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REGIONAL FLYWAY INITIATIVE TRAINING SERIES

ការវាយតម្លៃសេវាកម្មអេកូឡូស៊ីតំបន់ដីសើមនៅកម្ពុជា

Wetland Ecosystem Services Cambodia

ថ្ងៃពុធ ១៣រោច ដល់ ១៤រោច ខែស្រាពណ៍ ឆ្នាំថោះ បញ្ចស័ក ព.ស. ២៥៦៧

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13-14 September 2023



East Asian-Australasian Flyway - Regional Flyway Initiative Overview

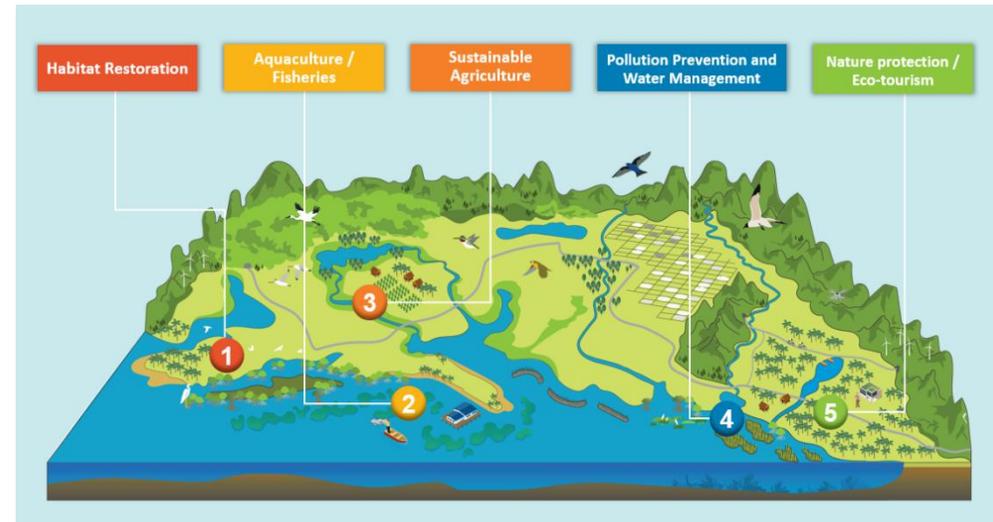
Duncan Lang

Asian Development Bank

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Regional Flyway Initiative (RFI) - AIM to mobilize \$3 billion of investment in wetland protection and management to have flyway level impact

- **Aligned with** EAAFP Strategic Plan, UNCBD, Paris Agreement, Ramsar, UNESCO
- **\$100 Billion Climate Commitment** ADB target cumulative investment by 2030 – Nature will be key to deliver climate adaptation and resilience
- **Regional.** East, Central, Southeast Asia and Pacific. Initial focus on 8 countries including the PRC.
- **RFI timeframe. Phase 1 (2021–2024):** project development, **Phase 2 (2023–2033+):** implementation
- **Goal.** Improved management of **50 wetlands** (>2 million ha) → a network of habitats with species numbers maintained or enhanced
- **Co-benefits.** Healthy wetlands: natural capital and ecosystem services; nature-based solutions; livelihoods.



RFI Development Phase – Grant Details

- **Status and Schedule** – ADB Knowledge Sharing Technical Assistance (TA) Grant - 55056-001 ‘Scaling Up the East Asian-Australasian Flyway Initiative’:
 - Approved on 14 July 2021. Delivery period from July 2021 – December 2024
 - Launch events at CBD COP15 and UNFCCC COP26 both in 2021
- **Financing** –
 - ADB grant financing of \$1.7 million to facilitate development phase
 - USG in-kind contribution \$100,000
- **Development Phase Delivery** - TA to be administered by ADB and implemented by consortium led by BirdLife International with an international team including Wetlands International, Paulson Institute, NUS, James Cook University, University of Southampton amongst others.

Grant Delivery Schedule to Dec 2024:

December 2021 -
Inception
Workshop with
DMCs

May 2022 - Site
Selection
Framework
Endorsed

May 2022 – Mar
2023 DMC
engagement on
site selection

June 2023 -
Consensus on 50
priority sites

Nov 2022 – Dec
2024 Develop
Project Concepts

RFI – Phased Approach

- **Development Phase 2021 - 2024**

- Needs assessment and capacity building,
- Identify highest priority sites and develop early project concepts for 50,
- Develop granting mechanism.

- **Implementation Phase 2024 – 2034+**

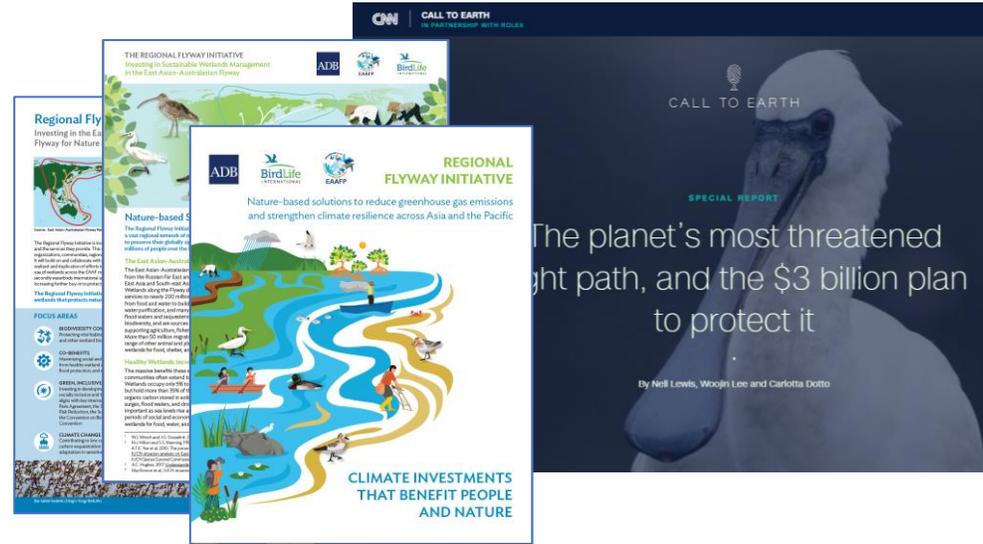
- Develop investment projects at RFI priority sites,
- Establish partnership to monitor and verify delivery of the RFI and support project preparation and scaling up.
- Implement granting mechanism to complement investment projects

Output 1: Capacity Development - Activities

- Profile Raising



- Knowledge Dissemination



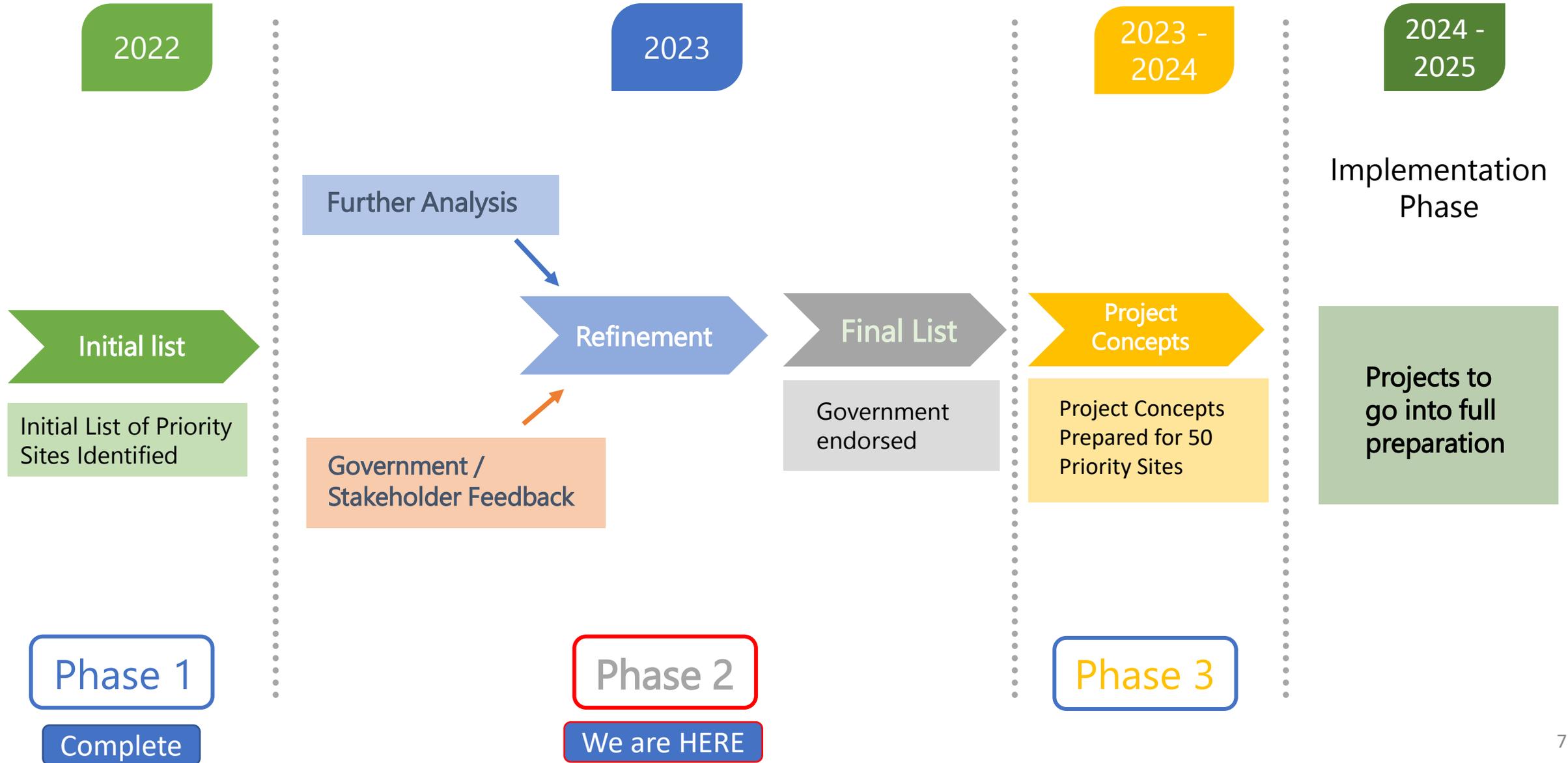
- Capacity Building



- Building Support



Output 2: Site Selection Process – Phased Approach



Phase 1 - The Priority Sites Selection Process – initial findings

Phase 1

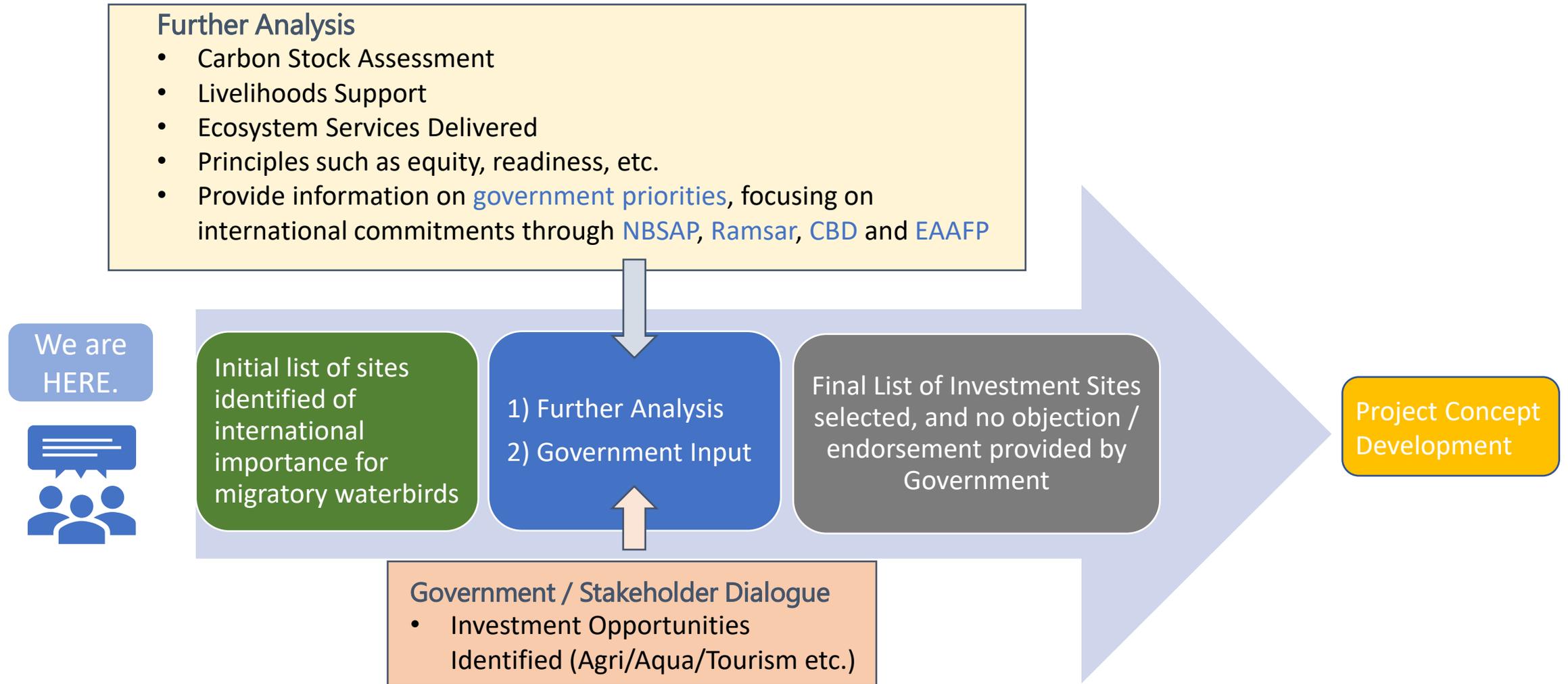
Country	No. of Priority Sites (Totals)	No. of Coastal	No. of Inland
Cambodia	9	1	8
Bangladesh	8	5	3
Indonesia	17	16	1
Thailand	12	9	3
Philippines	12	9	3
Malaysia	6	6	0
Vietnam	9	8	1
Lao PDR	3	0	3
PRC	60	37	23
Mongolia	11	0	11
TOTAL	147	91	56

[Development Asia Site Selection Data Room - Now Live](#)

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



Phase 2: Site Selection



Phase 2: Project Concepts – what they deliver



ENABLING ENVIRONMENT



Investment conceptualization /design (drawing from meaningful stakeholder engagement, technical expertise and analysis)



NON-COMMITAL but ANCHORED ON SHARED GOALS



Recommendations only but founded on shared objectives



RAPID APPRAISAL

Identify what needs to be done and initial cost estimates



Opens door to more opportunities for finance



MULTI-LEVEL

RFI will deliver multiple-level benefits (e.g., climate, livelihood and nature)



Allowing exploration of opportunities with Non-traditional government partners

What RFI projects may look like – 5 indicative models

Ecosystem Services and Co-Benefits in Wetlands

Personal and cultural values

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

Socio-economic development

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

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 adapted from TEEB Europe



RFI INVESTMENT CONCEPT 1 HABITAT RESTORATION AND PROTECTION

Restoring and protecting mangroves and other wetland habitats has clear economic and ecological benefits.

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 ha 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 damages through floodwater protection annually (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)

*Barber (2007), Net present value

RFI INVESTMENT CONCEPT 2 SUSTAINABLE AQUACULTURE

Sustainable aquaculture and fisheries support food, nutrition and water security for wetland communities.

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/ha net present value of mangroves as breeding habitat which supports off-shore artisanal fisheries (Thailand)
- \$1,000-\$2,750 per ha/year economic value of clam harvesting (Viet Nam)
- 12.4% wetland-like resources contribution to household income (Nepal)
- 2x increase income for local shrimp farmers after shifting to more sustainable practices (Indonesia)

RFI INVESTMENT CONCEPT 3 SUSTAINABLE AGRICULTURE

Sustainable agriculture can strengthen long-term food and livelihood security while delivering net gains for biodiversity.

Agriculture is one of the greatest threats to wetlands along the Flyway from direct loss as well as from 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
- 80% of households report benefits from wetland products and services to their food security
- \$2 million hectares of arable land will be added to the 1,534 million hectares already being exploited for agriculture

Data based on People's Republic of China (2011)

BENEFITS OF WETLANDS TO AGRICULTURE

- \$5.86 billion/year of marketed products or commodities from agriculture in wetlands
- \$6.32 million/ha 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 the wetland area in West Java Province (Indonesia)

Data based on West Java, Indonesia (2021)

RFI INVESTMENT CONCEPT 4 POLLUTION PREVENTION AND WATER MANAGEMENT

Preventing pollution and sound water governance offers massive benefits.

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 wetlands have 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 and 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
- 48% reduction of biological oxygen demand in wastewater treated in constructed wetlands (Australia)
- 85%-90% organic pollutants reduced in wastewater treatment in constructed wetlands

BENEFITS OF WETLANDS TO POLLUTION PREVENTION

- \$2.9 billion/year avoided costs 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)

RFI INVESTMENT CONCEPT 5 NATURE PROTECTION AND ECO-TOURISM

Protecting natural wetlands creates massive ecotourism benefits and opportunities.

Wetlands along the Flyway possess high untapped ecotourism potential with their biodiversity, spiritual, cultural and recreational values. RFI Investments to protect nature in wetlands and enhance ecotourism for birdwatching and other activities. These interventions can drive sustainable development and can be strong tools of sustainable development and combine conservation, tourism and education functions, delivering direct jobs, economic opportunities and long-term livelihood benefits.

WHY NATURE PROTECTION AND ECO-TOURISM 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)
- 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)
- 10% to 12% growth/year in ecotourism globally signaling the need for more sustainable practices
- 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)*
- \$135 billion/year contribution of reef-based ecotourism to the national economy (Philippines)
- \$55/visitor willingness to pay to enjoy a tidal ecotourism wetlands site, Anmyeondo Island (South Korea)

*Verkautehain & Zanava Begam (2016), www.reefbase.org

Output 3: Sustainable Financing Mechanism

Activities Completed

- **Consultation**
 - Detailed consultation regarding the financing mechanism has been undertaken based on more of a dozen interviews with civil society, philanthropic organizations, international finance institutes and multilateral donors.
- **Desk Study**
 - Literature review on conservation finance was undertaken and lessons-learned/challenges and opportunities were compiled as key findings.
- **Options Appraisal**
 - Three possible mechanism designs are in the final stages of preparation and will be ready to issue for consultation with stakeholders by the end of Q3 2023.
- **Donor Identification**
 - Significant interest from donor organizations in various capacities. GEF/GCF particularly have potential.

RFI Key Activities and Next Steps in 2023-2024

- **Existing Project Opportunities**
 - Support project teams with existing pipeline projects.
 - Continue to support other opportunities, particularly on GEF projects.
- **Project Concept Development**
 - Focus on getting endorsement for final list of 50 sites and then developing the early project concepts by the end of 2024. Concepts are critical for taking the RFI forward.
- **Stakeholder Engagement**
 - Undertake 3 key workshops in 2023: Philippines (June); Cambodia (September) and Thailand (Q4). These will allow further detailed input for concept development.
- **Donor / Grant Financing**
 - Continue to explore opportunities for donor / grant financing with key organizations.