



# Accelerating Adaptation in Asia through Building with Nature Proceedings

Expert workshop and High Level event,  
9-11 July 2019, Delft and Rotterdam

Announcement of the Shared Ambition,  
22 September 2019, New York Climate Action Summit

**Governments and donors are increasingly applying Nature-Based Solutions (NBS) to reduce hazards, mitigate and adapt to effects of climate change and to improve water management. Examples from across the globe demonstrate that the approach is viable, yet uptake at scale is still slow. The Building with Nature Asia initiative aims to accelerate adaptation in Asia by rallying political support, addressing barriers and creating enablers for implementation of Building with Nature at scale.**



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Dr. Singgih Setyono, Secretary of Demak District (Sekretaris Daerah Kabupaten Demak) sharing his experience during the Panel session

## Acknowledgments

The organisers of the events would like to thank all the keynote presenters and panellists for their essential contributions, as well as all the rapporteurs. In addition, the organisers would also like to express its sincere gratitude to Deltares and Rotterdam Harbor for hosting the expert workshop and high level event respectively. This event was supported by The Dutch Sustainable Water Fund, The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) as part of the International Climate Initiative (IKI) and the National Postcode Lottery of the Netherlands.

All workshop and field-trip photos were taken by Studio Dijkgraaf.

Cover: Group photo of technical experts, government representatives and scientists participating in the event "Accelerating Adaptation through Building with Nature in Asia in Rotterdam".



# 'Accelerating adaptation through Building with Nature in Asia'

## Introduction

With more than 100 million people flood-exposed along coastlines, rivers and in cities such as Jakarta, Bangkok and Manila, decision makers in Asia are faced with the complex challenge to maintain natural environmental defences and deliver socially beneficial, climate-resilient hydraulic infrastructure. There is an urgent need for employing socially and ecologically inclusive water engineering solutions in Asia, to accelerate adaption to climate change impacts that are increasingly devastating given rapid urbanization, economic growth and land degradation.

The 'Accelerating adaptation through Building with Nature in Asia' initiative aims to transform the civil engineering sector in Asia, by promoting integration of Nature Based Solutions (NBS) in water infrastructure development. This approach – referred to as Building with Nature (BwN) – contributes to climate adaptation by developing sustainable coastal solutions that meet local needs, while boosting benefits such as fisheries, carbon sequestration, recreation and biodiversity. Moreover, these

solutions tend to meet less local resistance than large conventional or "grey" infrastructural measures and are more sustainable and climate resilient in the long term and therefore more cost effective.

Through the initiative we will build on large scale-existing demonstration projects in the Netherlands and Indonesia and will roll out our upscaling model to implement the Building with Nature approach in 15 landscapes in five countries in Asia by 2030, thus inspiring spin-off in other landscapes and boosting the resilience of 30 million people.

Support for NBS solutions has increased exponentially. Compelling cases for NBS are made in various publications and reports, most recently in the flagship report 'Adapt Now: A global call for leadership on climate resilience', by the Global Centre for Adaptation. There are political commitments and targets for Nature-Based Solutions (NBS) in the Paris Agreement, the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction. And

there is funding available for NBS implementation at scale, just a lack of proposals that really tackle issues in an integrated manner. Building with Nature is a subset of NBS, focussing on water engineering.

For BwN to be successful we need innovative collaborations and integrated approaches to work with nature rather than against it, to overcome barriers that hamper implementation at scale and proper investment. The approach involves an inclusive and multi-disciplinary planning process comprising ecologists, hydrologists, and engineers working jointly with local communities and government stakeholders.

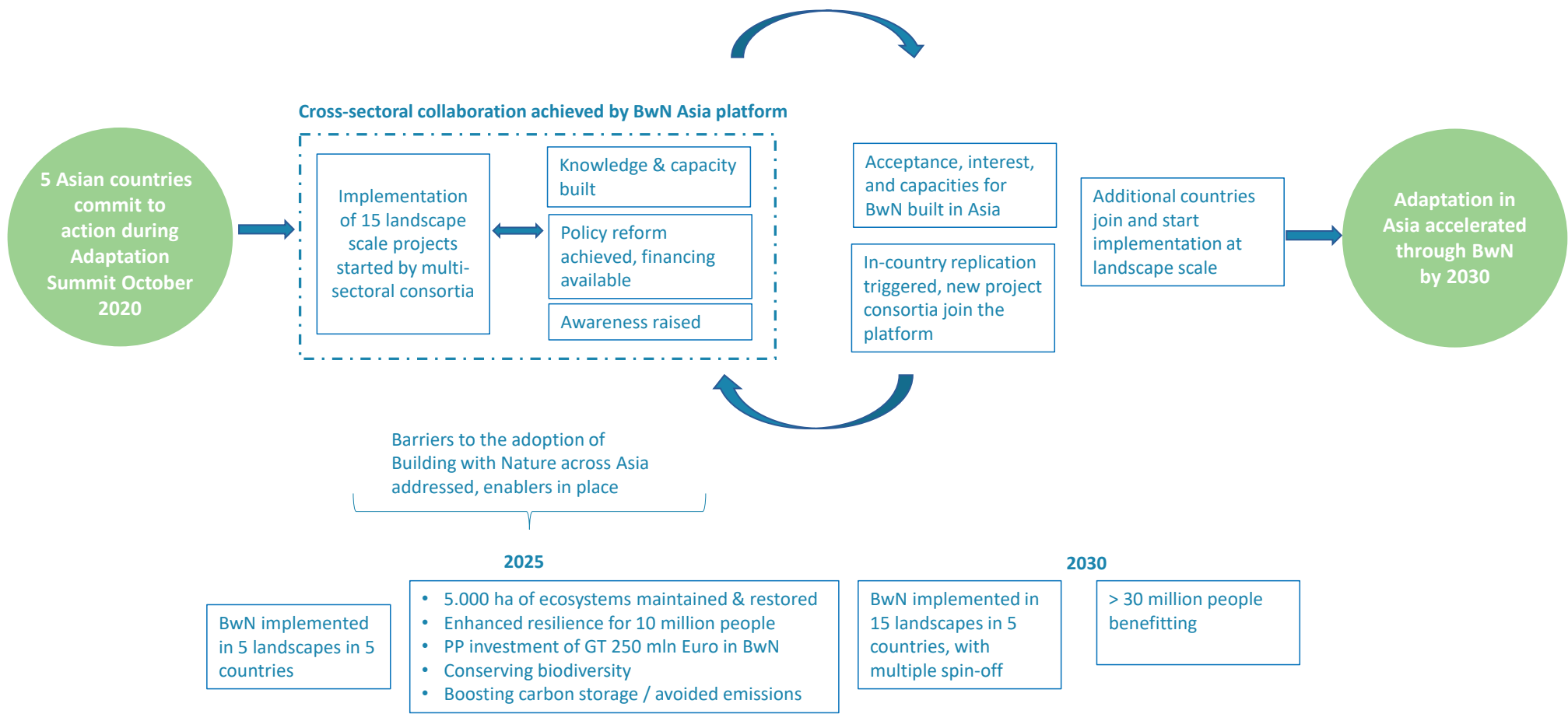
The 'Building with Nature in Asia initiative' aims to facilitate joint leadership of Asian countries and to mobilise public and private actors to stimulate multi-sectoral and regional collaboration to drive regional implementation by compiling knowledge, informing policies, enhancing capacities and building political will.



Interventions from participants during group and plenary sessions



# Commitment



# Building with Nature workshops in Delft and Rotterdam 9-11 July 2019

From 9-11 July the Indonesian Ministry of Marine Affairs and Fisheries (MMAF), Wetlands International, EcoShape, Deltares, Asian Development Bank and the Global Center on Adaptation convened global leaders and experts around the challenge to accelerate adaptation through Building with Nature in Asia. The 3 day event consisted of:

- High level event: global and national leaders rallied around the challenge to accelerate adaptation through Building with Nature in Asia
- Expert workshop: Asian governments and donors brought tangible "Building with Nature Challenges" that follow an implementation exercise guided by global experts in engineering and natural systems.
- Write shop for the elaboration of a Road Map for Building with Nature in Asia through addressing generic barriers and enablers to implementation
- Field visits: to emblematic Building with Nature projects in the Netherlands
- Networking to increasing knowledge about Building with Nature research, design approaches and practices, experiences sharing with peers and networking



Glimpse of the expert workshop



9 July

FIELDTRIP to Building with Nature examples in the Netherlands – EcoShape

With speeches by Wetlands International, MMAF, Natuurmonumenten and EcoShape

- Endorsement
- Elaboration of background paper
- Elaboration of roadmap

10 July

EXPERT WORKSHOP – Deltares

Keynotes by Deltares, MMAF, ADB, Wetlands International

Plenary session to set the scene including by MMAF

Breakout groups: country challenges

Plenary: Roadmap

Expert workshop proceedings (Deltares)

11 July

WRITE-SHOP (Deltares/Wetlands International)

HIGH LEVEL EVENT (GCA/Wetlands International)  
Speeches by GCA, Wetlands International, MMAF and EcoShape and moderated discussion

Input for a commitment and roadmap (WI)

Flow of Events



## Expert workshop on Building with Nature cases in Asia

Keynote speeches by MMAF, Deltares, Asian Development Bank and Wetlands International emphasised:

*the urgent need to adapt to climate change*

*to act based on system understanding*

*experiences with Building with Nature in Indonesia*

*the value of multi-disciplinary and multi-sectoral collaboration and joint learning.*



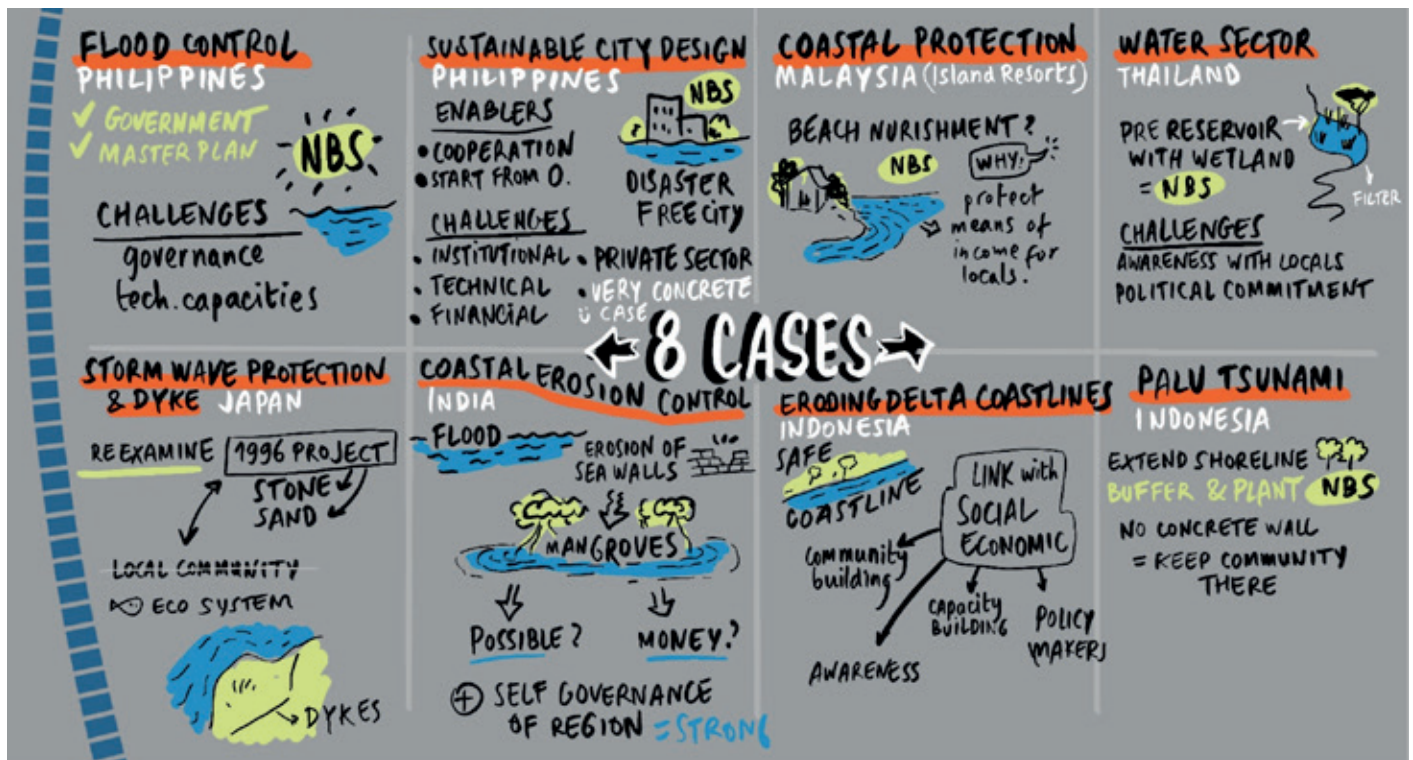
Isao Endo of the Asian Development Bank during his pitch in the Expert Workshop

Experts from various Asian countries brought eight tangible “Building with Nature cases” to the table and pitched the project context, Building with Nature aspects and three main challenges that were then discussed in a multi-disciplinary group. The cases related to urban development, harbour development and management of river-basins and vulnerable coasts and deltas. The cases served as a basis for knowledge exchange and collaboration, and are a starting point for scoping locations for the climate resilient landscapes boosted by the Building with Nature Asia initiative.

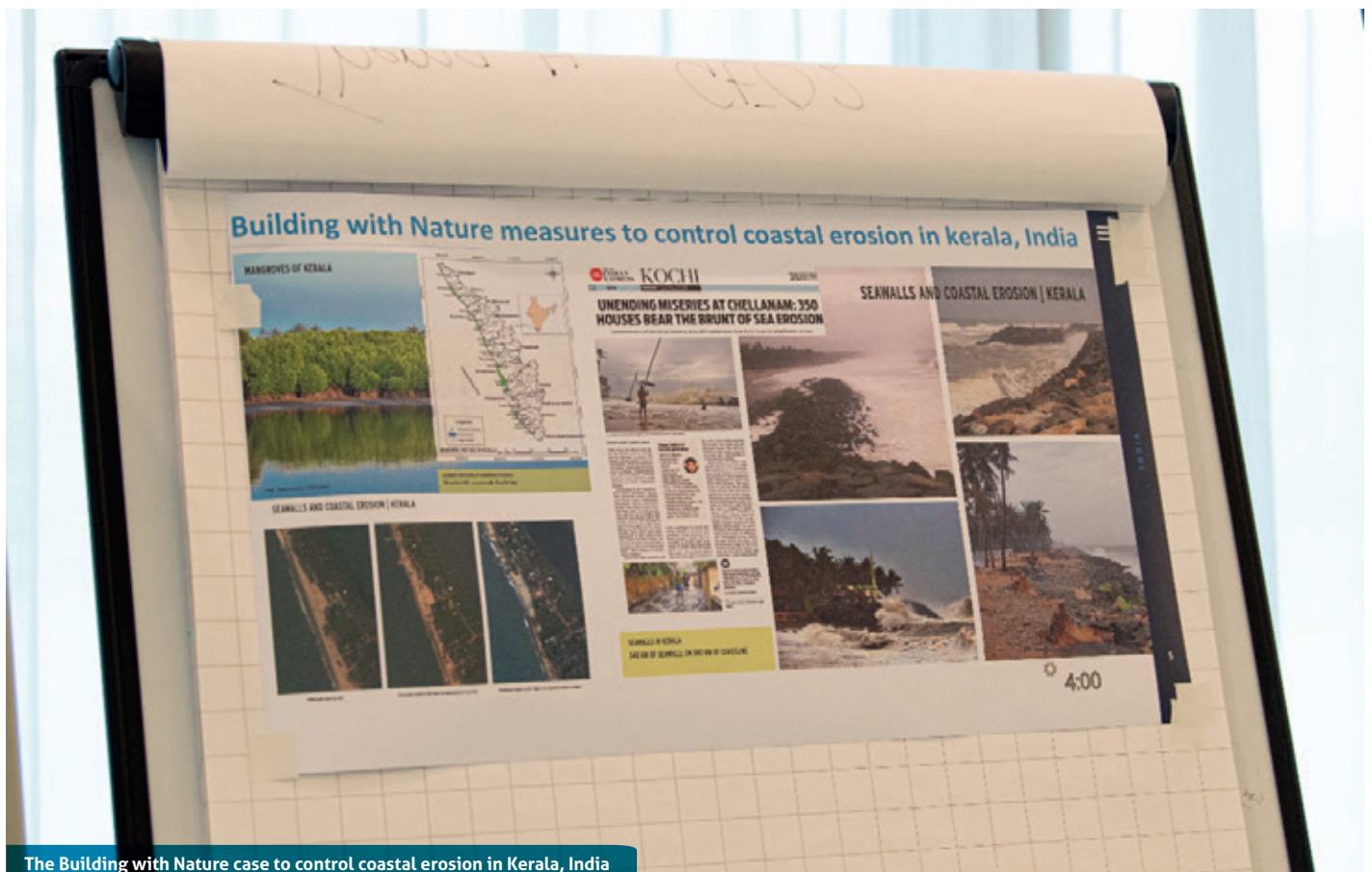


Glimpse of the expert workshop





The 8 Building with Nature challenges that were discussed in the expert workshop



The Building with Nature case to control coastal erosion in Kerala, India



Case specific barriers and enablers were discussed in plenary to distil generic barriers and enablers. Participants mentioned that they recognized many of the case specific struggles and that it was useful to learn from others how best to overcome them. EcoShape uses the following generic barriers & enablers:

Building with Nature solutions:

1. require fundamental system knowledge → Systems understanding;
2. are dynamic which leads to limitation in certainty and predictability → Monitoring, adaptive management and learning by doing;
3. require the valuation of the ecosystem services → The business case has to include a social and natural cost benefit (or 'co-benefit') analysis;
4. involve multiple stakeholders, with intrinsically different responsibilities or needs and → multi-sectoral and multi-disciplinary collaboration
5. are difficult to fit in existing legislative context → policy & regulatory support

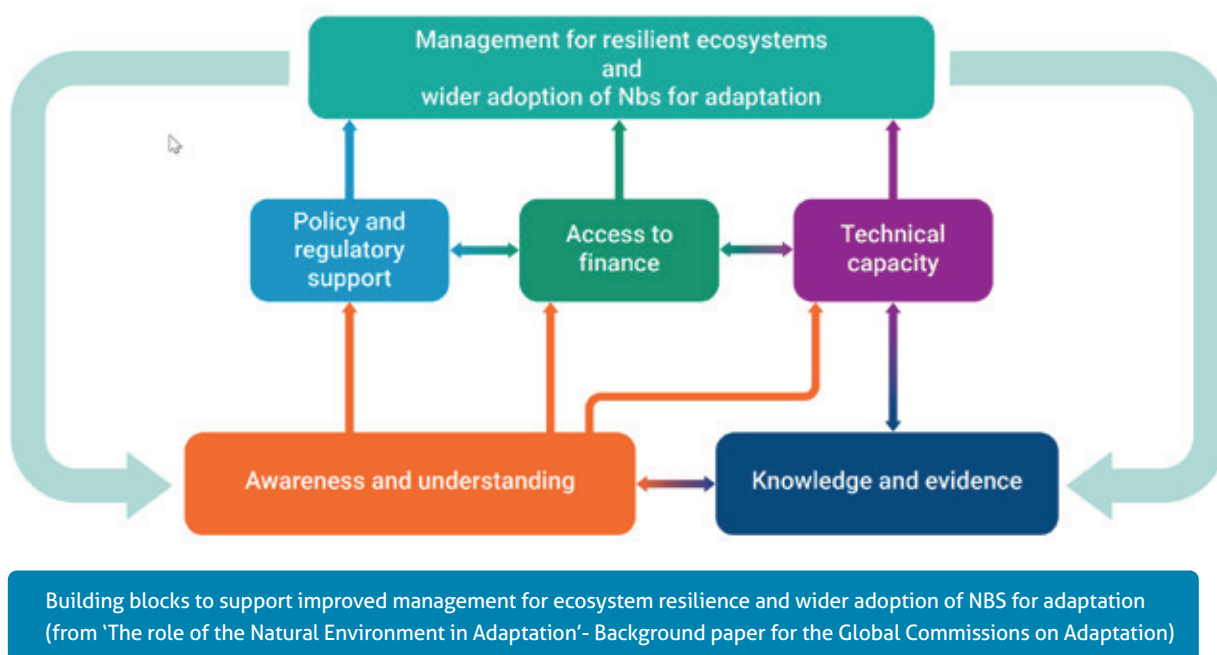
Generic barriers and enablers identified were also in line with those discussed in the recent GCA report '[The role of the Natural Environment in Adaptation](#)'- [Background paper for the Global Commission on Adaptation](#), which found that across sectors, improved ecosystem management and the wider adoption of NBS for adaptation are constrained by some common and interlinked barriers or challenges related to:

- Lack of awareness and understanding of NBS approaches, and associated entrenched attitudes;
- Limited availability of knowledge and evidence to help make the case for their use;
- Policy and regulatory environments and governance challenges that influence the attractiveness and feasibility of using them across temporal and spatial scales;
- Access to finance for applying and scaling up these approaches;
- Technical challenges and gaps in capacity that impede design and wider implementation.

Section 5 of this GCA report discusses for each barrier a range of solutions how these can be overcome and how to build on the enablers, which will be helpful for the Building with Nature Asia initiative, including recommendations such as:

- Include full range of costs and benefits, for balanced comparison
- Build understanding of cost-effectiveness/ efficiency of NbS for adaptation measures
- Improve evaluation of effectiveness and cost-effectiveness to enhance evidence base and provide inputs to sector-specific business cases

The report also shows how barriers are interlinked: increasing awareness, understanding, knowledge and evidence underpin and motivate improvements to policy and regulatory environments and financing regimes to support wider adoption of good management and NBS for adaptation, leading to an enhanced knowledge base as well as improved capacity and awareness.

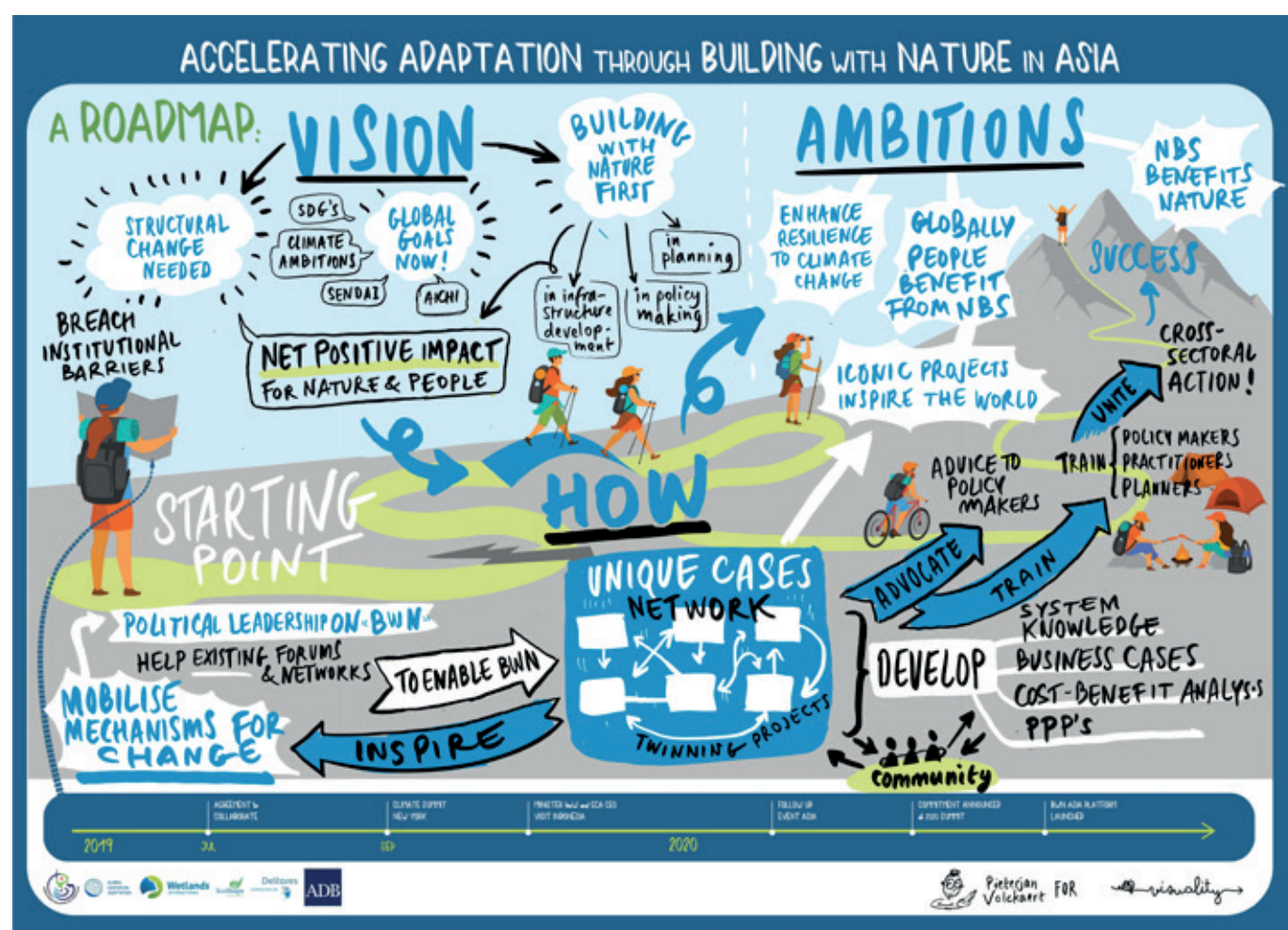


# Write shop on Road Map for Building with Nature Asia

At the end of the expert workshop, a panel explored elements of a roadmap with next steps towards Building with Nature in Asia as input for the write shop.

During the write shop participants agreed that there is an urgent need to act, that often traditional infrastructure no longer suffices to tackle multi dimension challenges and that Nature Based Solutions are the way forward. Participants recognized that global and national policies and targets are in place and some good examples exist, but (institutional) barriers exist that still impede implementation at scale and enablers need to be put in place.

Participants expressed the ambition to accelerate adaptation to climate change and for NBS to benefit both people and nature. To achieve that ambition, cross-sectoral collaboration and learning by doing in inspirational projects is key, as well as political leadership to mobilise mechanisms for change and breach institutional barriers. The roadmap was presented during the high level event to inspire discussions and commitment.



Results of a first brainstorm on elements to the Roadmap for Building with Nature Asia to facilitate implementation of the commitment.



# High Level Event

During the global and national leaders rallied around the challenge to accelerate adaptation through Building with Nature in Asia.

Speakers in the High Level event:

Dr. Ir. Suseno *Senior Advisor to the Minister, Ministry of Marine Affairs and Fisheries, Indonesia*

Ronald Wormgoor *Deputy Director General International, Dutch Ministry of Infrastructure and Water*

Prof. Dr. Patrick Verkooijen *Chief Executive Officer, Global Center on Adaptation*

Datuk Keizrul Bin Abdullah *Board member Wetlands International Malaysia*

Jane Madgwick *Chief Executive Officer, Wetlands International*

Henk Nieboer *Director Ecoshape Foundation*



Dr. Ir. Suseno, Ministry of Marine Affairs and Fisheries, Indonesia



Datuk Keizrul Bin Abdullah of Wetlands International Malaysia

The high level event convened high level government representatives, experts, private sector and donors/ investors from Indonesia, the Philippines, Malaysia, China, Japan, Thailand, Germany and the Netherlands.

Participants all concluded that we need bold, radical change to address climate change impacts that are increasingly devastating given rapid urbanization, economic growth and land degradation and that Building with Nature is the way forward.

The Indonesian Ministry of Marine Affairs and Fisheries inspired the audience with their experience on Building with Nature in Indonesia, where a small experiment in one village has grown into a large scale initiative along a 20 km eroding coast in Central Java, replicated in 12 districts. The need to facilitate and accelerate implementation and to address challenges led the Government of Indonesia to initiate a Building with Nature Platform in Indonesia. In this platform, best practices, monitoring plans, construction techniques

and training and capacity building programs are being shared.

The Indonesian Ministry of Marine Affairs and Fisheries has voiced the ambition to share knowledge and experiences with fellow countries in Asia and explore to set up a joint platform to facilitate this learning to accelerate implementation of Building with Nature within Asia.

Participants concluded that over the past decade, global support for Nature Based Solutions has increased exponentially. There is however little familiarity with actual implementation of NBS and Building with Nature approaches and there is a lack of standardisation of design guidelines which leads to major challenges with design, construction, monitoring and maintenance.

Representatives of target countries expressed interest in regional collaboration on Building with Nature and to jointly shape a fully-fledged commitment and roadmap for Building with Nature Asia under the Nature Based Solutions Action Track of the Global Centre on Adaptation, for launching during the Adaptation Summit in October 2020.

As Indonesia is one of the convening countries of the Global Commission on Adaptation, we will explore the potential for further action in Indonesia and the region as part of the Action Track on Nature-based Solutions.

The high level event enabled a joint understanding of the urgent need to act and creation of an overall vision and objectives for 'Accelerating adaptation through Building with Nature in Asia'. It was agreed to formulate this into a shared ambition for announcement during the UN Secretary General's Climate Summit on 23rd of September and related events in New York.

Finally, it was decided to further build the consortium around Building with Nature Asia by bringing together government ministers and key decision-makers from all sectors necessary to drive the needed change, e.g. through a top-level meeting in Asia.



Dr. Ir. Suseno with Mr. HM Natsir, Head of Demak District



## Quotes from the organisers

PATRICK VERKOOIJEN, CHIEF EXECUTIVE OFFICER OF THE GLOBAL CENTER ON ADAPTATION AND MANAGING PARTNER OF THE GLOBAL COMMISSION ON ADAPTATION

"Adaptation that works with nature has an enormous payoff, both in direct economic terms and in terms of less easily quantified social and economic benefits. Initiatives like Building with Nature that improve climate resilience must be widely adopted. In collaboration with our office in Beijing, I hope other countries in Asia will learn from Indonesia's experiences to adopt and scale up existing adaptation solutions. No country can tackle this global challenge alone".



JANE MADGWICK, CHIEF EXECUTIVE OFFICER OF WETLANDS INTERNATIONAL

"Building with Nature represents a paradigm shift from minimising negative impacts to maximising positive benefits for society and nature. In many vulnerable settings it is the only possible way forward. With the growing threat of climate change and hazards from the loss of wetlands, it is vital we scale up these necessary adaptation measures as soon as possible."



HENK NIEBOER, DIRECTOR OF ECOSHAPES

"At EcoShape we gathered a wealth of knowledge about designing and implementing Building with Nature solutions through a number of pilot projects, realised since 2008. We develop the design of each solution together with local stakeholders, based on a systematic analysis of the environment. We integrate economic, societal and environmental values in the design to create a viable and sustainable business case."



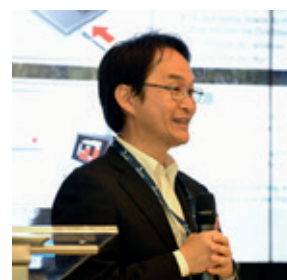
BREGJE VAN WESENBEECK, SPECIALIST NATURE-BASED SOLUTIONS, DELTARES

"Current global threats such as climate change and biodiversity loss challenge us to rapidly re-invent the way we have been managing our coastlines and river systems. Inclusion of nature and biodiversity in infrastructure and urban development is part of the answer. Although nature-based solutions are surrounded with uncertainties and unknowns, we need to implement while gathering knowledge in parallel."



ISAO ENDO, ENVIRONMENTAL SPECIALIST, ASIAN DEVELOPMENT BANK

"Development policies and plans must incorporate the value of natural capital and ecosystem services, as well as the social and environmental costs of losing them, into early project design and planning. Nature-based solutions with ecosystem and biodiversity-sensitive options should be part of a standard suite of investments to enhance environmental sustainability."



ABDUL MUHARI, INDONESIAN MINISTRY OF MARINE AFFAIRS AND FISHERIES

"With the Building with Nature approach we have been working on alternative more inclusive and sustainable ways to solve coastal erosion problems in Indonesia. After tentative beginnings in Demak, the Indonesian Ministry of Marine Affairs and Fisheries has embraced Building with Nature and is scaling up rapidly. We are eager to share our knowledge and experiences Indonesia with other Asian government Ministers and decision-makers from key sectors."



# Impressions from the field visits to Building with Nature in the Netherlands

**Workshop participants got inspired during a field visit to the Marker Wadden and to the Houtrib dyke on 9 July. Besides becoming familiar with the Building with Nature philosophy and get introduced to the Building with Nature Asia programme, it was a great opportunity to get to know each other.**

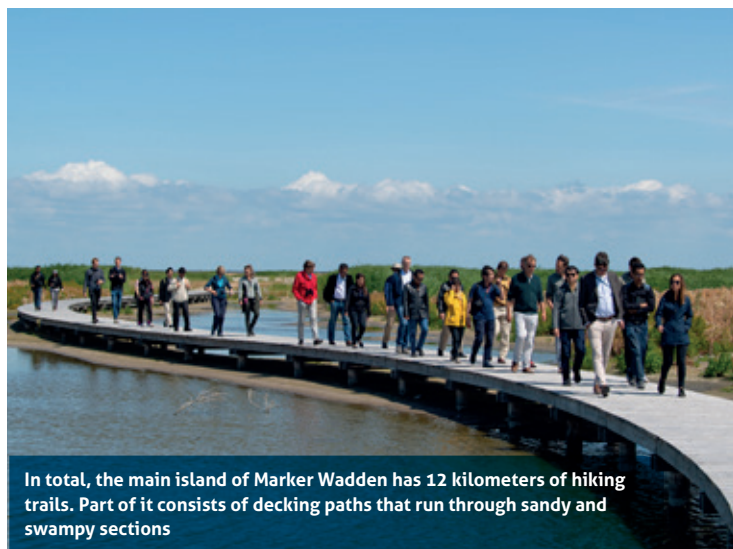
The field trip aimed to show 2 different Building with Nature concepts applied in full scale:  
How a “learning by doing” approach (monitoring and research) has contributed to mitigate risks and uncertainties in construction and future maintenance of the developments and  
How stakeholder collaboration and knowledge sharing is key to successful implementation of these Building with Nature concepts.

The group sailed with the three-master Abel Tasman to the Marker Wadden, a new island archipelago in the Markermeer. A beautiful natural paradise for explorers, walkers and bird spotters. The Marker Wadden consists of a 1,000-ha landscape above and below the waterline, multiple rows of dunes, and a 1500-metre trench to collect fine silt from Lake Markermeer. Boskalis has started with the construction work in 2016.

At the Marker Wadden not only sand, but also fine sediment and soft mud are used as a core building material. The group paid a visit to the fine sediment compartments which are currently being filled for research purposes. Ben Viveen, Project manager Rijkswaterstaat, explained the Marker Wadden design process from concept to realization, its ecosystem values and features of building with fine sediment and clay. He also discussed how all stakeholders involved have invested in applied research during the construction phase through learning by doing in order to learn for future development and maintenance.



Full scale reinforcement project. The dyke is reinforced a soft sandy foreshore. In addition, the soft sediments that became available during the dredging process was beneficially reused to construct a 300 ha nature reserve “Trintelzand” Photo by EcoShape.



In total, the main island of Marker Wadden has 12 kilometers of hiking trails. Part of it consists of decking paths that run through sandy and swampy sections

In the afternoon, participants sailed past the construction works of the Reinforcement of the Houtrib dyke, including the nature reserve Trintel Zand, which is part of the reinforcement. Rijkswaterstaat, responsible for the dyke, considered a green/grey engineering solution for this dyke reinforcement: a sandy foreshore. This was more cost effective and add additional benefits in the form of ecosystem services. However, a sandy reinforcement of a dyke in such a huge non-tidal inland water would be a worldwide first. The feasibility of this new and innovative solution was tested in a pilot project and through scientific monitoring and evaluation programs generic lessons are learned and publicly disseminated. The Houtribdyke pilot project executed by Ecoshape in collaboration with the Flood Protection Programme of Rijkswaterstaat. For four years an innovative sandy foreshore solution was tested and researched before upscaling the innovation to the reinforcement of the complete dyke.



# Climate Action Summit, 22 September 2019, New York – Shared Ambition

At the Climate Action Summit in New York global leaders were asked to present coalitions and initiatives that accelerate climate action. During the 'Building a Resilient Future' event on 22 September, convened by the Global Resilience Partnership, the Indonesian Ministry of Marine Affairs and Fisheries, Wetlands International, EcoShape and the Global Center on Adaptation announced their joint leadership and intention to collaborate with other Asian countries on 'Building with Nature in Asia':

## Shared Ambition: Accelerating Adaptation through Building with Nature in Asia

### Preamble

This shared ambition is a result of an international expert workshop and meeting from 9-11 July 2019 in Rotterdam, in which Indonesia, Wetlands International, EcoShape, Deltares and the Global Centre for Adaptation, convened experts and high level representatives from the Philippines, Malaysia, India, Thailand, China and the Netherlands along with international donors, financiers and private sector to build a consortium and roadmap for 'Accelerating Adaptation through Building with Nature in Asia'.

### Joint Understanding

We the undersigned, recognize the urgent need for employing socially and ecologically inclusive water engineering solutions in Asia. These will accelerate adaptation to climate change impacts that are increasingly devastating given rapid urbanization, economic growth and land degradation. We are convinced that Building with Nature offers a proven participatory design approach that integrates ecosystem services into water engineering practice and is the way forward to improve climate and environmental resilience and must be widely adopted by governments and donors. To overcome barriers that hamper implementation at scale and stimulate proper investment, learning by doing and regional multisectoral collaboration is required to develop the necessary knowledge and capacity, achieve policy reform and raise awareness, with participation and inclusion of all stakeholders.

### Shared Ambition

We confirm our ambition to accelerate socially and ecologically beneficial adaptation in Asia by 2030, through scaling up **Building with Nature** for effective and sustainable solutions to water-related challenges – sought by governments, cities, ports – and supported by planners and investors.



Henk Nieboer, EcoShape announced the Shared Ambition on behalf of the Indonesian Ministry of Marine Affairs and Fisheries, Wetlands International, EcoShape and the Global Center on Adaptation (GCA)

[Click here for more information on the launch:](#)

[Initiative for scaling up Building with Nature in Asia to transform water engineering sector launched at Climate Action Summit](#)

### Commitment

We commit to work with all interested countries in the region to explore possibilities for the implementation of Building with Nature in 15 landscapes in 5 countries by 2030 through participatory planning processes including local stakeholders, ultimately boosting the resilience of 30 million people (*estimate*), while restoring ecosystems and enhancing biodiversity and carbon sequestration. To stimulate multi-sectoral and regional collaboration to overcome barriers to the adoption of Building with Nature across Asia, we will mobilize public and private actors in a dedicated Asian Building with Nature Platform, aiming at implementation of large-scale projects in the field for which knowledge development, training and awareness raising and policy development are needed.

### Next Steps

Indonesia will host a top-level meeting in Asia to bring together Asian government Ministers and decision-makers from key sectors to further shape our commitment and to develop a roadmap to facilitate implementation of our commitment. This roadmap includes identification of the required resources and a governance structure for the development and implementation of the commitment. Subsequent meetings will be organized as necessary and we will continue to carry out our shared ambition during high-level forums in the Asia region. The GCA will work with Indonesia and other interested countries to shape this into a commitment to the Action Tracks of the Global Commission on Adaptation. This 'Accelerating Adaptation in Asia through Building with Nature' commitment will be announced during the Climate Adaptation Action Summit in the Netherlands in October 2020.

All signatories support the **Nature-Based Solutions for Climate Manifesto**, developed for the UN Climate Action Summit 2019 by NBS for Climate Coalition co-leads China and New Zealand, and commit to unlocking the full potential of nature in climate action.

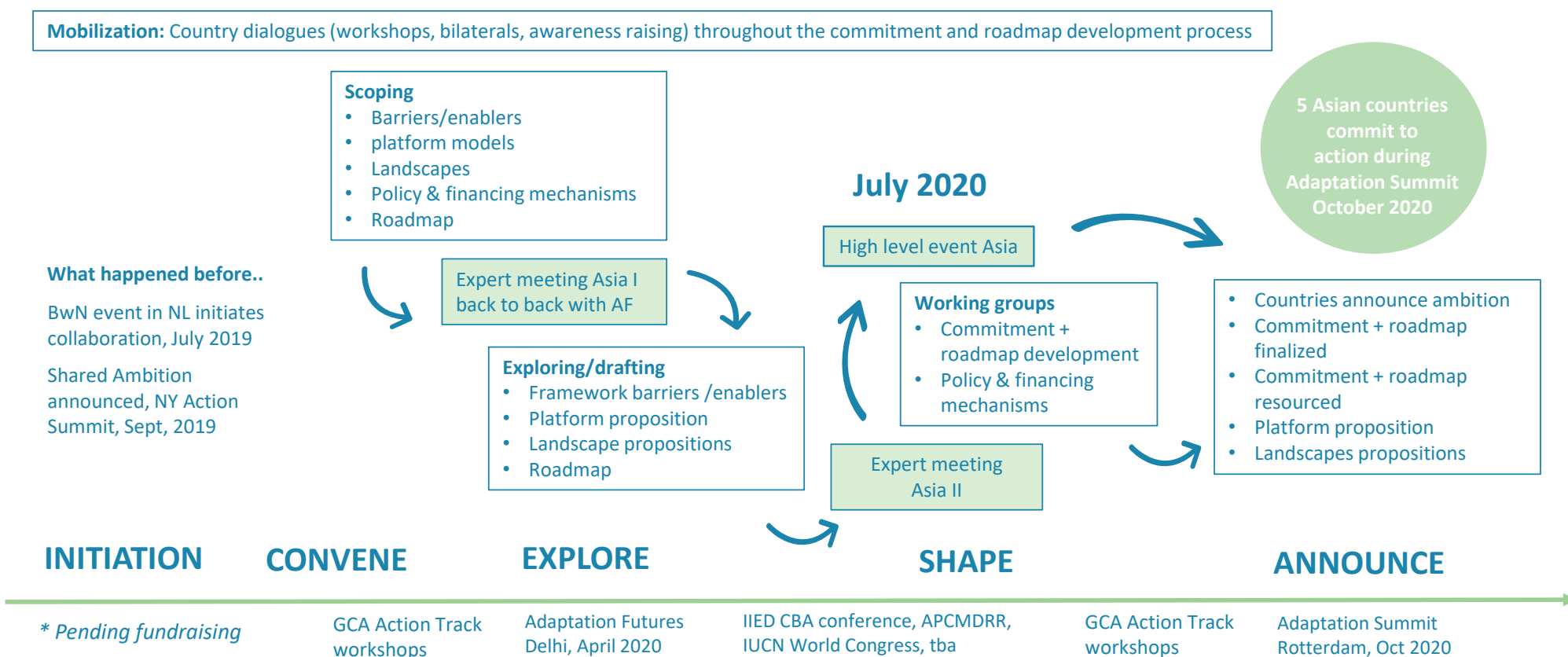




# Next steps

We are designing a process towards launching a commitment at the Adaptation Summit in October 2020 on 'Building with Nature Asia'. Based on inputs during the July expert workshop and High-Level event, the following actions are in consideration to reach the ambition, which will follow a process with the phases Convene, Explore, Shape and Announce and will include several (High-level) events, workshops and bilaterals

## Towards a commitment to 'Accelerate Adaptation through Building with Nature in Asia'\*



# Participants and contributors

## Government representatives

**Indonesian** Ministry of Marine Affairs and Fisheries; Bupati Kabupaten Demak **Indonesia**, Bureau of International Cooperation - Department of Water Resources **Thailand**, Natural Resources Division, NEDA, **Philippines**, **Malaysian** Embassy; Department of Irrigation and Drainage (DID **Malaysia**), Dutch Ministry of Infrastructure and Water Management, Dutch Ministry of Foreign Affairs, Embassy of **China**

## Experts

Arcadis, Boskalis, Deltares, Department of Public Works and Highways - UPMO Flood Control and Management Cluster Philippines, Design Erick van Egeraat, EcoShape, Egis Group, Global Center on Adaptation (GCA), Netherlands Water Partnership (NWP), ONE Architecture; RHDHV; Rijkswaterstaat (RWS), Rotterdam Harbor, van Oord, Von Lieberman, Wageningen University & Research, Wetlands International (Indonesia, Malaysia and global office), Witteveen + Bos

## Donors and Investors

Asian Development Bank (ADB), Dutch Development Bank (FMO), International Climate Initiative (ZUG), Japan International Cooperation Agency (JICA), Resolute, RVO



From left to right: Yus Rusila Noor, Dr. Singgih Setyono, Secretary of Demak District (Sekretaris Daerah Kabupaten Demak), HM Natsir, Head of Demak District and Apri Susanto from Indonesia