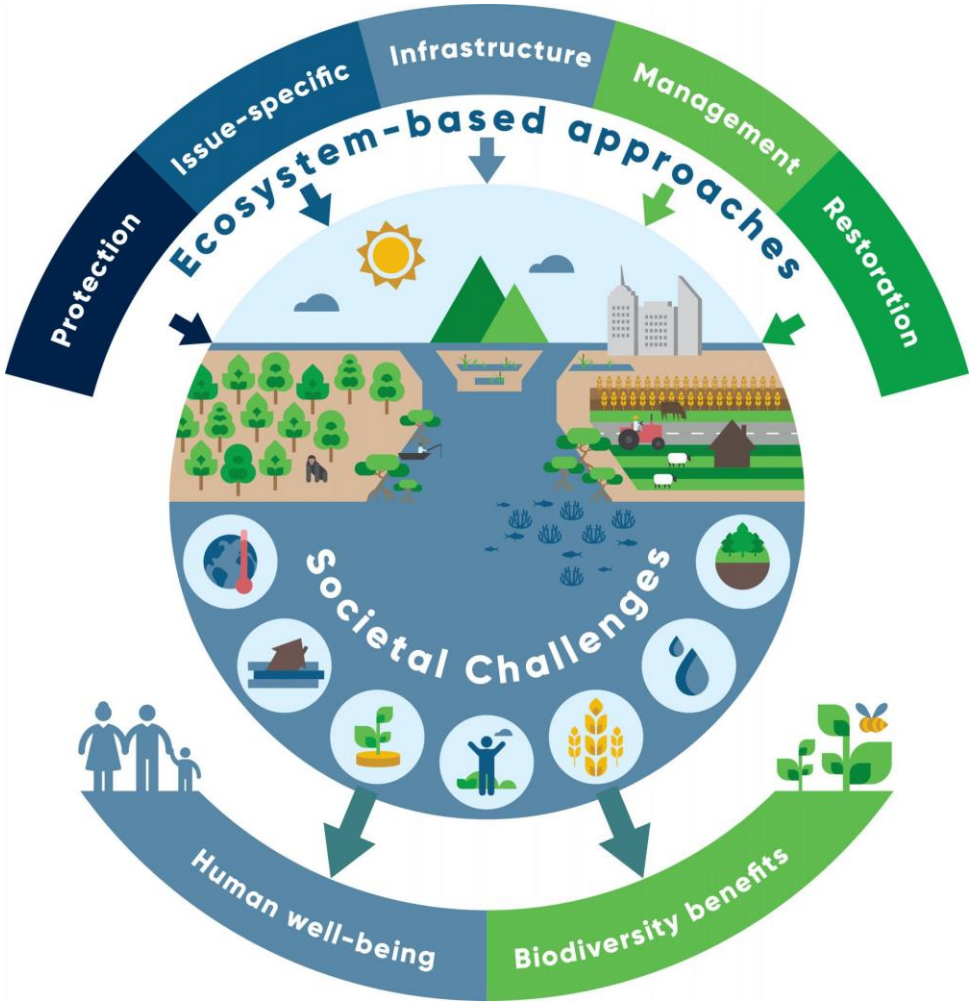
INNOVATION IN NATURE-BASED SOLUTIONS

Nature-Based Solutions put human and ecosystem well-being at the center



Source: IUCN

NBS can enhance adaptation and resilience whilst addressing the decline of natural resources

ADB ASIAN DEVELOPMENT BANK

We mainstream NBS innovations across a range of themes and scales

- NbS for liveable and resilient cities
- NbS for adaptation and disaster risk management
- NbS in river basin management and environmental flows
- Ecosystem services valuation for NbS
- Integrating cultural considerations into NbS
- NBS for infrastructure

NBS for infrastructure

Flood response – rebuilding the river with pile fields

2017

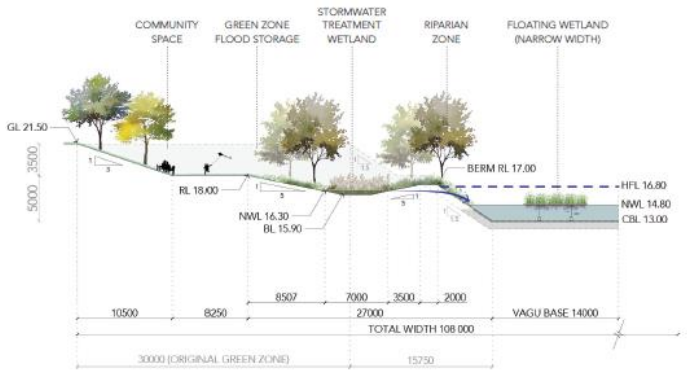
2018

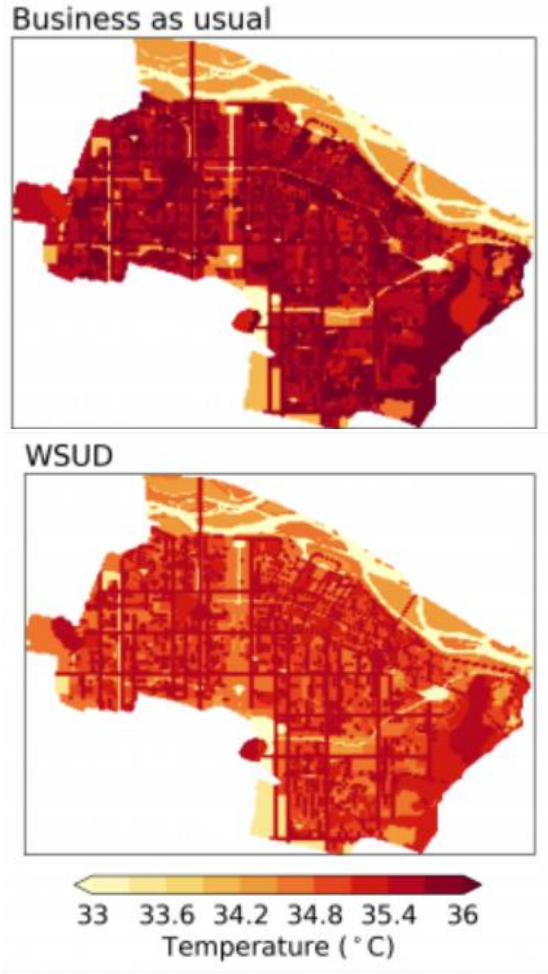
2022

NbS for liveable and resilient cities

Water Sensitive vision for the greenfield city of Amaravati, India

ADB





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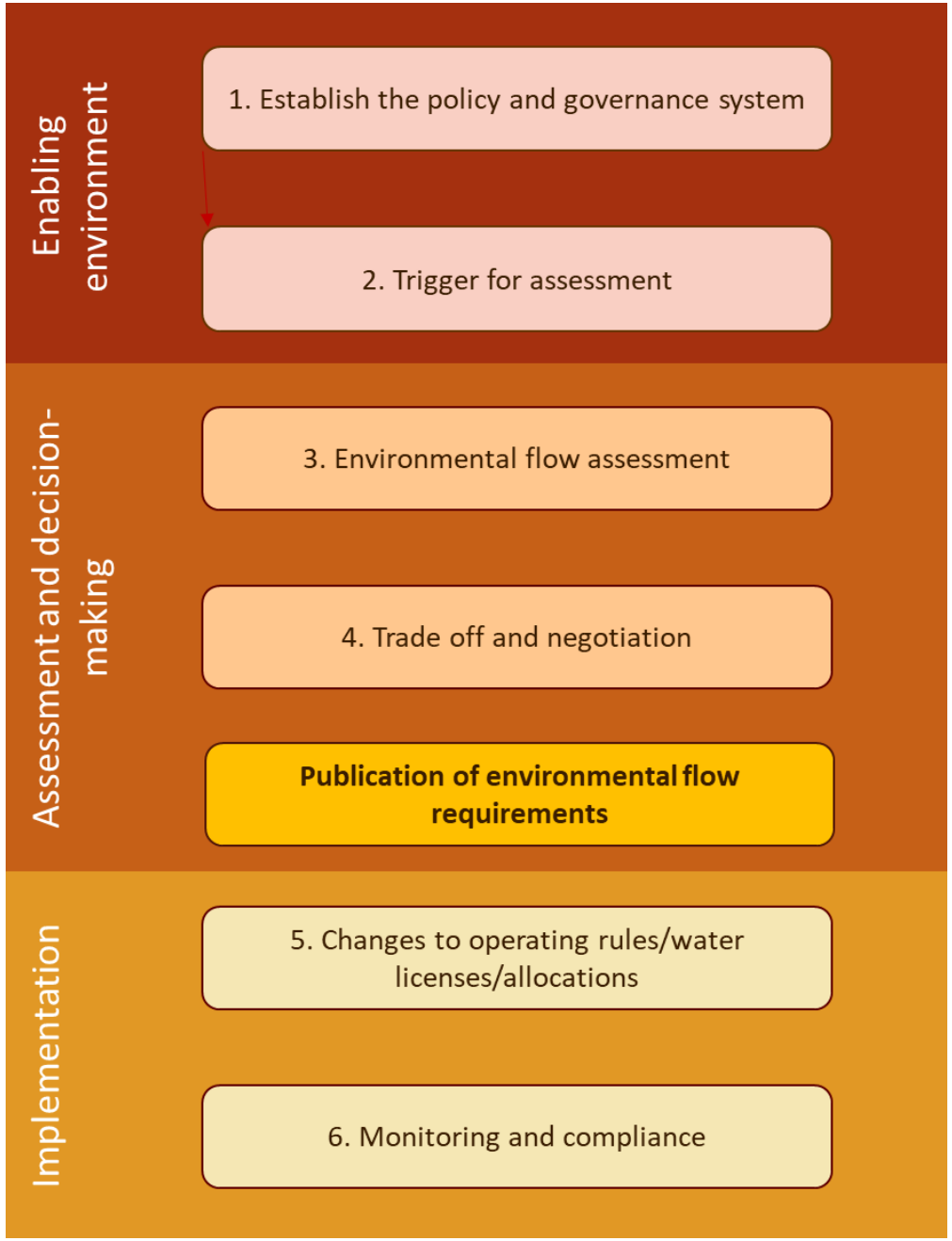
NbS in river basin management and environmental flows

Integrating nature into basin planning – the use of environmental flows in Viet Nam



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NbS for adaptation and disaster risk management

Tool for Ecosystem-based Adaptation in the Pacific

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< Back to results

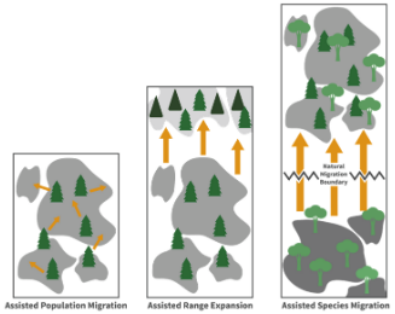
ADAPTIVE FOREST MANAGEMENT

Adaptive forest management is intended to enhance the functionality of forests and productivity of commercial forest ventures under the multiple pressures of climate change. Climate change impacts can cause significant alteration of the growing conditions through increasing of extreme weather events, changing hydrological regimes and increasing prevalence and spread of disease. The intent of integrating a diversity of tree species into managed forests is to increase the adaptive capacity of those forests to resist and recover from the impacts of climate change.

Natural or adaptively managed forests contain a diversity of woody species. By integrating a range of trees with different functional types into a forest, resources such as light, water and nutrients can be spatially and temporally used by different species at different times, leading to an increase in resilience. Managed forests with low diversity (e.g. plantations) are ultimately more vulnerable to changing conditions with a lower ranges of tolerance to any impacts, increasing the likelihood of extensive damage to forest function leading to large scale and sometimes irreversible shifts in the condition of the forest.

Possible adaptive forest management interventions include:

- **Assisted introduction of tree species**: This intervention seeks to mimic or accelerate the expected transformational processes that would occur naturally as a forest adapts to climate impacts. Assisted introduction of species is a generic term that includes a variety of potential actions. These include: 1) Assisted population migration (also assisted genetic migration or assisted gene flow) which involves moving seed sources or populations to new locations within the historical species range; 2) Assisted range expansion involving moving seed sources or populations from their current range to suitable areas just beyond the historical species range; 3) Assisted species migration (also species rescue, managed relocation, or assisted long-distance migration) – moving seed sources or populations to a location far outside the historical species range , beyond locations accessible by natural dispersal.



Assisted Migration – human assisted movement of species in response to climate change[1]

- **Active restoration of key forest functions**: Whilst active restoration of degraded forests has been a significant part of conservation planning globally, assisted or targeted restoration to assist managed forests adapt to climate change is an emerging field. However, efforts have been made to target the components of forests vulnerable to climate change like riparian areas (vulnerable to increased river flow velocity and erosivity) and forest edges (vulnerable to physical damage by extreme events).

On-ground impacts that the EbA option addresses

- Declining forestry production
- Erosion of habitat
- Decreasing diversity of raw materials

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Ecosystem services valuation for NbS

Ecosystem services valuation to give the environment a seat at the table in Ayeyarwady basin

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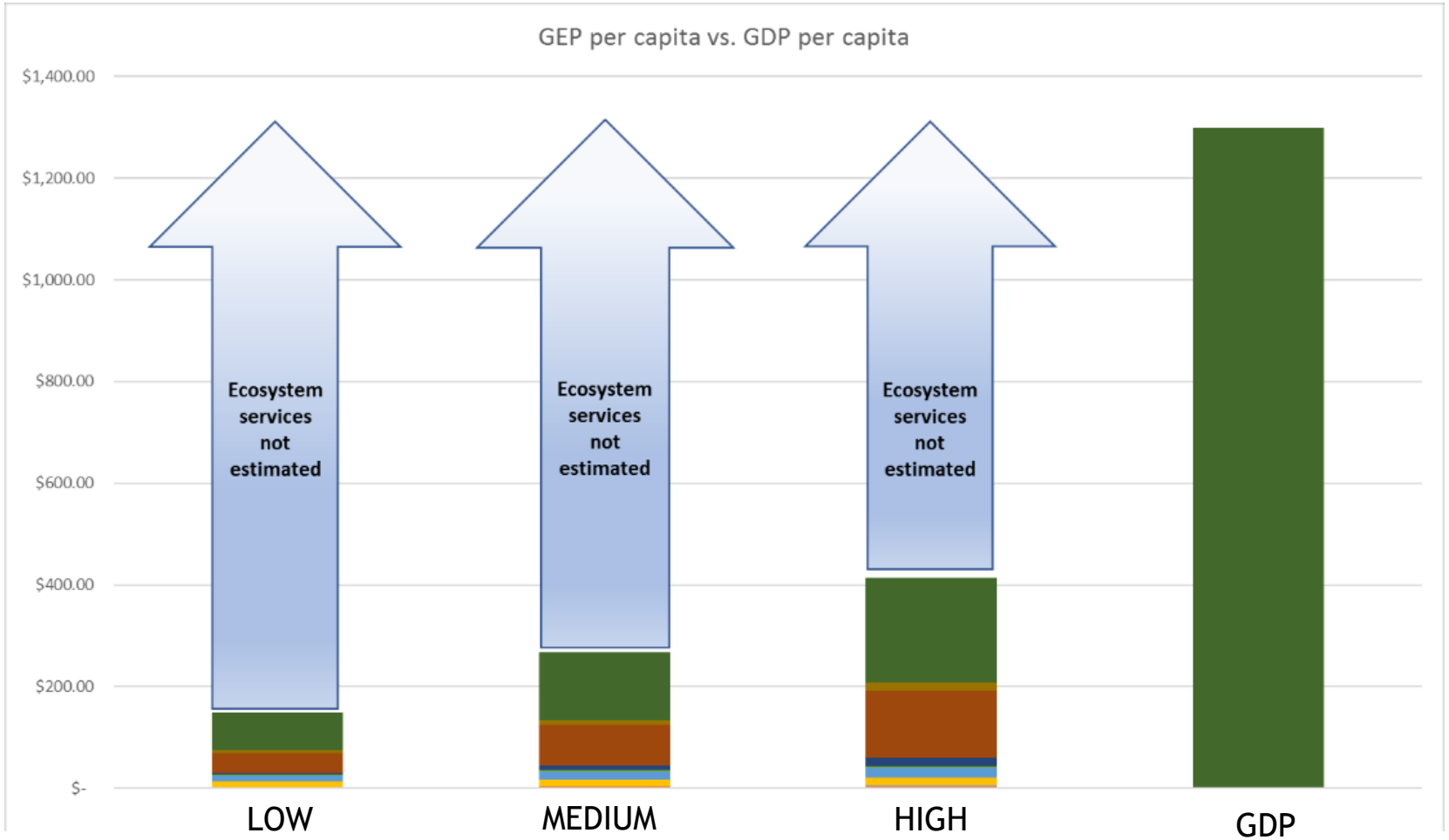

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Integrating cultural considerations into NbS

Indigenous voices in Coastal Hazard Adaption Strategies

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LESSONS FOR PUTTING NBS INTO PRACTICE THROUGH INNOVATION

Key lessons for Putting Nature-Based Solutions (NBS) into Practice Through Innovation

NBS is accepted as a key answer to climate change and ecosystem decline – challenge now is to make sure it is mainstreamed

NBS should be an important part of all infrastructure development

Important to build NBS capacity within government entities

Promote powerful case studies to change the mindset

NBS should be an integrated approach working across scales

NBS should embrace local and indigenous knowledge in devising innovative solutions

Demonstrating the economic value of NBS is important for uptake

Make use of the growing number of tools for NBS (software, economic ect)

ADB

Thanks for listening. Happy to take questions.

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We strive to solve the complex and systemic challenges facing our society and environment