



Scaling up the East Asian-Australasian Regional Flyway Initiative (RFI)

Building a Business Case for the Future of our Shared Flyway

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ELEVENTH MEETING OF PARTNERS TO THE PARTNERSHIP FOR EAST ASIAN – AUSTRALASIAN FLYWAY
Meeanjin/Brisbane, Queensland, Australia, 12-17 March 2023



Outline

1. The RFI and the EAA Flyway Partnership
2. RFI & Nature-based Solutions - In a Nutshell
3. The Priority Sites Selection Process
4. Project Concepts and Financing
5. The Way Forward



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1 The RFI and the EAAF Partnership



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1 The RFI and the EAAF Partnership



Why Wetlands, Why Now, Why ADB?

- **Global Biodiversity Crisis** – IPBES report 85% wetlands lost by 2000 and continuing decline.
- **Post COVID Green, Inclusive and Resilient Recovery** – Developing Member Countries (DMCs) need jobs and economic development, particularly in rural areas. Providing livelihood support through wetland sustainable management provides a great opportunity.
- **Donor Requests for Nature Positive Investments** – Donor governments are increasingly requesting that nature positive investments, particularly following COP15 and Ramsar COP14 and COP28 commitments.
- **Biodiversity and Climate Linkage** – It is now widely accepted the need for biodiversity as part of climate goals. Wetlands provide an ideal ecosystem that can deliver this.
- **ADB Asia and the Pacific's Climate Bank** – ADB is the leading multilateral development bank in Asia and the Pacific relating to climate with a goal to deliver \$100 billion in finance for climate adaptation and mitigation by 2030. Nature will be key to delivering this target.

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1 The RFI and the EAAF Partnership

RFI Long-term Vision and Delivery Timeframe

GOAL With partners invest **\$3 billion over next 10+ years** to deliver **50+** flyway sites under **Protection / Sustainable Management** providing a **coherent network** of priority sites with **favorable conservation status** with species numbers **maintained or enhanced** on the EAAF.



Partnership

ADB,
EAAFP,
BirdLife International (BLI)



Delivery Timeframe

Comprising of 2 stages:

i) DEVELOPMENT STAGE

Grant finance 2021 – 2024 (3yrs)

\$1.5 million secured

ii) INVESTMENT STAGE

Loan / Grant Blend 2023 onwards (10+yrs)



Development Stage Delivery

Implemented by consortium led by BLI with an international team including EAAFP, Wetlands International, Paulson Institute, NUS, Southampton University & others



Stakeholder Group

Established including WWF, UNEP, ICF, IUCN, WI, USAID, AFD amongst others.

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1 The RFI and the EAAF Partnership

10 ADB developing member countries (DMCs) in the RFI*



▪ Bangladesh



▪ Cambodia



▪ People's Republic of China



▪ Indonesia



▪ Lao PDR



▪ Malaysia



▪ Mongolia



▪ Philippines



▪ Thailand



▪ Viet Nam

**It should be noted that at this time it has not been possible to include Myanmar within the RFI due to the current political situation in the country.*

It is hoped that the RFI may also be extended to other ADB DMCs with priority wetlands along the EAAF, such as PNG.

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2 RFI & Nature-based Solutions



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2 RFI & Nature-based Solutions



Illustration by Natasha de Sena, WER

Why Wetlands?

- Complex, integrated, and provide critical ecosystem services
- Indicator of state of the environment
- Critical to nature conservation efforts
- Food and water security
- Climate resilience
- Livelihood and sustained growth



2 RFI & Nature-based Solutions



\$47.4 trillion/year

global value of wetland ecosystem services for human health, well-being, and security*

- does not completely consider intangible benefits, such as personal and cultural values

*The Convention on Wetlands (2021)

ECOSYSTEM SERVICES AND CO-BENEFITS IN WETLANDS

Socio-economic development

- Food security
- Raw materials
- Medicinal security
- Water security
- Livelihoods

Personal and cultural values

- Cultural and spiritual connection
- Recreation
- Community building
- Aesthetic values
- Health and wellness

Climate adaptation and resilience

- Air quality regulation
- Climate regulation
- Water regulation
- Erosion regulation
- Water purification
- Moderation of extreme events

Ecosystem resilience

- Species habitat
- Nutrient cycling
- Photosynthesis
- Soil formation/Soil integrity
- Disease and pest regulation
- Pollination

Source: ADB Regional Flyway Initiative (adapted from TEEB Europe).

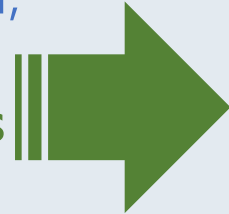
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2 RFI & Nature-based Solutions

RFI Focus

- EAAF the most threatened of the global flyways
- **Regional scale** – flyway impact
- **International Commitments**
EAAFP Strategic Plan, Ramsar, CBD, Paris Agreement
- **Focus on Ecosystem Services**
Investment in RFI wetlands delivering for nature, climate and livelihoods
- **Innovation** with Nature Based Solutions (NbS)
- **Blended financing** approach



What is the RFI development phase delivering?

- **Output 1:** Develop a capacity building program in targeted for delivery of a scaled-up initiative in participating countries.
- **Output 2:** Develop **Site Selection Framework** to deliver **early project concepts for 50 priority sites** detailing biodiversity values, threats to the site to be addressed, co-benefits to be delivered, investment budget required.
- **Output 3:** Develop a **Sustainable Financing Mechanism** to deliver long-term donor financing for the flyway and to explore self-financing mechanisms.





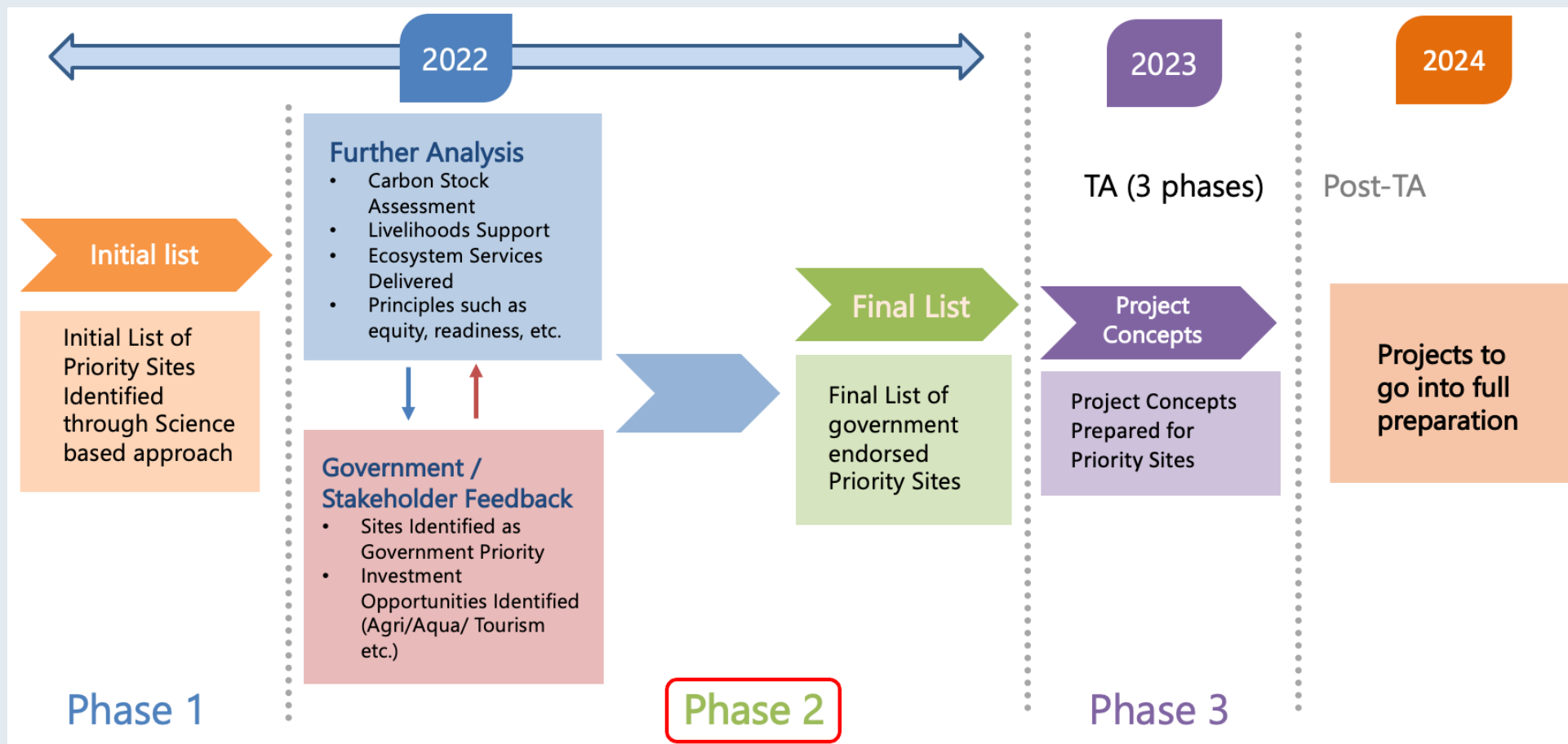
3 The Priority Sites Selection Process



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3 The Priority Sites Selection Process

The Site Selection & Engagement Process



3 The Priority Sites Selection Process



Criteria for site prioritisation

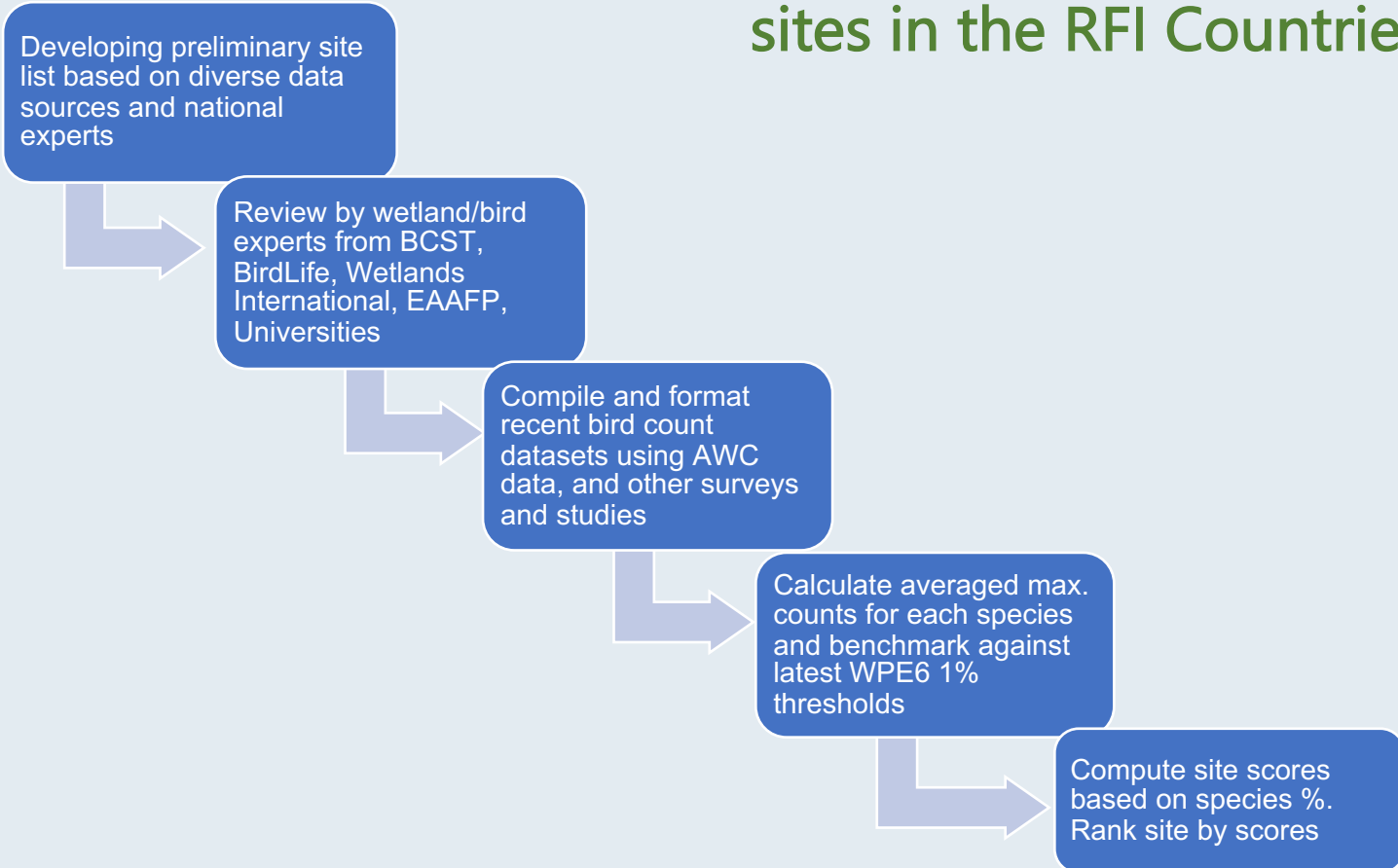
Biodiversity

- EAAF migratory bird congregations using 1% thresholds based on EAAF conservation status review (CSR1)
- Key waterbird life cycle components at sites (e.g. staging, wintering habitat)
- Critical for ecological connectivity for threatened species
- High quality intertidal and associated habitats present

Conservation potential

- Opportunities for conservation and management
- Opportunities to take effective action because of local context (local government or communities)

Identifying the most important wetland sites in the RFI Countries



3 The Priority Sites Selection Process

Phase 1

Country	No. of Priority Sites (Totals)	No. of Coastal	No. of Inland
Cambodia	9	1	8
Bangladesh	8	5	3
Indonesia	17	16	1
Thailand	12	9	3
Philippines	12	9	3
Malaysia	6	6	0
Vietnam	9	8	1
Lao PDR	3	0	3
PRC	60	37	23
Mongolia	11	0	11
TOTAL	147	91	56

Phase 2 – Indicative*

3 Sites

2 Sites

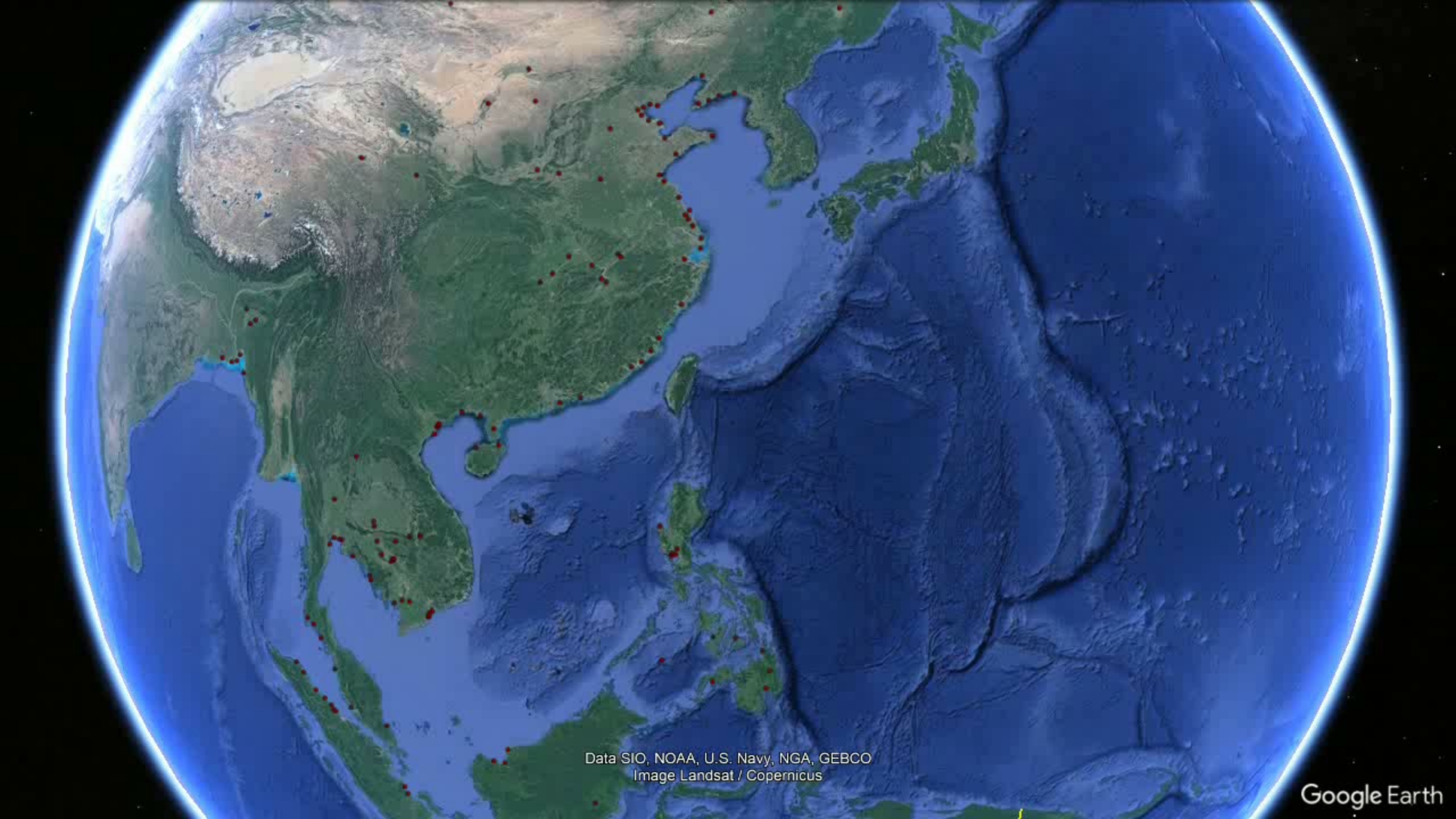
3 Sites

7 Sites



Notes: *Indicative only – Stakeholder Engagement and Ecosystem Services Assessment to be completed before site confirmation.



A satellite-style map of East Asia, Southeast Asia, and the Pacific Ocean. The map shows topographic features like mountains and plateaus in shades of brown and green, and ocean depths in various shades of blue. Numerous small red dots are scattered across the landmasses, primarily along the coastlines and in mountainous regions. The map is presented as a view from space, with the curvature of the Earth visible at the edges.

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus



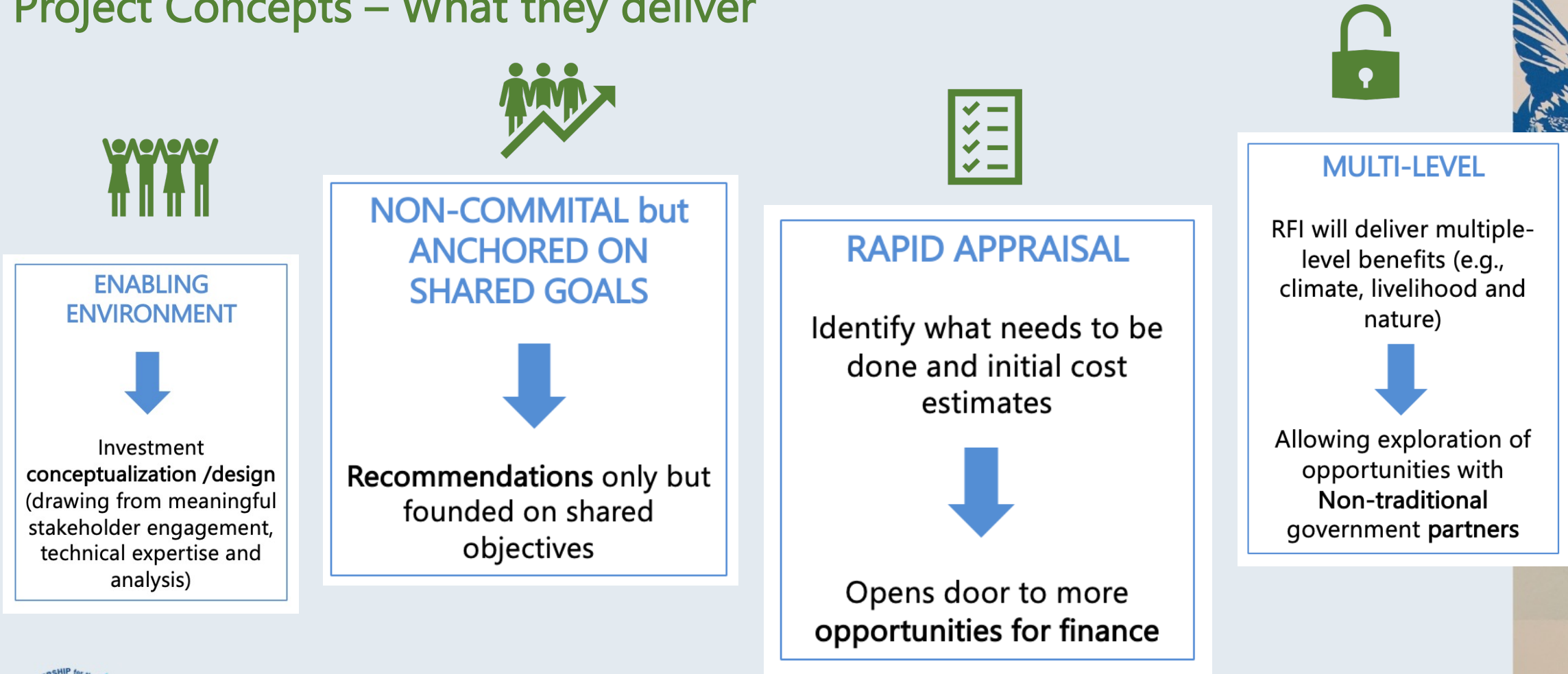
4 Project Concepts and Financing



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4 Project Concepts and Financing

Project Concepts – What they deliver



4 Project Concepts and Financing

Further Analysis

- Carbon Stock Assessment
- Livelihoods Support
- Ecosystem Services Delivered
- Principles such as equity, readiness, etc.
- Provide information on **government priorities**, focusing on international commitments through **NBSAP, Ramsar, CBD and EAAFP**

We are
HERE.



Initial list of sites
identified of
international
importance for
migratory waterbirds

1) Further Analysis
2) Government Input

Final List of Investment
Sites selected and
endorsed by
Government

Government / Stakeholder Dialogue

- Investment Opportunities
Identified (Agri/Aqua/Tourism etc.)

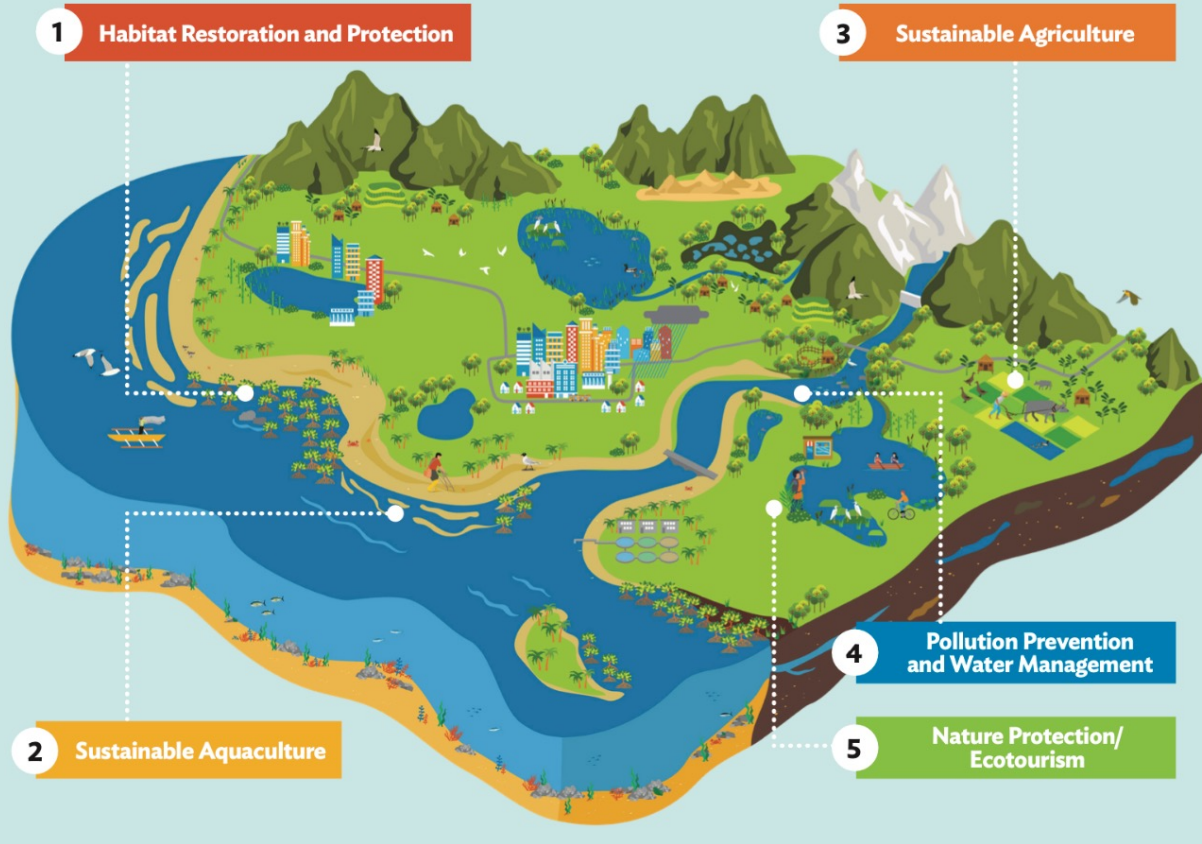
Project Concept
Development

4 Project Concepts and Financing



Regional Flyway Initiative Projects: Investment Concepts

As an initial guide, ADB presents five broad conceptual investment models for wetland sites:



ECOSYSTEM SERVICES AND CO-BENEFITS IN WETLANDS			
Socio-economic development	Personal and cultural values	Climate adaptation and resilience	Ecosystem resilience
Food security	Cultural and spiritual connection	Air quality regulation	Species habitat
Raw materials	Recreation	Climate regulation	Nutrient cycling
Medicinal security	Community building	Water regulation	Photosynthesis
Water security	Aesthetic values	Erosion regulation	Soil formation/Soil integrity
Livelihoods	Health and wellness	Water purification	Disease and pest regulation
		Moderation of extreme events	Pollination

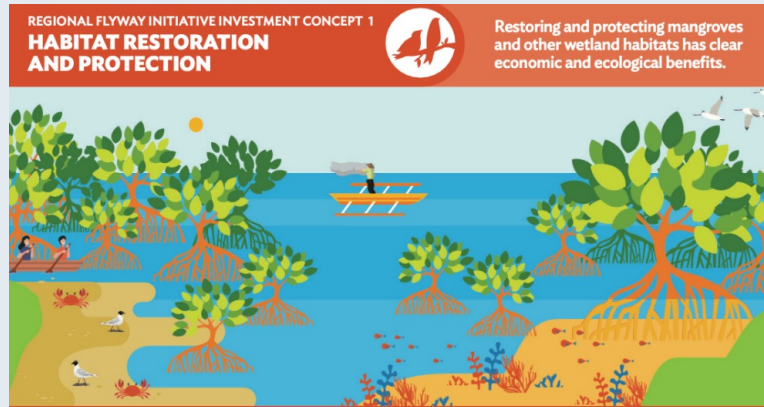
Source: ADB Regional Flyway Initiative (adapted from TEEB Europe).

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4 Project Concepts and Financing

Investment Concept 1 Habitat Restoration & Protection



RFI investments in restoring and protecting habitats (such as mangroves and mudflats) can lead to compounding co-benefits for local communities, nature, and climate along the East Asia–Australasian Flyway.

Interventions include habitat restoration, rehabilitation, disaster risk reduction, reforestation, regeneration and plantation. Mangrove restoration based on best practices can help ensure food security, ecotourism and other income generating opportunities. As a cost-effective intervention on ecosystems management for climate adaptation and mitigation, it can deliver nature-based coastal protection.



WHY MANGROVE RESTORATION MATTERS

\$100,000/year estimated economic loss to fisheries due to removal of 1,200 hectares of mangroves (Thailand)

\$60.3 million to \$91.6 million value of global climate regulation from carbon storage in wetlands (Myanmar and Viet Nam)

2.4 to 8.4 years time to recover costs of restoring fisheries through mangrove restoration; after which benefits are generated in perpetuity without additional costs (discount rate not factored in; Thailand)

BENEFITS OF MANGROVE AND OTHER WETLAND HABITATS

\$1 billion/year of averted property damage through floodwater protection (Philippines)

\$484-\$595 per hectare of products provided to communities (Thailand)*

\$53 million/year diverse value of the Sundarban mangroves and value of tourism and cultural services (Bangladesh)

*Barbier (2007), Net present value

CASE EXAMPLE
DA LOC, VIET NAM
Community-based Mangrove Reforestation and Management
Study area: 200 hectares (2007-2009)

70%-90% survival rate of planted mangroves

1,000 households now able to collect fish, crabs and mollusks in the new mangrove areas

7 to 10 days/month when poor people, mainly women, are able to collect mollusks and fish at low tide

up to 400% increase in rice yields
biannual rice crop yields increased between 50 kilograms and 200-300 kilograms (per 500 square meters) with improved canals

References: Barbier (2007) as cited in Holl (2020); Barbier (2000) as cited in Lewis (2001); Barbier, (2011); Buffle et al. (2009); Camacho et al. (2020); Mendéndez et al. (2018); Wimrock (2014) as quoted in Jhaveri (2018).



Intensive aquaculture is a key driver of wetland loss, resulting in habitat degradation, species loss, the spread of invasive species, pollution, and increases to nutrients and chemical loads.

RFI investments in aquaculture can drive communities to more sustainable aquaculture and fisheries practices, delivering long-term sustainable food security and improving nutrition. They could also restore natural waterways and ecosystems and create economic opportunities through the development of sustainable premium products.



WHY SUSTAINABLE AQUACULTURE AND FISHERIES MATTER

43% and 50% increase in survival rate for tiger shrimp and milkfish due to aquaculture practices (Indonesia)

80% of protein intake in the Lower Mekong region is derived from the world's most productive inland fisheries supported by Lower Mekong Delta wetlands

BENEFITS OF WETLAND FISHERIES

\$708-\$987/hectare net present value of mangroves as breeding habitat which supports off-shore artisanal fisheries (Thailand)

\$1,000-\$2,750 per hectare/year economic value of clam harvesting (Viet Nam)

2x increase income for local shrimp farmers after shifting to more sustainable practices (Indonesia)

12.4% wetland-lake resources contribution to household income (Nepal)

CASE EXAMPLE
WEST BENGAL, INDIA
Sustainable Livelihood from Aquaculture Technologies
Study area: 5.85 hectares (2014)

51 families benefited from sustainable aquaculture in small area

4.3 tons/hectare-4.9 tons/hectare per year in fish production, from a low of 1 ton/hectare per year. (before the intervention)

50% increase in profit from fish pond and duck-raising (from zero before the intervention)

References: Moran & Yu (2012); Barbier (2009); Hakim (2016); ICAR-CIFA (2016); Thomas et al. (2017).

Investment Concept 2 Sustainable Aquaculture



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4 Project Concepts and Financing

Investment Concept 3 Sustainable Agriculture



Agriculture is one of the greatest threats to wetlands along the Flyway, causing direct loss and/or habitat degradation. Wetlands lose their ability to support food security and agriculture when used or managed unsustainably.

RFI investments in sustainable, climate-smart agriculture can be multifaceted, comprising reduction or elimination of chemical fertilizers and pesticides, integrated crop-livestock systems and introduction of diverse crop rotation, as well as integrated water and waste management. Sustainable agriculture can strengthen long-term food and livelihood security for communities while delivering gains for biodiversity.

WHY SUSTAINABLE AGRICULTURE MATTERS

- 4000% increase in farmers' earnings** after restoring wetlands and introducing sustainable agriculture practices
Data based on People's Republic of China (2011)
- 80% of households report benefits** from wetland products and services to their food security
Data based on Uganda (2013)
- 52 million hectares** of arable land will be added to the 1,534 million hectares already being exploited for agriculture (global data)

BENEFITS OF WETLANDS TO AGRICULTURE

- \$5.86 billion/year** of marketed products or commodities from agriculture in wetlands
- \$6.32 million/hectare per year** economic losses if paddy fields are converted to non-agricultural use
- \$30.73 billion/year** contribution of environmental services to total economic value of a wetland site
Data based on West Java, Indonesia (2021)

CASE EXAMPLE TOYOOKA CITY, JAPAN
Sustainable Agriculture and the Return of the Oriental White Storks
Area: 1,355 hectares (100% organic) and 272 hectares (partly organic)

- 75% to 100%** reduction of pesticide and fertilizer use
- 204** number of storks flying in Japan (and under captive breeding) in 2017 from local extinction in 1971
- 70% to 200%** increase in rice yield due to shift to organic farming
- Significant biodiversity value** Stork-friendly farming methods prevent bio-accumulation of chemicals which could deplete natural prey and hinder stork reproduction

References: ADB (2015); Saputra and Setiyanto (2021); N. Turyahabwe (2013); Madre and Devoyet (2015); Ohsako (2011); Ministry of the Environment Japan (2010).

REGIONAL FLYWAY INITIATIVE INVESTMENT CONCEPT 4 POLLUTION PREVENTION AND WATER MANAGEMENT



Properly managed wetlands can intercept runoff and transform and store pollutants like sediment, nutrients, coliform and certain heavy metals without being degraded.

RFI investments will aim to realize the full potential of wetlands—particularly in urban environments—for delivering effective pollution and water management using nature-based solutions. This will ensure local wetland communities are less susceptible to flooding and pollution events. RFI investments will provide financing schemes to ensure wetlands are managed sustainably, over the long-term.

WHY POLLUTION PREVENTION AND WATER MANAGEMENT MATTERS

- \$1.4 million/year saved** by 220 people using constructed wetlands for wastewater treatment (Albania)
- 48% reduction** of biological oxygen demand in wastewater treated in constructed wetlands (Australia)
- 85%-90% organic pollutants reduced** in wastewater treatment in constructed wetlands (Dominican Republic)

BENEFITS OF WETLANDS TO POLLUTION PREVENTION

- \$2.9 billion/year** avoided cost of constructing artificial wetlands to replace natural wetlands' existing phosphorus filtration
- \$4.2 billion** avoided costs of sediment filtration and phosphorus removal services
- \$13 billion** cost of implementing agricultural best management practices to remove an equivalent phosphorus load annually
Data based on Canada (2021)

CASE EXAMPLE

ATHARVA DISTRICT, UTTAR PRADESH STATE, INDIA
Constructed Wetlands and Natural Treatment of Wastewater
Area: 12 hectares

- 90% to 95%** rate of removal of fecal coliform in waste water through a constructed wetland
- 35 square meters** area required to treat a wastewater load of about 20 cubic meters a day
- Significant biodiversity value** Significant reduction of contaminants entering big bodies of water, 100% of water recycled, minimal electricity use

References: University of Waterloo (2022); GIZ Albania (2021); Greenway & Simpson (1996) as cited in Alimulrat et al. (2018); The Nature Conservancy (2021); Thame (2021).

Investment Concept 4 Pollution Prevention and Water Management

Investment Concept 5 Nature Protection and Ecotourism

REGIONAL FLYWAY INITIATIVE INVESTMENT CONCEPT 5 NATURE PROTECTION AND ECOTOURISM



Wetlands along the Flyway possess high untapped ecotourism potential with their biodiversity, spiritual, cultural and recreational values.

RFI investments aim to protect nature in wetlands and enhance ecotourism for birdwatching and other activities. These interventions can drive sustainable development and be strong tools of sustainable development. They can combine conservation, tourism, and education functions, delivering direct jobs, economic opportunities, and long-term livelihood benefits.

WHY NATURE PROTECTION AND ECOTOURISM MATTERS

- 60% per year** potential increase in annual net revenues from reef and mangrove fisheries and tourism expenditures if reef quality and wetland stewardship is improved (Philippines)
- 10% to 12% growth/year** in ecotourism globally, signaling the need for more sustainable practices
- Over €5 billion** cost of indirect damage to fishers, tourism industry, local people's livelihoods, and lost natural values due to an oil spill (France and Spain)
- 20%** of all birds from an estimated 9,000 species depend on wetlands (global data)

BENEFITS OF WETLANDS TO ECOTOURISM

- 60.1%** of wetland ecosystem services support ecotourism; 28.4% support flood regulation, and 6.7% local biodiversity (Colombia)
- \$95,333** recreational benefits enjoyed by visitors in a wetland ecotourism site (India)
*Venkatasubram & Zareena Begam (2016), value for 2015 only
- \$1.35 billion/year** contribution of reef-based ecotourism to the national economy (Philippines)
- \$55/visitor** willingness to pay to enjoy a tidal ecotourism wetlands site, Anneyendo Island (Republic of Korea)

CASE STUDY INDONESIA
Best Practices on How Conservation Drives Tourism and Economic Growth

- 40,000 people** in 135 villages beneficiaries of the marine and wetland ecosystem
- 15,701 tourists** generated \$1 million in revenues
- 14x growth** in resort occupancy (75x for homestay)
- 160** local staff employed with total annual income of \$10,865 a year

References: Sierra et al. (2021); White et al. (2000); Hye Dong Pyo (2007); Garcia (2003) as cited in De Groot et al. (2006); BIMF-EAGA (2017); Venkatasubram & Zareena Begam (2016); Nuskeel (2019).

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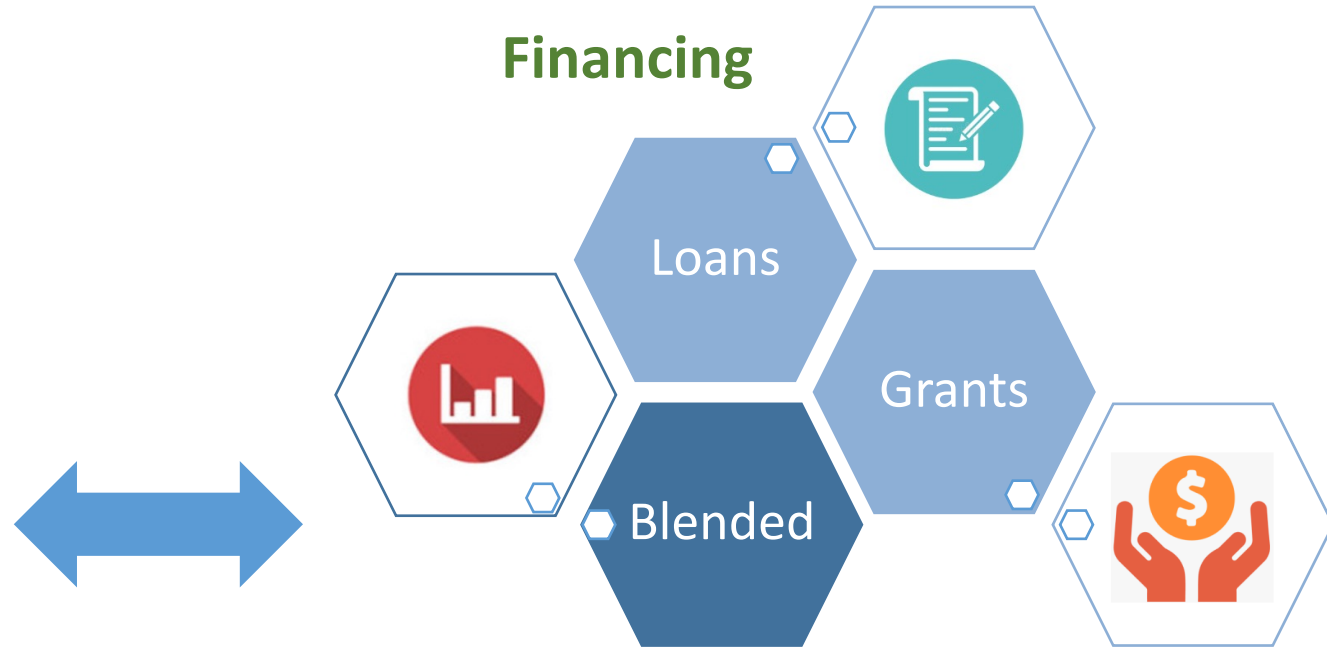
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Projects

[e.g., Nature-based Solutions]



Financing

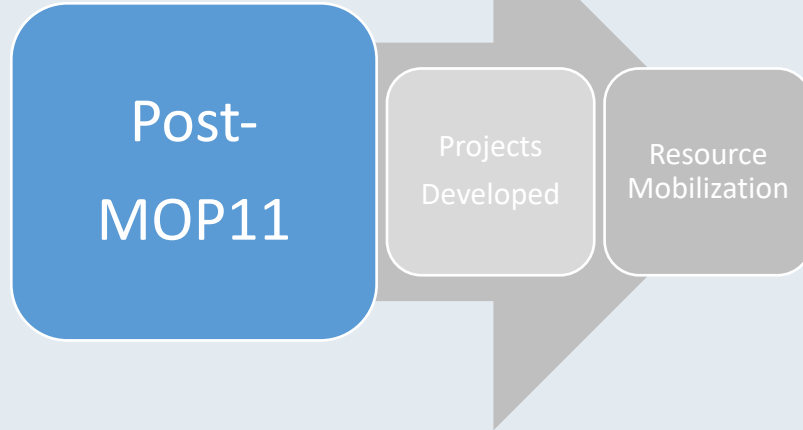


Innovative Financing Ideas Under Consideration

- **Nature Bonds** to de-risk investments
- **Carbon / Nature Credits** through Voluntary Markets
- **Blending of sovereign loans with grant** resources such as GEF
- **Blending project elements** of 'bankable' with less bankable nature elements
- **Sovereign loans** to scale up sustainable natural resource projects
- **Tax breaks** to support sustainable practices and nature protection

5 The Way Forward

RFI DMCs & EAAF Partnership – Immediate Next Steps



- **Capacity Needs Assessment** - Return questionnaire
- **Review Priority Sites** - send feedback, endorse /accept
- **Share / Engage** - knowledge, experience and opportunities





Thank you for soaring with us!

Say **HELLO**

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